




COUNTY OF PRINCE WILLIAM

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10-A
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Acting County Executive

November 16, 2009

TO: Board of County Supervisors
FROM: Stephen K. Griffin, AICP 
Director of Planning
THRU: Susan L. Roltsch
Acting County Executive
RE: Manassas Battlefields Viewshed Study

I. Background is as follows:

- A. Manassas National Battlefield Park – The Manassas Battlefields Viewshed Study (Study) and its primary product, the draft Viewshed Preservation Plan (VPP), are substantially the result of two events. The United States Congress passed legislation in 1988 that purchased the Williams Tract, created an “authorized boundary” and, most importantly for this Study, directed the Secretary of the Interior to cooperate with state and county governments to promote and achieve visual protection for both the First and Second Battles of Manassas.¹ Prince William County also recognized that the Manassas National Battlefield Park (MNBP) needs protection and study by placing it on the County Register of Historic Sites. The County’s Comprehensive Plan requires viewshed analysis to provide guidance so as not to negatively impact views to and from the County’s Register of Historic Sites.²
- B. Study’s Purpose – The purpose of the VPP is to identify the viewsheds associated with the First and Second Battles of Manassas, both within and external to the MNBP; measure and analyze their significance; determine the extent of threats to viewsheds; and craft a strategy to protect these important viewsheds for future generations. One of the main goals of the VPP is to preserve significant viewsheds while fostering economically sustainable development.

¹ Manassas National Battlefield Park Amendments of 1988 (HR 4333-471)

² **CR4.5.** “Near areas identified as a County Registered Historic Site or County Registered Historic Site-eligible, ensure that the following measures are undertaken in consultation with the County: ...A viewshed analysis to determine topographic and vegetative conditions that will provide guidance on appropriate building mass, heights and placement of buildings on the developing site so as not to negatively impact views to and from the CRHS;”

CR5.3. “Evaluate if historic viewsheds are of concern, and whether or not a visual study is warranted to identify ways to alleviate or minimize the visual impacts.”

II. Current Situation is as follows:

- A. Study's Results – The VPP identified and mapped 25 significant viewsheds critical to understanding and interpreting both the First and Second Battles of Manassas. These viewsheds tell visitors the story of the two battles and provide an opportunity for visitors to gain a better understanding and appreciation of these military engagements. Ten viewsheds were fully documented while the remaining 15 were only mapped. The study identified what land (internal and external to MNBP) would be visible from each viewshed anchor. Current and future threats that might degrade the integrity of these viewsheds were identified as well as strategies that would help preserve, enhance or improve a viewshed. Finally, recommendations to mitigate future impacts to viewsheds were suggested. Attachment 1 is an executive summary of the draft VPP. Attachment 2 is a CD-Rom containing an electronic copy of the entire VPP.
- B. Upcoming Events – The draft VPP will be presented for public comment at a public meeting scheduled in early January 2010, after which comments will be incorporated into the document and a Final VPP will be prepared. Final deliverables and grant closeout are expected in June of 2010.
- C. Board Action Requested – No action is required from the Board, this is for informational purposes only.

III. Recommendation is that the Board of County Supervisors accept this memorandum for use at the Board's November 24, 2009, work session on the Manassas Battlefields Viewshed Study.

Staff: Justin S. Patton, ex 5729

Attachments:

- A. Executive Summary
- B. Power Point Presentation
- C. Viewshed Plan (CD-Rom)

Executive Summary

Draft Manassas Battlefields Viewshed Preservation Plan

The Plan

Chapter I. Project Overview

The First and Second Battles of Manassas, also known as “Bull Run,” were significant military engagements of the American Civil War. The first battle was fought on July 21, 1861 and involved nearly 70,000 men and resulted in a decisive Confederate victory. The second battle was fought on August 28-30, 1862 and was extremely significant because it added to an important string of southern victories. Both battles changed the course of the war.

Portions of each battlefield were combined and listed as one district on the National Register of Historic Places. Prince William County has listed the current land owned by Manassas National Battlefield Park (MNBP) on its County Register of Historic Places. While MNBP protects approximately 5,072 acres, battlefield land outside of the Park’s boundaries are unprotected and threatened by development, as are many of the external and internal viewsheds.

Benefits of Viewshed Protection

A 2006 study by the Civil War Preservation Trust reported that

- On average, every 956 tourists support one full-time or full-time equivalent local job independent of the battlefield. For better known sites, the number of visitors needed to support one job tends to be fewer than the average.
- At the 20 sites surveyed, visitors generated a total of \$21 million in state taxes and another \$11.7 million in local government revenues. This is approximately \$5.22 per visitor at the state level and another \$2.92 per visitor locally.
- Civil War tourists are likely to be in their late forties to early fifties, well educated, and affluent. In fact, they are better educated and wealthier than both the general population and other heritage travelers.
- More than 93% of visitors at National Park Service battlefields surveyed said, “The view as you walk the battlefield is very important to the experience.”

Battlefield tourism is a key component to Prince William County’s regional economy.

Funding

The Study was funded by a \$60,000 grant from the National Park Service’s (NPS) American Battlefield Protection Program (ABPP). The grant was ratified by the Prince William Board of County Supervisors (BOCS) on August 1, 2006, Res. No. 06-702. MNBP staff and Planning staff jointly manage the grant, with the County acting as the grant manager on behalf of MNBP.

Viewshed Selection Method

The viewshed selection process began with the identification of selection principles (see page A-9 of this summary). A preliminary list of 30 viewsheds was prepared. To aid in prioritization, viewsheds were divided into two classes: Public Vantage Points (PVPs) and Historically Based Viewsheds (HBVs). The primary distinction was that the PVPs were subject to more detailed documentation and analysis than the HBVs, as the PVPs appeared to exhibit a high degree of integrity at the start of the study.

Studied Viewsheds

The VPP identified 25 viewsheds significant to understanding the First and Second Battles of Manassas. Ten of the 25 viewsheds were labeled PVP and were identified as critical to MNBP’s ability to interpret each of the battles to visitors. The PVP were fully documented by GIS mapping, panoramic photography and physical descriptions. Due to budget constraints, while equally significant, only mapping was performed on the additional 15 HBVs.

Table 1. Identified Viewsheds

Public Vantage Points	Historically-Based Viewsheds
Matthews Hill	Stone Bridge Overlook
Henry Hill	Stone Bridge
Van Pelt	Pittsylvania
Brawner House	Robinson House
Deep Cut	J. Dogan House
Sudley	High Groveton Point along Sudley Road
Stuart’s Hill	W. Lewis House
Artillery Position	Pageland
Chinn Ridge	Mayfield Fort
	Centreville Heights
	Signal Hill
	Thoroughfare Gap
	Battery Heights
	Bristoe Battlefield
	Centreville Heights

Chapter II. The Plan

The VPP reviewed and analyzed available public policy tools, private land control tools and funding sources, and physical enhancement approaches. It also discounted several other options that likely would not be supported by the citizens of Prince William County that are fully referenced and discussed in the VPP.³ Following are some recommended tools for preserving viewsheds.

³ See Chapter 2 of the Viewshed Preservation Plan.

Attachment A Executive Summary

Battlefields Viewshed Preservation Area

This concept is modeled after the Comprehensive Plan policy for Bristoe Station Battlefield.⁴ An area based on the research within this VPP would be identified and mapped as the Battlefields Viewshed Preservation Area (BVPA). Within this area development would be subject to measures that mitigate or avoid adverse effects to its viewsheds. Categories evaluated for mitigation measures identified in the VPP might include, but are not limited to signage height and lighting, telecommunication towers height and location, transmission utility lines and corridors height and location, building height and placement, and screening.

The recommended criteria that might be used to delineate the boundaries of the BVPA include the following:

1. The BPVA shall include areas having the greatest concentration of lands visible from PVPs and HBVs. The boundary line shall trace the outer most extent of such areas, and these areas are generally located within two miles of the National Battlefield Park authorized boundaries.
2. The BVPA boundaries shall be delineated in a manner that results in as cohesive an area as possible. Consequently, there may be areas of low visibility lying within the BVPA in order to achieve a more cohesively shaped BVPA.
3. In delineating the boundary, one consideration will be the number of viewshed anchors from which a particular area is visible. Thus, some areas having visibility from a small number of viewshed anchors may be outside of the BVPA, while those visible from more anchors will be within the BVPA.
4. The BVPA may include other concentrations of visible land.

The VPP also identified that implementation of this concept requires a tool that evaluates numerous sites with varied building heights to determine if they would be visible from a given viewshed or viewsheds. This tool does not currently exist.

Open Space Development Zoning

Open Space Development (OSD) zoning is a variant of cluster development. The BOCS has already implemented this concept in Sections 32-300.40-43 and 32-300.50-53 of the Prince William County Zoning Ordinance that allow for open space development within the Rural and Semi-rural areas of the County, respectively. It should be noted, however, that this is most conducive to residential development.

Tree Regulations

Section 32-250.40 of the County's Zoning Ordinance addresses landscaping requirements; listing a variety of reasons for tree preservation and planting. The VPP recommends that historic preservation and viewshed protection be added to this list. Additionally recommending landscape alterations be among the various factors considered within the proposed BVPA. This approach is consistent with the Cultural Resources element of the County's Comprehensive Plan.⁵

⁴ **CR POLICY 7:** "Apply mitigation measures to all new development within the Bristoe Station Historical Area."

⁵ **CR4.5.** "Near areas identified as a County Registered Historic Site or County Registered Historic Site-eligible, ensure that the following measures are undertaken in consultation with the County: ...A buffering/tree preservation/landscaping plan to screen proposed development from the CRHS."

Purchase or Transfer of Development Rights

Purchase of Development Rights (PDR) and Transfer of Development Rights (TDR) were approved in Virginia a few years ago. The PDR concept involves purchase of development rights while the TDR concept involves two defined areas – *sending areas* and *receiving areas*. The VPP recommends that a PDR/TDR program be adopted. The sending areas would be lands within the proposed BVPA. There are numerous options for the receiving areas as long as they are consistent with the Comprehensive Plan, have sufficient infrastructure capability (particularly access), and meet requirements in the Virginia Code.

Development Proffers

It is recommended comprehensive plans of local governments be amended to include goals and action strategies that encourage battlefield viewshed preservation, especially through the rezoning process.

Use Value Taxation

Under this program, the assessment of land is based upon its current use rather than the fair market value. Use value taxation programs can be used as both an incentive for private viewshed preservation and as a funding source for the local government. The incentive is that land owners would not be penalized by the taxation system for keeping their land out of development. The VPP recommends this incentive be strongly promoted. The funding source could derive from the rollback assessment that occurs if such lands are eventually developed.

Private Land Control Tools and Funding Sources

Encourage private entities to purchase land and or easements to protect battlefields and viewsheds is a viable option. Typical tools that the private sector employs for cultural resource protection that can be applied to viewshed protection or preservation are as follows:

- Fee Simple Purchase
- Conservation Easements
- Restrictive Covenants & Deed Restrictions
- Options / Rights of First Refusal
- Land Donations
- Other Land Acquisition Tools
 - Life Estates
 - Purchase and Sell-Back or Lease-Back
 - Property Exchanges

Physical Enhancement Approaches

Although most viewshed preservation efforts focus on preserving existing high-quality viewshed lands, the enhancement of existing viewsheds should also be considered. Screening of undesirable views is an approach commonly employed to reclaim the integrity of viewsheds or to mitigate damage to them in the face of new development. To be effective, such treatment typically needs to provide a year-round screen and include a mix of native trees and shrubs to have a natural appearance.

Chapter III. Priorities

While all of the viewsheds were determined significant an important preservation step is identifying the most important viewsheds in recognition that, typically, not all lands associated with a particular event can ultimately be protected. The following table categorizes PVPs into three tiers with Tier 1 being viewsheds with the greatest potential to be impacted by the threats identified in the VPP.

Prioritization Matrix (Revised – 6/29/09)					
Viewshed	Historic Significance Visibility (1 to 3 points)	Surviving Integrity (1 to 5 points)	Potential Threats (1 to 5 points)	Composite Rating (3 to 13 points)	Priority Ranking NA
Mathews Hill	3	3	3	9	Tier 1
Henry Hill	2	3	4	9	Tier 1
Van Pelt	1	4	4	9	Tier 1
Brawner House	3	3	3	9	Tier 1
Deep Cut	3	4	2	9	Tier 1
Sudley	3	3	3	9	Tier 1
Stuart's Hill	3	4	2	9	Tier 1
S.D. Lee Artillery Position	1	4	4	9	Tier 1
Chinn Ridge	3	3	2	8	Tier 2
Portici	1	2	3	6	Tier 3

Attachment A

Executive Summary

Chapter IV. Implementation

PVP Viewsheds Implementation (Revised – 5/28/09)			
Viewshed	Priority Level	Greatest Threats	Recommendation
Mathews Hill	Tier 1	Expansion of Rt. 234	Utilize Section 106, Section 4(f) and other regulatory means to prevent expansion.
Henry Hill	Tier 1	Development south of the park (Community College)	Implement a Battlefields Viewshed Protection Area in Prince William County.
Van Pelt	Tier 1	Expansion of Rt. 29	Utilize Section 106, Section 4(f) and other regulatory means to prevent expansion.
Brawner House	Tier 1	Development east of park	Implement a Battlefields Viewshed Protection Area in Loudoun and Fairfax Counties.
Deep Cut	Tier 1	Expansion/improvements to Featherbed Lane	Utilize Section 106, Section 4(f) and other regulatory means to prevent expansion.
Sudley	Tier 1	Development south southwest of park	Implement a Battlefields Viewshed Protection Area in Loudoun and Fairfax Counties.
Stuart's Hill	Tier 1	Expansion of Rt. 29	Utilize Section 106, Section 4(f) and other regulatory means to prevent expansion.
S.D. Lee	Tier 1	Development north of park	Implement a Battlefields Viewshed Protection Area in Prince William County.
Artillery Position	Tier 1	Development south southwest of park	Provide vegetative screen along east side of Pageland Lane out of utility easement.
Chinn Ridge	Tier 2	Development east and west of park	Implement a Battlefields Viewshed Protection Area in Prince William and Fairfax Counties.
Portici	Tier 3	Development east and south of park	Implement a Battlefields Viewshed Protection Area in Prince William and Fairfax Counties. Provide a vegetative screen along the north side of I-66.

Background Study

Chapter I. Historic Landscape: Then and Now

An important facet of current viewshed preservation efforts is understanding the viewshed as it appeared during its time of historic significance, 1861-1865. Approximately half of the two battlefields consisted of open meadows or pastures, while the balance consisted of forests, crops, cultivated areas, and other various ground covers. This yielded a typical agrarian 1860s open land use pattern, which is clearly seen in historical photographs in the VPP.

Chapter II. Public Vantage Points

Ten Public Vantage Points were identified using the following selection principles:

- 1) Areas selected should feature a high elevation in order to include the optimal amount of relevant land area.
- 2) Areas selected should feature the most historically significant lands relative to the two battles.
- 3) Areas selected should either currently have reasonable public accessibility or have the potential to have reasonable public accessibility to benefit the broadest spectrum of visitors. Accordingly, selected areas should have reasonable access to the MNBPs' driving tour route and/or trail network.
- 4) Because of the relatively equal significance of the two battles, they should both be sufficiently represented by the selected areas. However, because of the geographic overlap of the battlefields and other complicating factors, the two battles do not need to be represented by an even number of selected areas.
- 5) Areas selected should not be too close to one another in order to avoid duplicative efforts and to positively impact the most extensive land areas.

A written description of the historic significance of each PVP was prepared. Historic period photographs were identified. A physical description of each vantage point was prepared identifying the landscape elements, water resources, vegetation types, and topography elements. Each PVP was documented with panoramic photography. Finally, a map was prepared of each viewshed showing land visible from its anchor assuming (on average) a forest 40 feet tall and a 5'10" tall person.

Chapter III. Historically Based Viewsheds

Fifteen HBVs were identified using the same selection principles listed for Public Vantage Points and including views external and internal to the Park. A composite visibility map was prepared showing land visible from all of the HBVs, accounting for (on average) a forest 40 feet tall and a 5'10" tall person. A written description of the historic significance of each HBV was prepared as well as a brief physical description. Each was also documented with photography.

Chapter IV. Context and Threats

This section identifies public policies, development trends, and the primary threats that endanger the integrity of these viewsheds.

State and Federal Policies

State preservation policies are limited to state actions or actions on state lands and little threat is anticipated from state policies. There are two primary Federal laws aimed at protecting the viewsheds from adverse Federal actions and these are the National Historic Preservation Act of 1966, as amended and the National Environmental Policy Act of 1974, as amended.

Local policies

Although both battlefields primarily reside in Prince William County, the viewsheds extend across Prince William into Fairfax, Fauquier, and Loudoun Counties. Views also extend into the Cities of Manassas and Manassas Park. This section analyzes the comprehensive plan and zoning ordinance from each of the four counties and lists Public Vantage Point viewsheds that extend into the respective counties. Listed below are the number of Public Vantage Point viewsheds that extend into each jurisdiction. Generally, there is no specific policy relative to viewshed protection. Both the comprehensive plan and the zoning ordinance in all of the jurisdictions, except for Fauquier, allow for development that can or may intrude into the identified viewsheds.

Public Vantage Points per Municipality

Prince William County - 10

Fairfax County - 8

Loudoun County - 4

Fauquier County - 4

City of Manassas - 4

City of Manassas Park – 3

Growth and Development Trends

Demographic data drawn from Prince William County since most of the 25 viewsheds are within Prince William County, shows dramatic residential growth through the 1990s and up to 2005. In 2006, the County's population was 346,790. By 2010, population is forecast to be 415,763 and by 2020 the population is forecast to be 491,456.

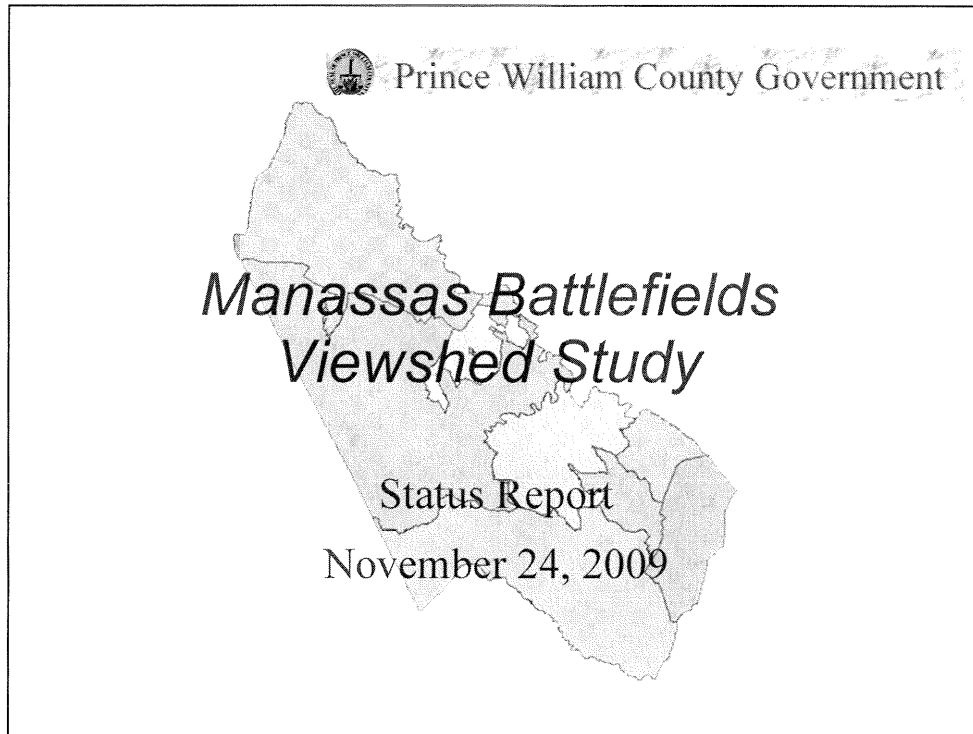
Key Threats to Viewsheds

The greatest threat to viewsheds comes from development on the edges of MNBP and within the defined viewsheds. Threats to the integrity of viewsheds from development come in two dimensions: horizontally and vertically. To the extent that the ground level is visible within a given viewshed even low-rise development can negatively impact the viewshed as the natural terrain is replaced by buildings, parking lot, and similar contemporary man-made intrusions. When certain lands within a given viewshed are visually screened by tree cover, mid to high-rise development can create a vertical intrusion to the extent that buildings rise above the tree line.

Attachment A Executive Summary

Telecommunication facilities, such as monopoles and lattice towers, can also adversely impact viewsheds. Due to the height of these structures, facilities sited at great distances may adversely impact viewsheds.

Future road expansions and or localized improvements, such as the Tri-County Parkway or expansion of Route 29 through the MNBP, have the potential to adversely impact viewsheds.



Background

- The study is funded by a grant from the National Park Service's (NPS) American Battlefield Protection Program (ABPP).
- Grant award was ratified by the BOCS on August 1, 2006. Res. No 06-702.
- Manassas National Battlefield Park (MNBP) staff and Planning staff are jointly managing the \$60,000 grant, with the County acting as the grant manager on behalf of MNBP.
- The MNBP is listed on the County Register of Historic Sites



Why was this study needed?

- Both the First and Second Battles of Manassas had a direct impact on the outcome of the Civil War (ABPP).
- The Comprehensive Plan recommends viewshed analysis to provide guidance so as not to negatively impact views to and from the CRHS (CR-4:AS-5 and CR-5:AS-3).
- In 1988, the U.S. Congress directed the MNPB to cooperate with state and local jurisdictions in promoting visual protection of the battlefields (Manassas National Battlefield Park Amendments of 1988).
- No study identifying MNPB's viewsheds has been performed.
- Viewshed protection ensures visitors have the opportunity for a high quality experience and promotes County tourism and local business.

Date: 11/17/2009



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Battlefield Tourism and Viewsheds

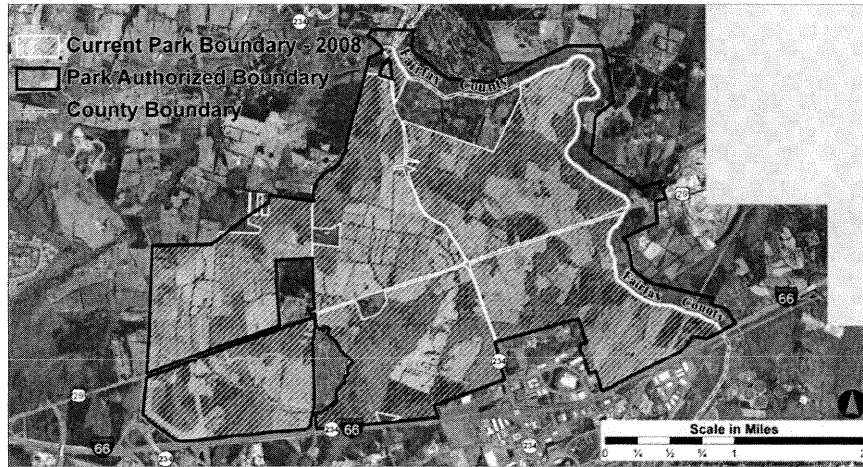
- Battlefield visitors support local jobs.
- Battlefield visitors generate revenue.
- Battlefield visitors are typically affluent and well educated.
- More than 93% of visitors at National Park Service battlefields surveyed say: "The view as you walk the battlefield is very important to the experience."
- Battlefield visitors enhance local tourism opportunities.

Date: 11/17/2009



3

MNBP Boundaries



Date: 11/17/2009



4

Viewshed Study's Purpose

- Study historically significant interior and exterior viewsheds associated with both the First and Second Battles of Manassas.
- Describe and document viewsheds through a variety of means (such as written descriptions, photography and GIS mapping).
- Recommend strategies for preserving and enhancing viewsheds.

Date: 11/17/2009



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Definitions

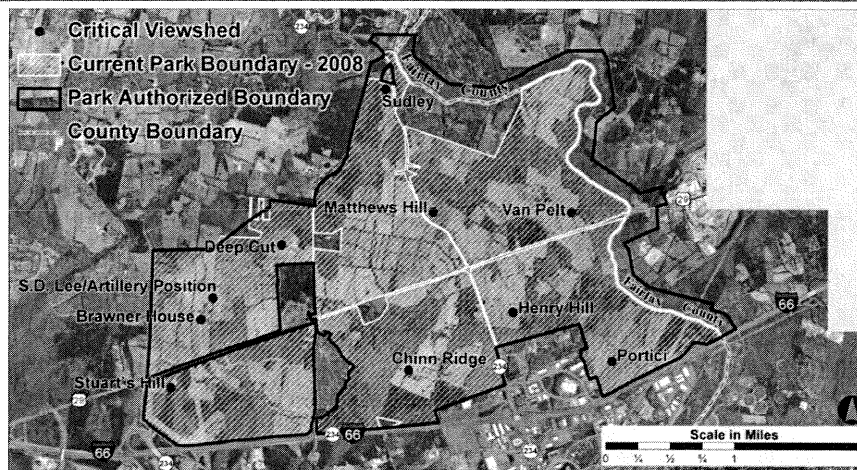
- Principle Vantage Points (PVPs) - are viewsheds with anchors within the MNBP boundaries, are more exposed to external threats, and or, have a higher visitor use.
- Historically Based Viewsheds (HBVs) - are viewsheds with anchors internal and external to MNBP boundaries.
- Viewsheds - are a landscape on which military action occurred, or an avenue of sight in which military action was observed.
- Viewshed anchors - are a fixed point from which historically significant action was undertaken or observed.

Date: 11/17/2009



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10 Critical Public Vantage Points



Date: 11/17/2009



7

15 Historically Based Viewsheds



Date: 11/17/2009



8

Actions Protecting Viewsheds

- Rural Area
- Cluster Development Options
 - ◆ Rural Area
 - ◆ Development Area
- Endorsement of Battlefield By-Pass Alternative D
- Tree Preservation

Date: 11/17/2009



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Viewshed Study Results

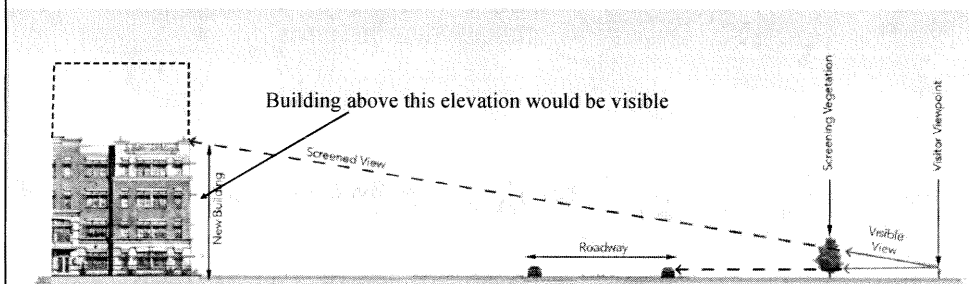
- Identified land visible from viewshed anchors.
- Fully documented the Public Vantage Points.
- Identified a range of threats.
- Identified strategies to preserve and enhance viewsheds.

Date: 11/17/2009



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Planning Tool Example



Date: 11/17/2009



11

Project Completion Steps

- Public Meeting January 2010
- Finalization of Plan and Background Study, February - May 2010
- Closeout Grant, June 2010

Date: 11/17/2009



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