

# **A Study of the Battlefield at Gettysburg and Its Historic Land Preservation**

Independent Study Project  
Spring 2008

Kevin Burkman  
Cook College

## **Introduction**

Many historic and cultural landmarks and landscapes in the U.S. are being threatened by suburbanization. In particular, many Civil War battlefield sites, which are in close proximity to Interstate Highway and US Highway corridors, and areas of fast growing suburban sprawl, are in particular jeopardy. Most of these sites, if not preserved in the next 10-15 years, will be lost forever.

An example of such a site is Gettysburg National Military Park, which interprets the Battle of Gettysburg. Fought on July 1-3, 1863, the battle is one of the largest and most important battles ever waged in United States history. Considered by many to be the pivotal engagement of the American Civil War, the battle involved over 170,000 combatants from the Union and Confederacy, and occurred over an area of some 25 square miles in south-central Pennsylvania.

This project attempts to quantify the battle sites at Gettysburg that have not been preserved in the national park, and our ability to interpret the historic events that occurred on these sites. Additionally, the project also focuses on battlefield preservation in the national park, in terms of historical and preservation aspects, over the past 144 years, including environmental and civic planning and landscape architecture.

## **Methods**

### **Component I: Battlefield Spatial Analysis**

This segment of the project will utilize ARCMAP as a means for creating various analysis maps. These maps will include:

- Determination of the battle's spatial extent on areas not preserved in the national park, per site
  - Includes troop positions/main battle areas, and army access corridors into Gettysburg
- Determination of how much of this extent has been preserved
  - Through National Park and local historical/natural resource organizations efforts
- Determination of what land has been lost to development and subsequent interpretation of battle sites

This project does not attempt to spatially analyze all of the military actions at Gettysburg. It instead analyzes those actions that have not been protected in GNMP

### **Component II: Battlefield Preservation Synopsis**

This part of the project provides an overview of anthropogenic effects on the battlefield extent after July 1863. Some of the topics include:

- History of preservation at Gettysburg
- Management of preserved land/battlefield preservation

### **Battle of Gettysburg Primer**

The battle was fought July 1-3, 1863, on the outskirts of the southern Pennsylvania farming and college community of Gettysburg. It was the culmination of a campaign that started in early June, 1863. Robert E. Lee, commander of the Confederacy's Army of Northern Virginia and Jefferson Davis, President of the Confederacy, decided to initiate a campaign that would serve their cause in three different ways: to relieve northern Virginia of the rigors of two years of war, and to resupply the Army of Northern Virginia with much needed provisions, at the expense of the towns and countryside of Pennsylvania. These short term tactical goals were secondary to the third goal; an opportunity to engage and defeat the Union's Army of the Potomac, thus threatening the cities of Philadelphia and Washington D.C., and ultimately causing the Union to sue for peace.

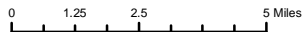
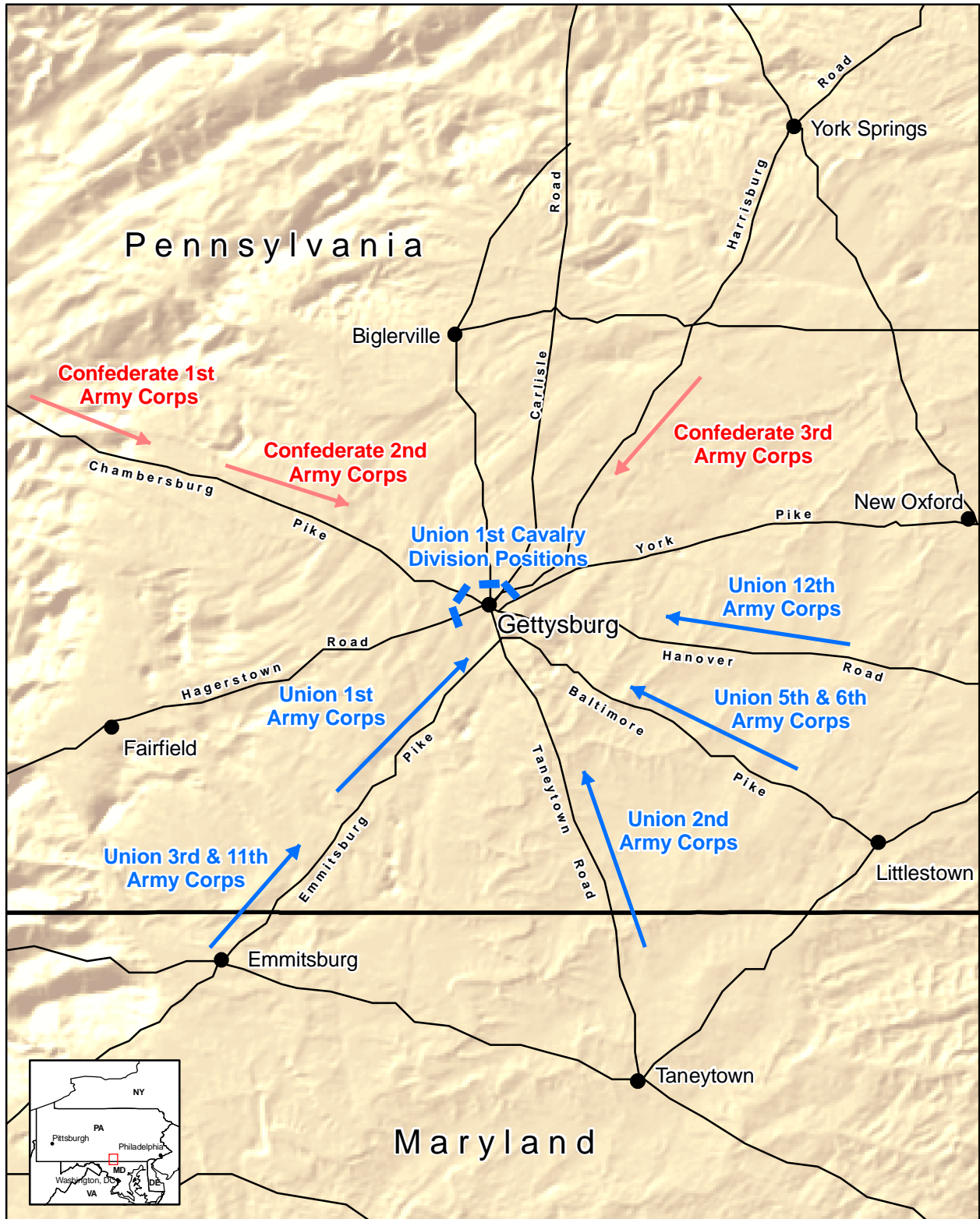
As Lee's army marched from its encampments at Fredericksburg, VA (some 100 miles south of Gettysburg), they were shadowed by the Union's primary army, the Army of the Potomac, initially commanded by Major General Joseph Hooker. Hooker's lack of speed and intensity in seeking out Lee's army and destroying it led to his dismissal on June 28 by President Abraham Lincoln. He was replaced by Major General George G. Meade, a capable, no-nonsense commander. Meade immediately ordered his cavalry divisions to central Maryland and south central Pennsylvania, to ascertain Lee's location and bring him to battle. One of those divisions, commanded by Brigadier General John Buford, was protecting the left flank of Meade's army. On June 30, Buford's cavalry troopers were positioning themselves at the crossroads town of Gettysburg. As the cavalry was deploying just west of town, on the north and south sides of Chambersburg Pike, they observed the approach of a Confederate brigade; this unit, led by Brigadier General James Pettigrew was on its way into Gettysburg to obtain much needed provisions. Upon seeing the Union cavalry, Pettigrew's Confederates retreated back to their encampments to the west, some 10 miles away. There they joined the rest of their division; on the following morning, they set out with that division, to assault what they believed to be nothing more than Pennsylvania state militias or Union cavalry units.

Buford correctly surmised that if he had been approached by a Confederate brigade, a division and corps would soon follow. Additionally, reports from other Union cavalry units and local authorities confirmed the locations of the rest of Lee's army, which were closing in on Pennsylvania's capitol, Harrisburg, 35 miles northeast of Gettysburg. That

evening, Buford sent out communiqués to the nearby corps commanders of the Army of the Potomac, who were scattered across nearby central Maryland; his correspondence related that he had located, at the very least, a non-trivial part of Lee's army. Further, he expected to be attacked the following morning, and requested infantry reinforcements be sent by morning. And Lee, whose forward forces were hours away from taking Harrisburg and thus cutting the Union's main lines of communication for the entire Northeast and scoring a major strategic victory, would now have to recall those forces to reinforce his troops that were in the first hours of fighting Buford on a hill west of Gettysburg called Mc Pherson Ridge. Lee's decision to engage the Army of the Potomac at Gettysburg, who would use the landscape to their advantage, would cost him greatly.

Over the next three days, a nation that was becoming accustomed to horrific battles and loss of life would be confronted with circumstances, it would seem, were taken directly out of Dante's *Inferno*. Lee's army launched massive assaults against the Union line; although they would come close to breaking the Union defenses, at Sherfy's Peach Orchard, Miller's Wheatfield, Little Round Top, Cemetery Ridge and Culp's Hill, the Confederates were unable to drive the Union army off the battlefield. Erroneously believing that the center was the weakest link in the Union line, Lee ordered one of the largest assaults of the war on that position on July 3, the last day of the battle. That assault, Pickett's Charge, named for the divisional commander who led it, George Pickett, would result in a staggering loss of life for the Confederates and ultimately send Lee's army reeling back to Virginia.

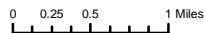
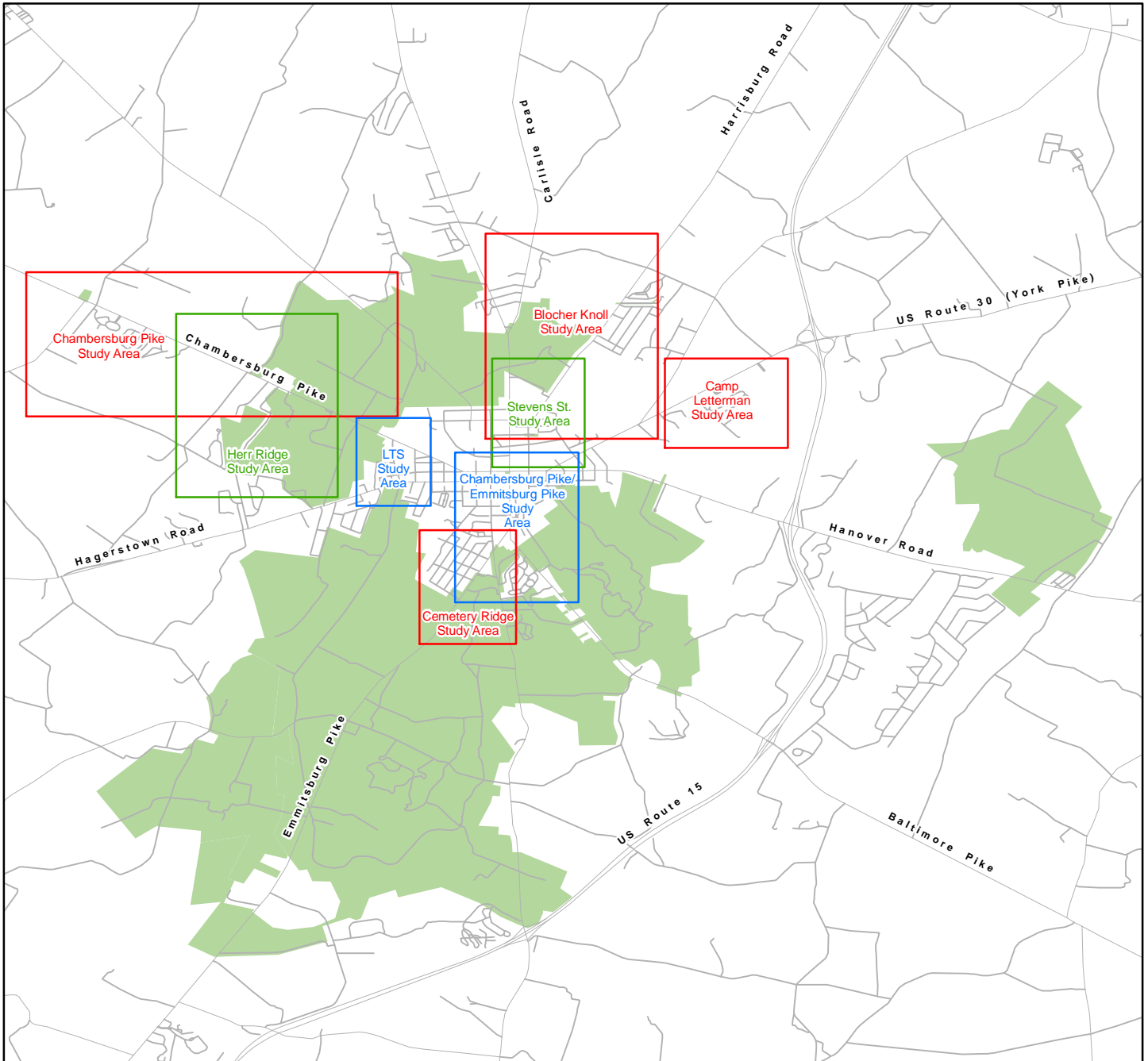
# Gettysburg Theater Map, June 30/July 1, 1863



This map represents the movement of Confederate (Army of Northern Virginia) and Union (Army of the Potomac) troops, as they converged on Gettysburg, throughout the evening of June 30, and throughout the entire day and evening of July 1, 1863.

Projection: GCS North American 1983  
Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
Gettysburg National Military Park, US Department of Interior, National Park Service  
Created By: Kevin Burkman April, 2008

# Gettysburg Analysis Locator Map



## Legend

 Gettysburg National Military Park

This map represents the locations of analysis performed on battlefield sites that were not preserved in Gettysburg National Military Park (GNMP).

The analysis confirmed the extent to which battle actions occurred across the site, the troops involved and the importance of the site, as it relates to the overall battle. The extent of preservation and the ability to interpret the battle events that occurred at each site were also determined.

Battle sites contained entirely within the boundary of GNMP were not included in the analysis.

## **Battlefield Spatial Analysis**

### **Chambersburg Pike, July 1, 1863, (7:30-10:00AM)**

The Battle of Gettysburg began around 7:30AM on July 1, 1863, as elements of the Army of Northern Virginia's 3<sup>rd</sup> Army Corps (Heth's Division) encountered the troops of the Army of the Potomac's First Cavalry Division on Knoxlyn Ridge, approximately 3 miles northwest of Gettysburg. Heth's Division comprising some 3500 troops, marched east along Chambersburg Pike (modern US 30/Lincoln Highway), from their camps located a few miles west, in Cashtown. Heth and his troops were interested in obtaining supplies in Gettysburg and believed that they would encounter, at best, some under trained and ill equipped Pennsylvania militia units at the outskirts of the town. Instead, they encountered a well trained and well equipped cavalry force that prohibited their entry into town.

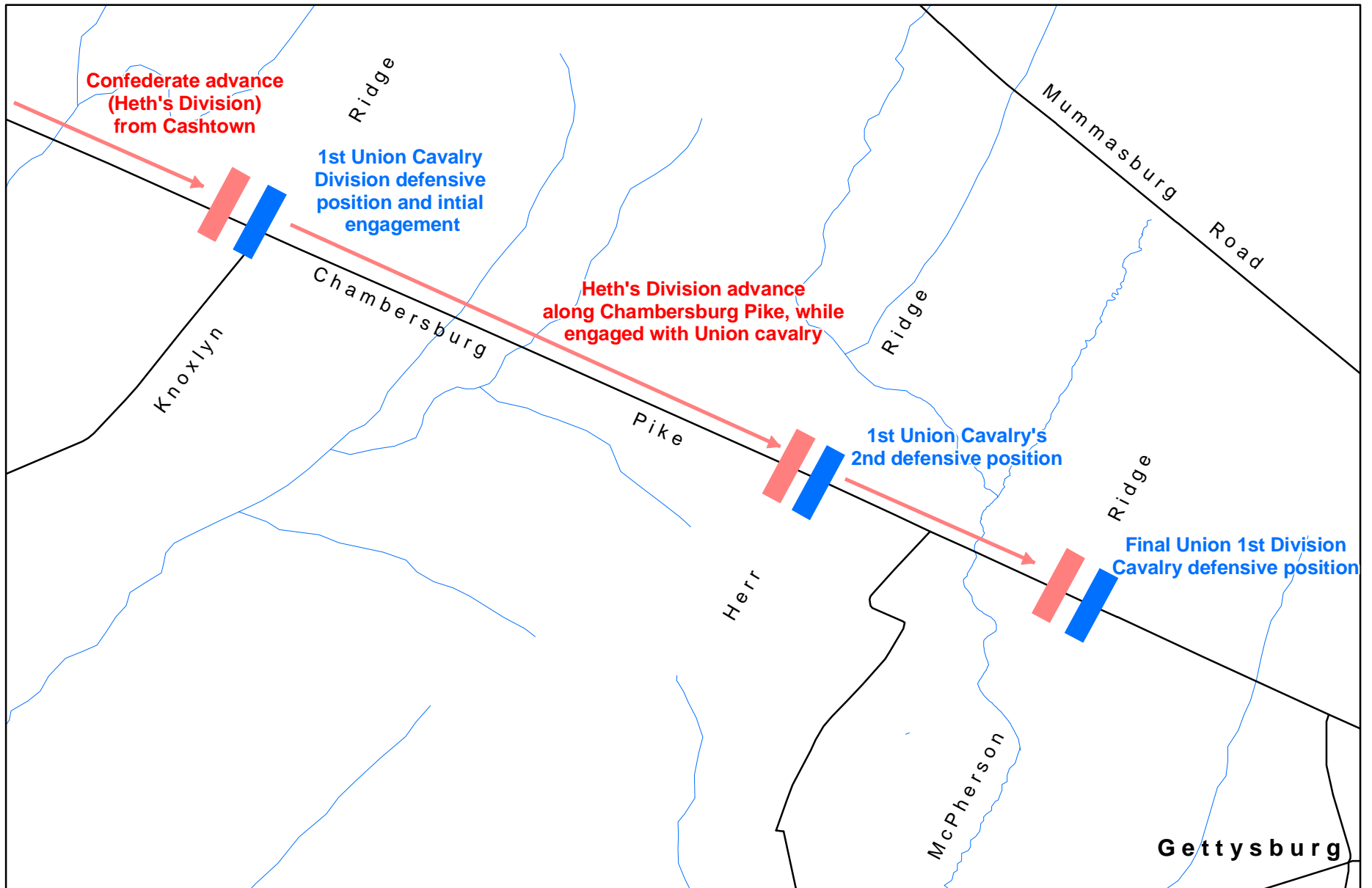
The Union cavalry had posted across the ridge some 2700 dismounted troops, who offered the advancing Confederates stiff resistance. Out numbered, the Union troops fell back, under fire, to the next ridge to the east, Herr Ridge. After a brief skirmish there, the Union troops fell back to their final position on Mc Pherson Ridge. An intense fire-fight ensued here for nearly an hour, before the Union cavalry troops were reinforced by the arrival of the Union 1<sup>st</sup> Army Corps.

By 1863, the Union cavalry, once seen as inferior to Confederate cavalry, was now beginning to eclipse their counterparts, in terms of tactical and strategic undertakings. Until this time, both cavalry's concerned themselves mostly with daring behind-line raids; these raids were moral boosters for both the armies and general public, but did little to advance overall strategic goals. At Gettysburg, however, Union cavalry officers used their forces very effectively, in holding the strategically important town.

Brigadier General John Buford, commander of the Army of the Potomac's First Cavalry Division, recognized the importance of the town of Gettysburg; an extensive road network, covering south-central Pennsylvania and central Maryland, came together at Gettysburg, making it an excellent consolidation point for the army. Realizing that Confederate forces were within a day's march of the town, Buford, on the evening of June 30 and morning of July 1, deployed his cavalry troops on each of the roads facing west, north and east of town. These deployments would protect the town from the approaching Confederates, until Buford's cavalry could be relieved by Union infantry.

Chambersburg Pike is thus an important site, for interpreting the changing dynamics of tactical warfare in the mid 19<sup>th</sup> century.

# Chambersburg Pike, July 1, 1863 (7:30-10:00 AM)

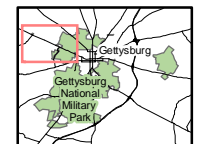


This map represents the initial contact between the Confederate's of Heth's Division on Knoxlyn Ridge, with the Union's 1st Cavalry Division, and subsequent battle along Chambersburg Pike east, to the outskirts of Gettysburg, at Mc Pherson Ridge.

The site is located along either side of Chambersburg Pike, to the west of Gettysburg Borough.



Projection: GCS North American 1983  
 Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 Created By: Kevin Burkman April, 2008



**Chambersburg Pike, Present**

Current Landscape Conditions/Battle Interpretation: A very small parcel of land has been preserved by GNMP, which commemorates the site of the first shots fired at the battle. The remaining 1.5 miles of Chambersburg Pike have not been preserved. As a result, scattered commercial and residential development has occurred on either side of the pike; Knoxlyn Ridge is blanketed with residential development and Chambersburg Pike is highly developed on the south side of the pike, including a large trailer park. Some open agricultural fields give a sense of the 1863 landscape, but heavy vehicular traffic along the pike make this a difficult site to interpret the events of the battle.

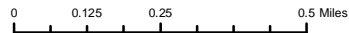


# Chambersburg Pike, Present

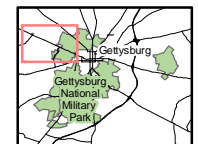


## Legend

- Unprotected Battle Site
- Gettysburg National Military Park



Projection: GCS North American 1983  
 Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 USDA NAIP Imagery, 2005  
 Created By: Kevin Burkman April, 2008



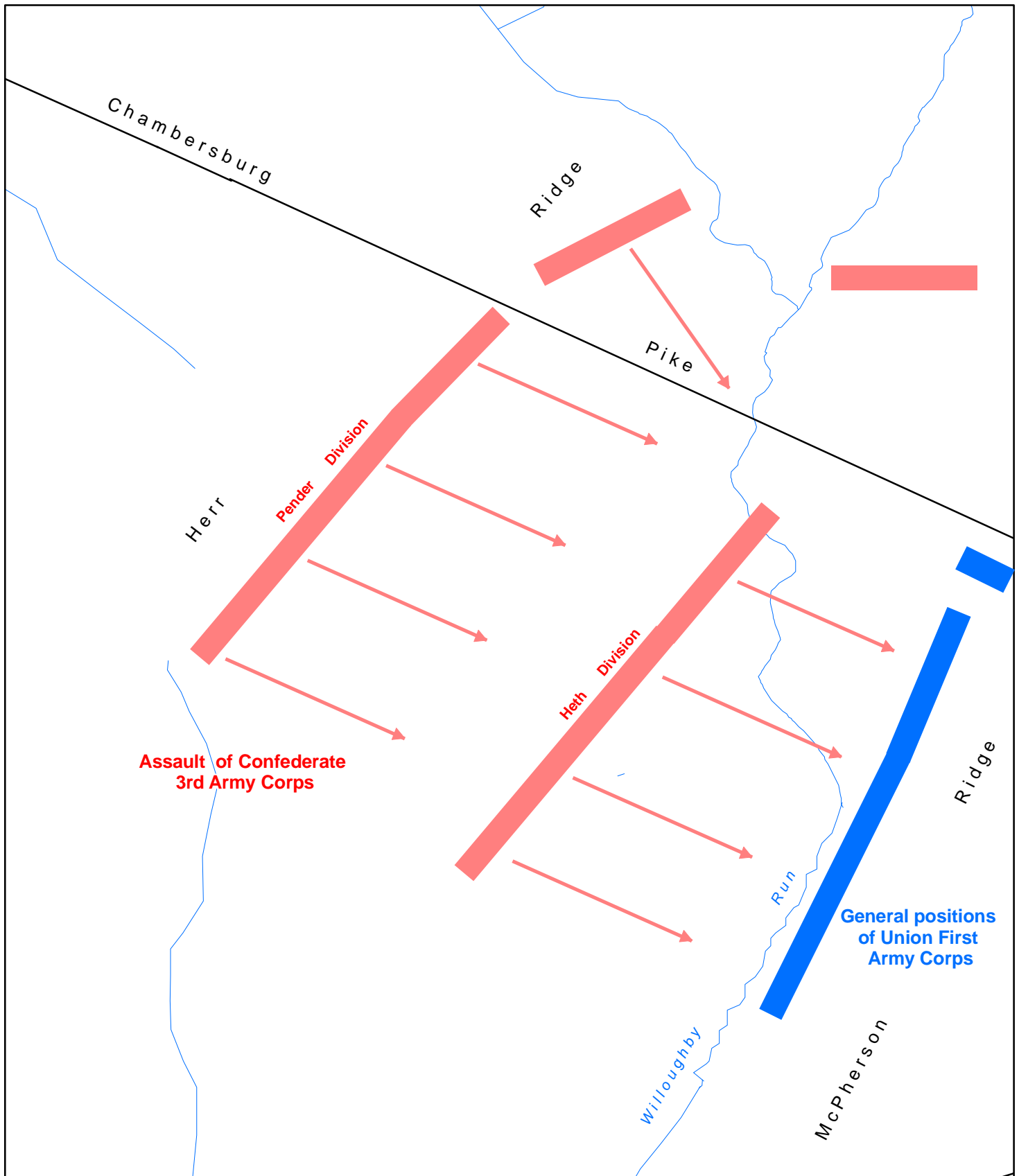
This map represents current day land cover/land use on the battle site. Actual troop actions have been overlaid onto aerial imagery, which serves as a background, representing modern and commercial development. Green shaded areas represent the battle sites preserved by GNMP; red shaded areas represent sites where significant battle activity occurred, but was not included in GNMP boundaries.

### **Herr Ridge, July 1, 1863 (4:00PM)**

Herr Ridge was the launching point for a massive Confederate assault on Union positions, located just to the east, on Mc Pherson Ridge. Around 2:30PM, two waves of the Confederate 3<sup>rd</sup> Army Corps, commanded by Lieutenant General A.P. Hill, drove down Herr Ridge, across a small valley of woods and fields, then up Mc Pherson Ridge. These 10,000 troops greatly outnumbered the 4000 troops of the Union's 1<sup>st</sup> Army Corps, commanded by Major General Abner Doubleday. Several Confederate artilleries were placed along either side of Chambersburg Pike, at the height of the ridge.

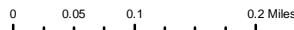
The assault of Hill's troops from Herr Ridge was one of the largest and most successful of the war. It led to a bloody withdrawal by the 1<sup>st</sup> Union Corps, first to the Lutheran Theological Seminary, then a rout through the streets of Gettysburg. Although most of the fighting (some of the most intense of the war) occurred at Willoughby Run and McPherson Ridge, on land reserved by GNMP, Herr Ridge gave the Confederates a superior point from which to launch their assaults. Additionally, the height of the ridge at Chambersburg Pike allowed the Confederate artillery to effectively shell the Union troops, at any point along their line, on Mc Pherson Ridge.

# Herr Ridge, July 1, 1863, (2:30PM)



This map represents the massive assault of the Confederate 3rd Army Corps, beginning on Herr Ridge, on the Union's 1st Army Corps, positioned on Mc Pherson Ridge.

The site is located just west of Gettysburg Borough.



Projection: GCS North American 1983  
Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
Gettysburg National Military Park, US Department of Interior, National Park Service  
Created By: Kevin Burkman April, 2008

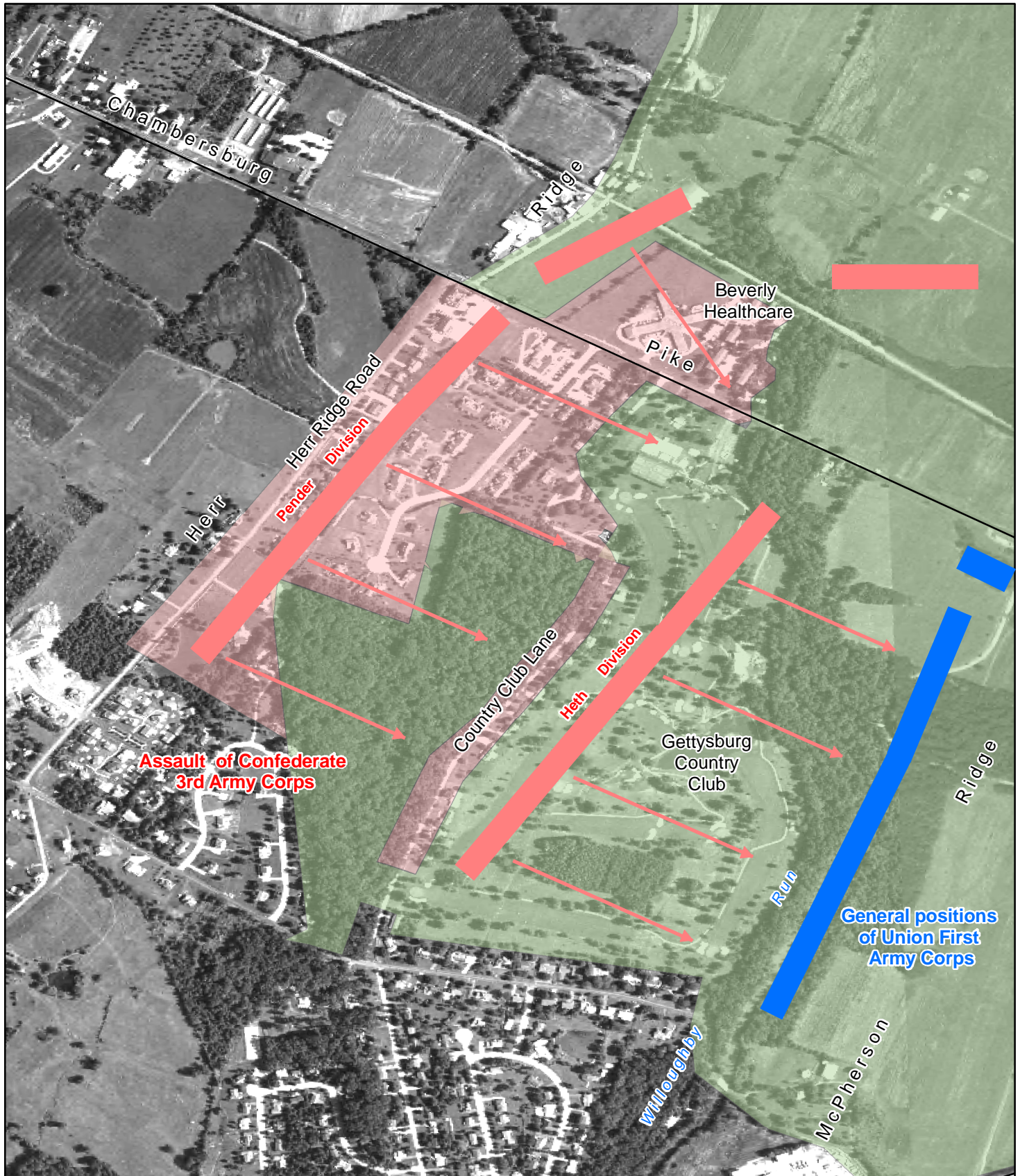


### **Herr Ridge, Present**

Current Landscape Conditions/Battle Interpretation: Much of Herr Ridge has been lost to development. The portion of the ridge south of Chambersburg Pike has seen much residential development in areas not included in the GNMP boundary. This includes development along Herr Ridge Road, and Country Club Lane, a parcel that separates a large segment of GNMP from the rest of the park. Neither of these areas was included in the park's boundary. Since 1948, the Gettysburg Country Club, located within the park's boundary, has been operating a golf facility; this area was once the flat, agricultural fields the troops of the Confederate assault force crossed, on their way to Mc Pherson Ridge. On the north side of the pike, Beverly Healthcare operates a senior nursing center that fully occupies the land on which the Confederate assault's left flank passed.

As a result of the extensive development on and around Herr Ridge, interpretation of the Confederates assault is nearly impossible. However, a future purchase of the Gettysburg Country Club by the National Park Service/GNMP could restore much of the interpretation of the event.

# Herr Ridge, Present

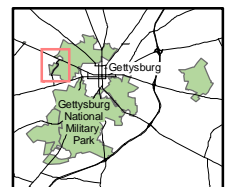


**Legend**  
 [Red box] Unprotected Battle Site  
 [Green box] Gettysburg National Military Park

This map represents current day land cover/land use on the battle site. Actual troop actions have been overlaid onto aerial imagery, which serves as a background, representing modern and commercial development. Green shaded areas represent the battle sites preserved by GNMP; red shaded areas represent sites where significant battle activity occurred, but was not included in GNMP boundaries.



Projection: GCS North American 1983  
 Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 USDA NAIP Imagery, 2005  
 Created By: Kevin Burkman April, 2008



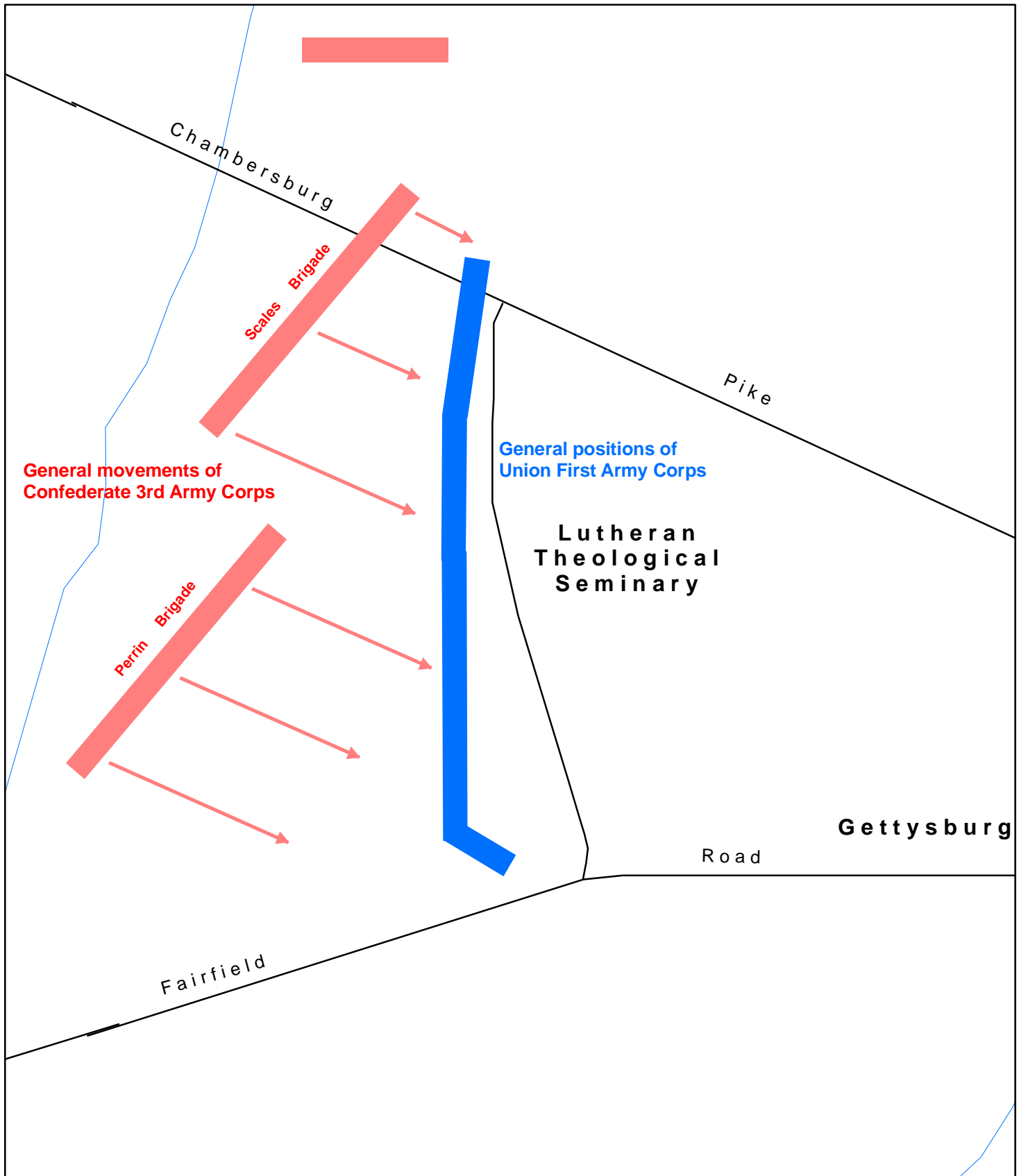
### **Lutheran Theological Seminary, July 1, 1863**

The successful Confederate assault on Mc Pherson Ridge drove the Union 1<sup>st</sup> Corps back across the fields, east of the ridge, to a position along the length of the Lutheran Theological Seminary. It is here that the Union troops formed a final defensive position, ½ mile in length, from Chambersburg Pike to Fairfield Road. The remnants of the Union infantry corps hastily formed this line, with previously positioned artillery battalions.

Some of the fiercest fighting of the battle occurred on the fields, in between Mc Pherson Ridge and the Lutheran Theological Seminary, which have been preserved in GNMP. The grounds of the Lutheran Theological Seminary, located on Seminary Ridge just east of town, were the site of the Union 1st Corps' "final stand". Although not within the borders of the national park, the seminary grounds saw some the deadliest actions of the entire war.

The Union line included the 21 guns of Colonel Charles Wainwright's Artillery Brigade, which devastated the left flank of the attacking Confederates; the Fourth Brigade of Pender's Division (Confederate 3<sup>rd</sup> Army Corps) suffered 400 casualties, in a matter of minutes. Heavy fighting occurred along the entire line and came to a climax, when the regiments of First Brigade of Pender's Division was able to turn the left flank of the Union line near Fairfield Road, rendering the rest of the line untenable. The Union line at the seminary began to slowly disintegrate, from Fairfield Road north, to Chambersburg Pike. Greatly outnumbering the Union troops, the attacking Confederates took the Union position at the seminary, after an hour of intense fighting. The remnants of the defeated Union 1<sup>st</sup> Corps then made a hasty and mostly disorganized retreat through the streets of Gettysburg, to Cemetery Hill, with the Confederates in pursuit.

# Lutheran Theological Seminary, July 1, 1863 (4:00PM)



This map represents the final Union position west of Gettysburg, on the grounds of the Lutheran Theological Seminary, during the Confederate 3rd Army Corps assault.

The site is located within Gettysburg Borough.

0 0.025 0.05 0.1 Miles

Projection: GCS North American 1983  
Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
Gettysburg National Military Park, US Department of Interior, National Park Service  
Created By: Kevin Burkman April, 2008



### **Lutheran Theological Seminary, Present**

#### **Current Landscape Conditions/Battle Interpretation:**

The landscape of the battle events at the Lutheran Theological Seminary has changed significantly. The seminary has constructed campus buildings over the past 145 years, from Chambersburg Pike to Fairfield Road. The area near Chambersburg Pike has seen minimal development by the seminary, allowing visitors to interpret the devastation of Pender's Fourth Brigade and subsequent battle action. However, much development has occurred near Fairfield Road, thus making the pivotal flanking movement of the Confederates quite difficult to interpret.



# Lutheran Theological Seminary, Present



## Legend

- Unprotected Battle Site
- Gettysburg National Military Park

This map represents current day land cover/land use on the battle site. Actual troop actions have been overlaid onto aerial imagery, which serves as a background, representing modern and commercial development. Green shaded areas represent the battle sites preserved by GNMP; red shaded areas represent sites where significant battle activity occurred, but was not included in GNMP boundaries.

0 0.025 0.05 0.1 Miles

Projection: GCS North American 1983

Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 USDA NAIP Imagery, 2005  
 Created By: Kevin Burkman April, 2008



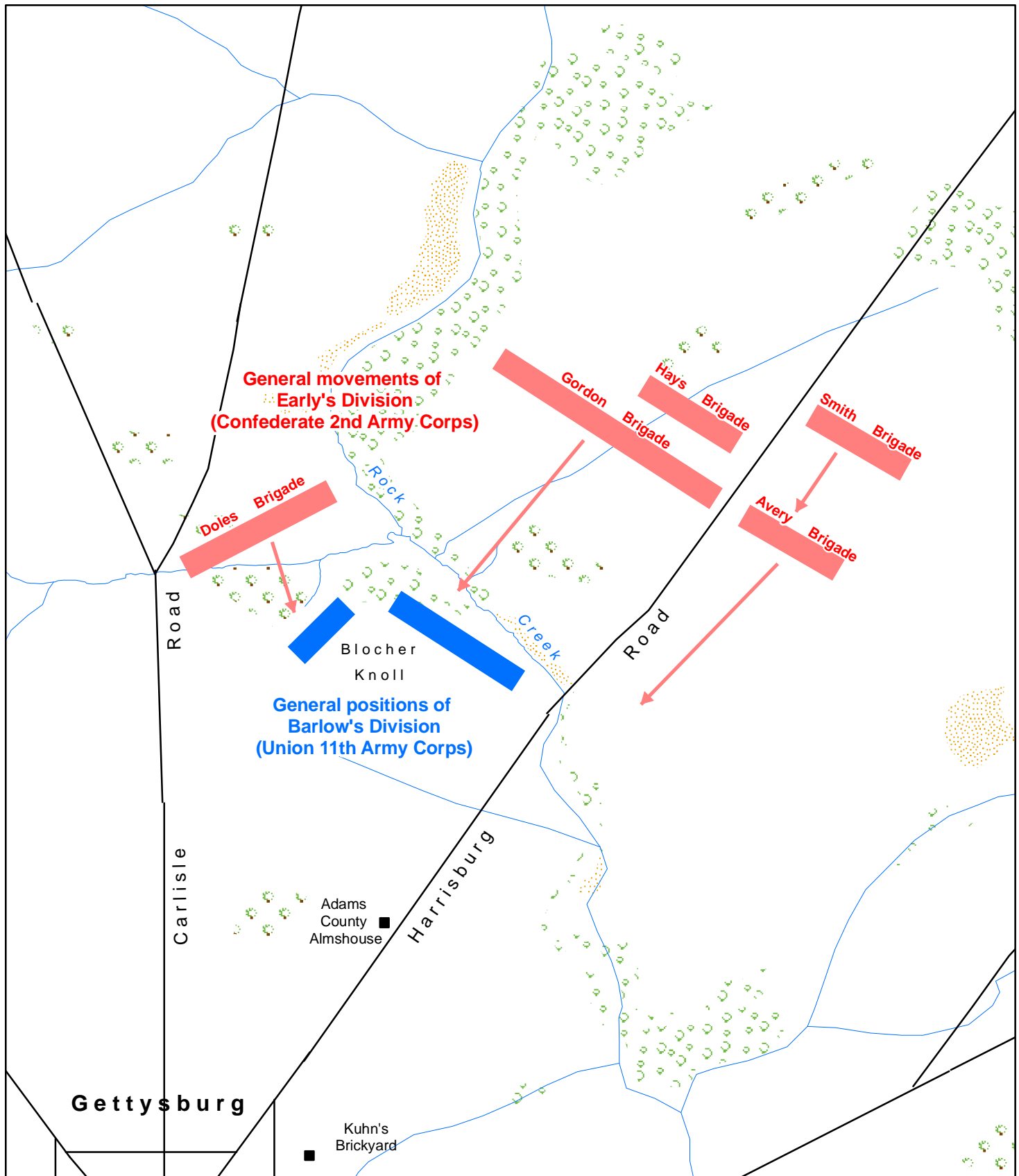
### **Blocher Knoll/Harrisburg Pike, July 1, 1863**

Blocher Knoll, now known as Barlow's Knoll, was the site of a quick and decisive victory, by elements of the Confederate 2<sup>nd</sup> Army Corps. The lead elements of the Union 11th Army Corps arrived in Gettysburg around 12:00PM, in support of the Union's 1<sup>st</sup> Army Corps, that was doing battle with the Confederates west of town. The right flank of the 11<sup>th</sup> Corps' line was anchored on Blocher Knoll and was manned by the corps' First Division, commanded by Brigadier General Francis Barlow. Within minutes of their deployment, the 2400 soldiers of the 11<sup>th</sup> Corps could see, moving toward them, wave after wave of Confederate troops, moving south on either side of Harrisburg Road.

These troops were members of Early's Division, of the Confederate 2<sup>nd</sup> Army Corps, who were arriving in support of the Confederate forces west and north of town. Outnumbering Barlow's force, Early's 5400 troops struck the Union troops on Blocher Knoll on their front and both flanks. After 20 minutes of intense, sometimes hand-to-hand fighting, Barlow's Division collapsed and fell back, in a rout, all the way to Cemetery Hill, just south of town. Early's Division followed closely behind, in full engagement, on both sides of Harrisburg Road

After the battle, the name of the knoll was changed from Blocher to Barlow Knoll, in honor of the Union commander who fought and was critically injured there.

# Blocher Knoll/Harrisburg Road, July 1, 1863 (3:15 PM)



This map represents the initial attack on the Union right flank, as Union 11th Corps troops on Blocher Knoll are assaulted by Early's Division of the Confederate 2nd Army Corps.

The site is located northeast of Gettysburg Borough.

0 0.05 0.1 0.2 Miles

Projection: GCS North American 1983  
 Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 Created By: Kevin Burkman April, 2008



### **Blocher Knoll/Harrisburg Pike, Present**

#### **Current Landscape Conditions/Battle Interpretation:**

The site of intense fighting at Blocher Knoll has been preserved in GNMP. However, the corridor along Harrisburg Pike, north and east of Blocher Knoll, along which Early's troops assaulted the Union position, was not included. Although not the scene of intense fighting, these areas played an important part in Early's assault; it enabled Early's troops to maneuver freely, taking the most opportune positions to attack the enemy. The open fields provided a grand, if some disconcerting vista, as thousands of Early's troops, clad in gray with dozens of battle flags flowing, approached their precarious position.

The unprotected open fields that Early's troops charged across have fallen to a large residential development north east of Blocher Knoll, and commercial development has occurred north and south of the knoll, on either side of Harrisburg Road. Except for a small tract of private, agricultural land to the east of the knoll, it is not possible to interpret the battle events that occurred here.

# Blocher Knoll/Harrisburg Road, Present



**Legend**  
 Unprotected Battle Site  
 Gettysburg National Military Park

This map represents current day land cover/land use on the battle site. Actual troop actions have been overlaid onto aerial imagery, which serves as a background, representing modern and commercial development. Green shaded areas represent the battle sites preserved by GNMP; red shaded areas represent sites where significant battle activity occurred, but was not included in GNMP boundaries.

0 0.05 0.1 0.2 Miles

Projection: GCS North American 1983  
 Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 USDA NAIP Imagery, 2005  
 Created By: Kevin Burkman April, 2008



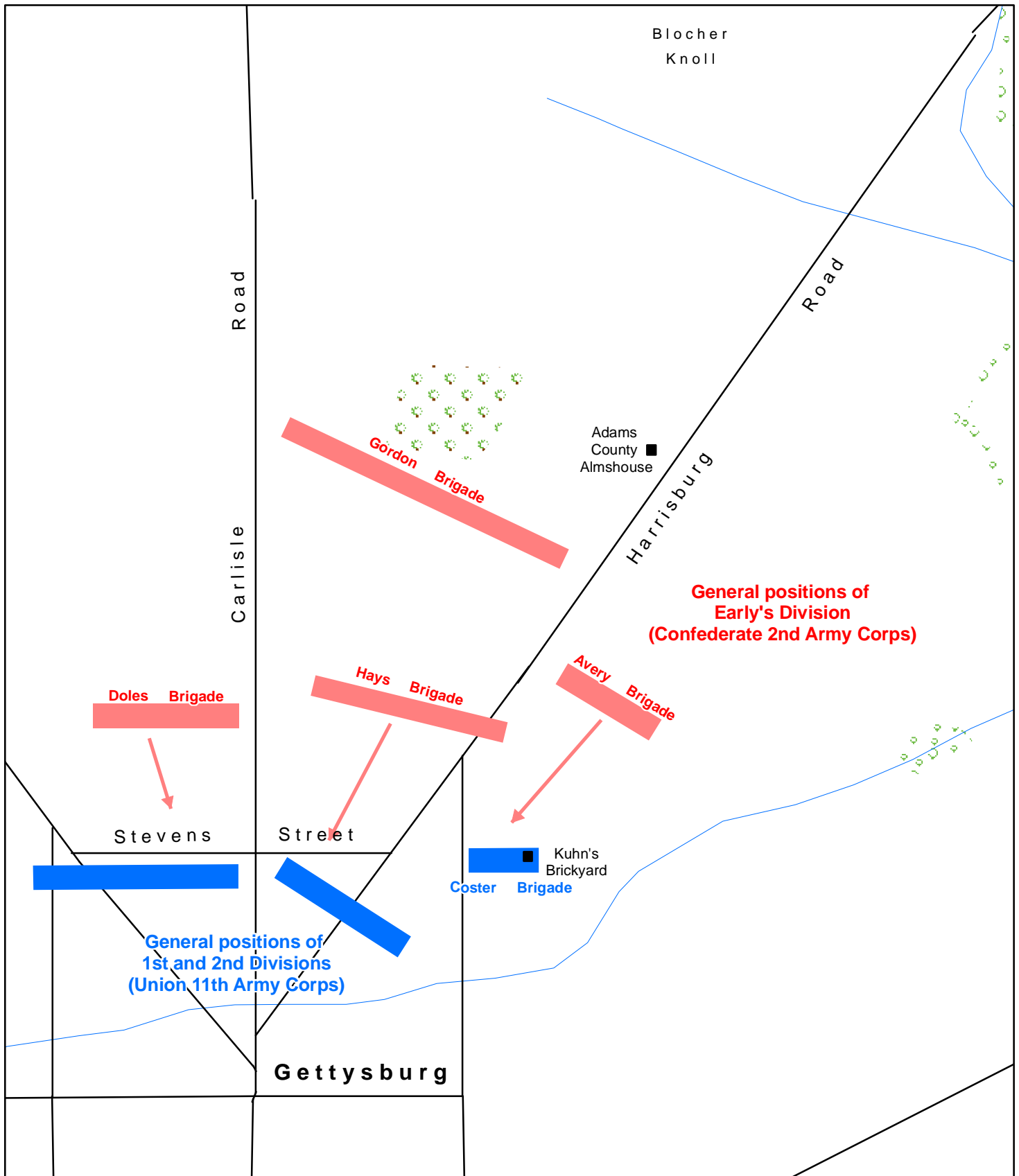
### **Stevens Street/Kuhn's Brickyard, July 1, 1863**

The events that occurred on the north end of Gettysburg, during the Union 11<sup>th</sup> Corps' retreat, make for some of the most compelling stories of the battle. Routed by Early's attack on Blocher Knoll, the remnants of Barlow's Division streamed south on Harrisburg Pike. At the same time, elements of the 11<sup>th</sup> Corps 2<sup>nd</sup> Division, moved from their reserve positions on Cemetery Hill, to help stem the tide; Coster's Brigade, of the 2<sup>nd</sup> Division of the Union 11<sup>th</sup> Corps, took up a position on a small rise above Stevens Run, in a local brick making facility, known locally as Kuhn's Brickyard. The brickyard was located just to the east of Harrisburg Road. Additionally, a collection of infantry regiments and batteries formed a line parallel to Stevens Street, facing north, just west Coster's position. This line included about 1000 troops and 10 artillery pieces.

Shortly after their deployment, Coster's small brigade was struck on front and flanks by the Hays and Avery's Brigades of Early's Division, numbering some 2500 troops. Despite being outnumbered by a margin of 2 to 1, Coster's troops fought valiantly; fierce hand to hand combat ensued and was the scene was described as total bedlam. Coster's Brigade suffered nearly 50% casualties, in a matter of minutes. The right flank of Hays and Avery's line also struck the Union troops along Stevens Street. After a brief fire fight, the Union troops there were overrun and forced to retreat through the streets of Gettysburg. A couple of units of the Union troops positioned along Stevens Street, the batteries of Heckman and Bancroft, were some of the last Union units to retreat from this part of the battlefield

The delaying actions of Coster, Heckman and Bancroft on and near Stevens Street allowed the retreating Union 11<sup>th</sup> Corps precious time to reach Cemetery Hill, which had been designated as a rallying point for the routed Union troops, streaming into Gettysburg from the battlefields west and north of town.

# Stevens Street/Kuhn's Brickyard July 1, 1863 (3:45 PM)



This map represents the final defensive positions of the Union right flank, as remnants of the Union 11th Corps attempt to slow the oncoming assault of Early's Division.

0 0.025 0.05 0.1 Miles

Projection: GCS North American 1983

Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 Created By: Kevin Burkman April, 2008

The site is located within Gettysburg Borough.

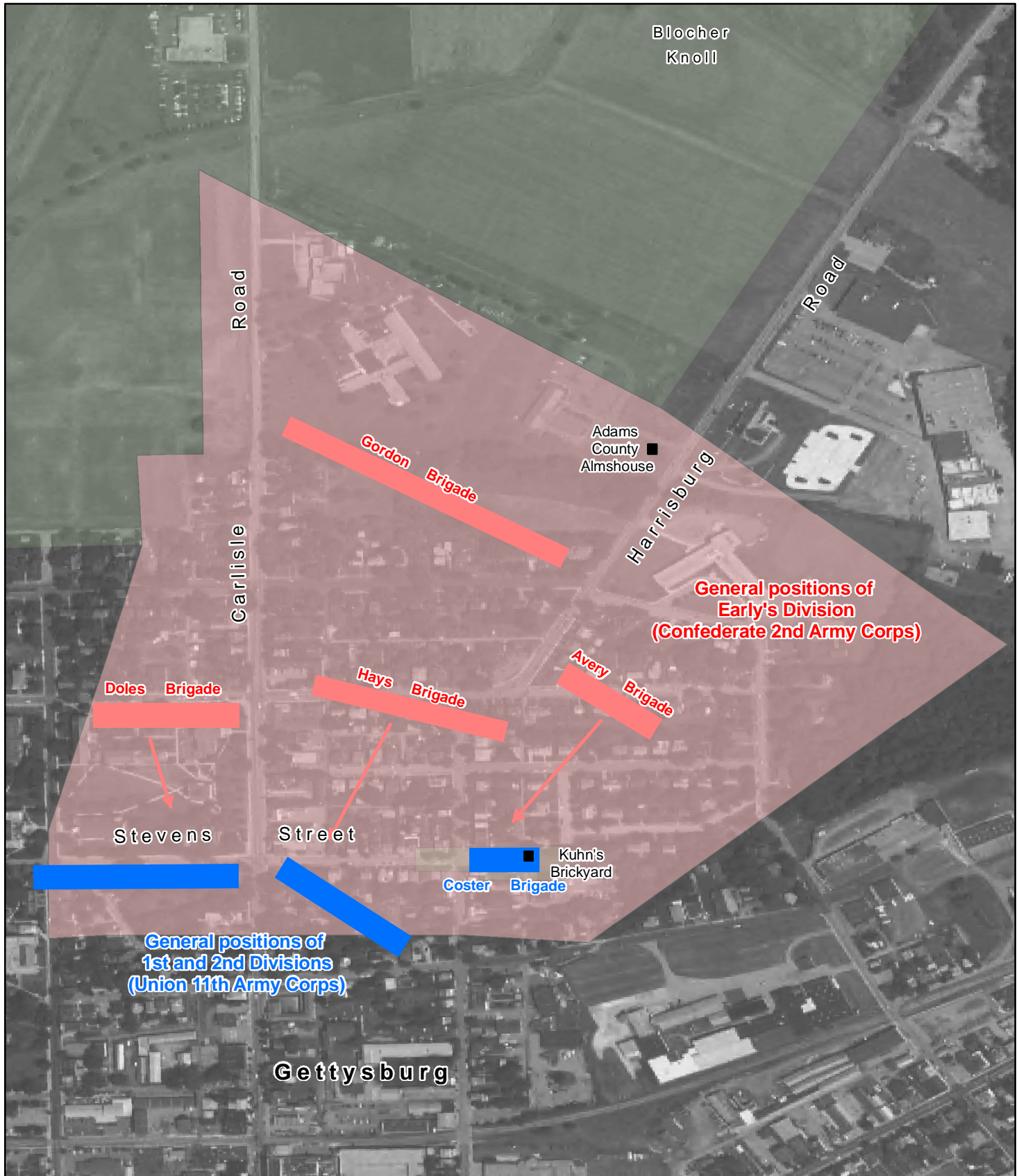


**Stevens Street/Kuhn's Brickyard, Present**

Current Landscape Conditions/Battle Interpretation: During the time of the battle, the Stevens Street area was on the fringe of town, comprised mostly of agricultural fields. The Union troops positioned here and facing north would have seen miles of rolling farmlands spread out before them. That landscape was replaced with a residential neighborhood, built mostly in the mid 20<sup>th</sup> century. A small strip of land has been preserve by the National Park Service. Appropriately named Coster Avenue, the site includes 80 foot long mural, depicting the actions of Coster's Brigade, on the back of a warehouse, that was built in the '70's. Four monuments dedicated to Coster's regiments are also found at the site. Except for this small tract of land, it is nearly impossible to interpret the final moments of the first day of battle at Gettysburg.

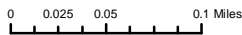


# Stevens Street/Kuhn's Brickyard, Present



**Legend**  
 ■ Gettysburg National Military Park  
 ■ Unprotected Battle Site

This map represents current day land cover/land use on the battle site. Actual troop actions have been overlaid onto aerial imagery, which serves as a background, representing modern and commercial development. Green shaded areas represent the battle sites preserved by GNMP; red shaded areas represent sites where significant battle activity occurred, but was not included in GNMP boundaries.



Projection: GCS North American 1983  
 Sources: "Gettysburg July 1", David Martin, Combined Books, 1996  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 USDA NAIP Imagery, 2005  
 Created By: Kevin Burkman April, 2008



### **Baltimore Pike/Emmitsburg Pike July 2 & 3, 1863**

Battle Events: The area just south of Gettysburg, centered on the intersection of Baltimore Pikes and Emmitsburg Pikes, was a site of numerous important battle events, on July 2 and 3. July 2 witnessed the assault on Cemetery Hill, by Early's Confederate 2<sup>nd</sup> Army Corps, to the east and south of Baltimore Street. Additionally, the area between South Street and Emmitsburg Pike was the scene of nearly constant sniper fire, between the two sides, on July 2 and 3.

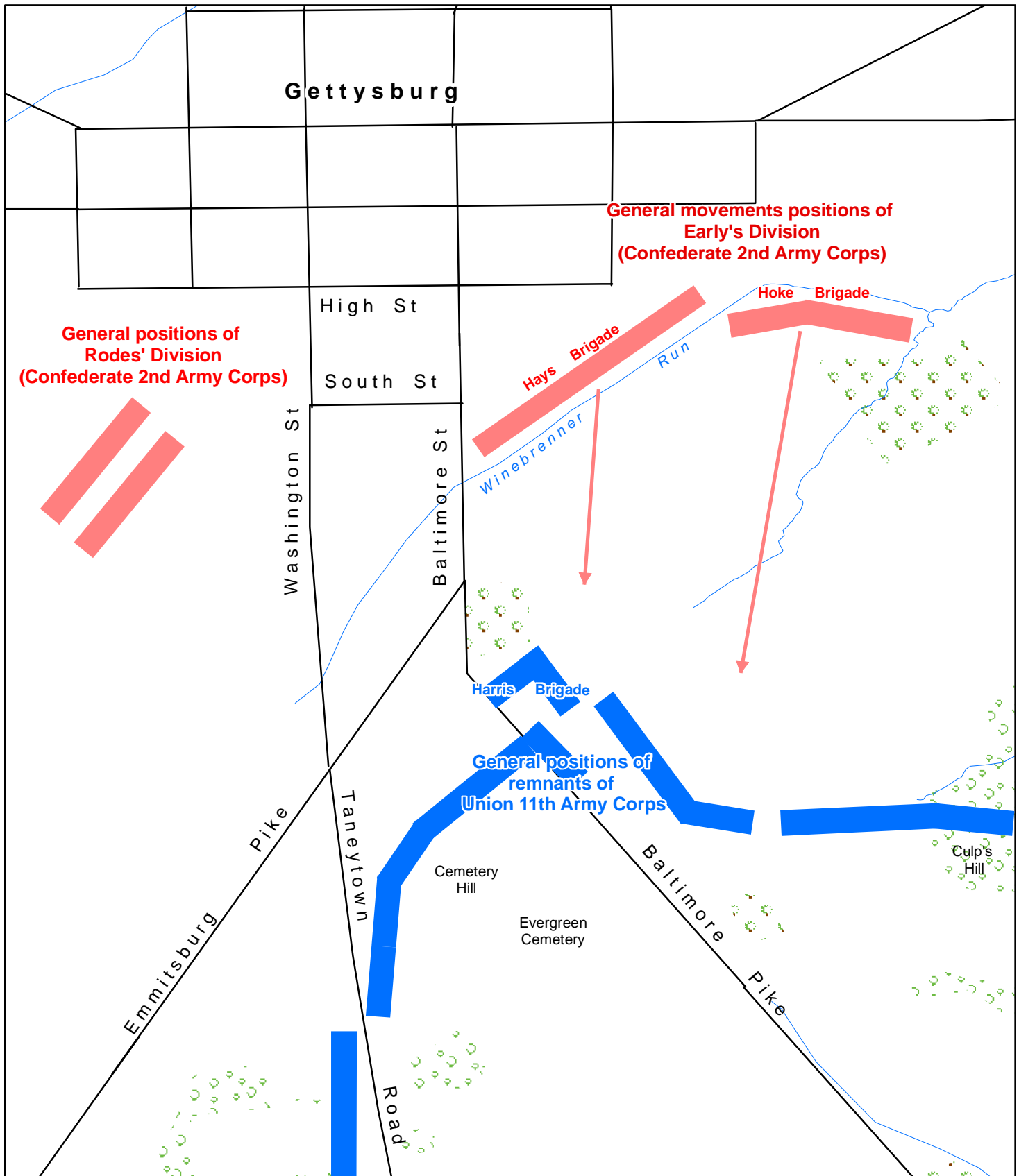
At mid-afternoon on July 2, Early ordered an assault on Union positions on Cemetery Hill, by his Hays and Hokes brigades. This action was part of a greater attack by the Confederate Army of Northern Virginia, on nearly the entire Union line. Early's brigades began their assault along Winebrenner Run, passing across open agricultural lands, and under constant artillery fire from the Union batteries posted on Cemetery Hill. Dozens of Confederates were killed or injured in these fields, as they swept their way up the slope, to the Union line. It is here, on land protected by GNMP, that gruesome hand-to-hand fighting occurred, for several hours, before the Union line was reinforced, and Early's troops were forced to retreat.

On July 2 and 3, the area between Middle Street in Gettysburg and the intersection of Emmitsburg and Baltimore Pikes was something of a "no-man's land", a buffer between the lines of the opposing armies. However, both sides took advantage of the numerous homes and buildings as sniper nests. This was especially useful to the Confederates, who utilized the relatively tall buildings (3-4 stories) of town, as far north as Middle Street. This included sniping from rooftops, windows, and attics, whose bricks had been removed to facilitate the snipers.

Additionally, on July 2 and 3, the agricultural fields between Rodes Division (Confederate 2<sup>nd</sup> Army Corps) and Washington Street/Emmitsburg Pike was the site of much skirmish activity by both sides; thinly manned lines of advance troops that would reconnoiter the enemy's line, generally initiating small fire fights.

These skirmishing and sniping activities were small in scope, as compared to the much larger movements elsewhere on the battlefield. However, military actions in urban areas in 19<sup>th</sup> century warfare were relatively rare; an unspoken code of honor generally prohibited combat actions amongst civilians. These actions were a harbinger of warfare to come, most notably, the type waged later in the Civil War, World Wars I & II and even present day Iraq, where civilians became caught in the cross fire of great urban battles. Thus, the streets of Gettysburg give us an opportunity to interpret the genesis of some modern warfare tactics.

# Baltimore Pike/Emmitsburg Pike, July 2, 1863



This map represents the actions throughout the day, between elements of the Union 11th Corps on Cemetery Hill and the Confederate assault forces of Early's Division, and the sniper/skirmishing activity that occurred just south of town.

The site is located within Gettysburg Borough.

0 0.0375 0.075 0.15 Miles

Projection: GCS North American 1983  
 Sources: "Gettysburg: Culp's Hill and Cemetery Hill", Harry Pfanz, University of North Carolina Press, 1993  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 Created By: Kevin Burkman April, 2008



### **Baltimore Pike/Emmitsburg Pike, Present**

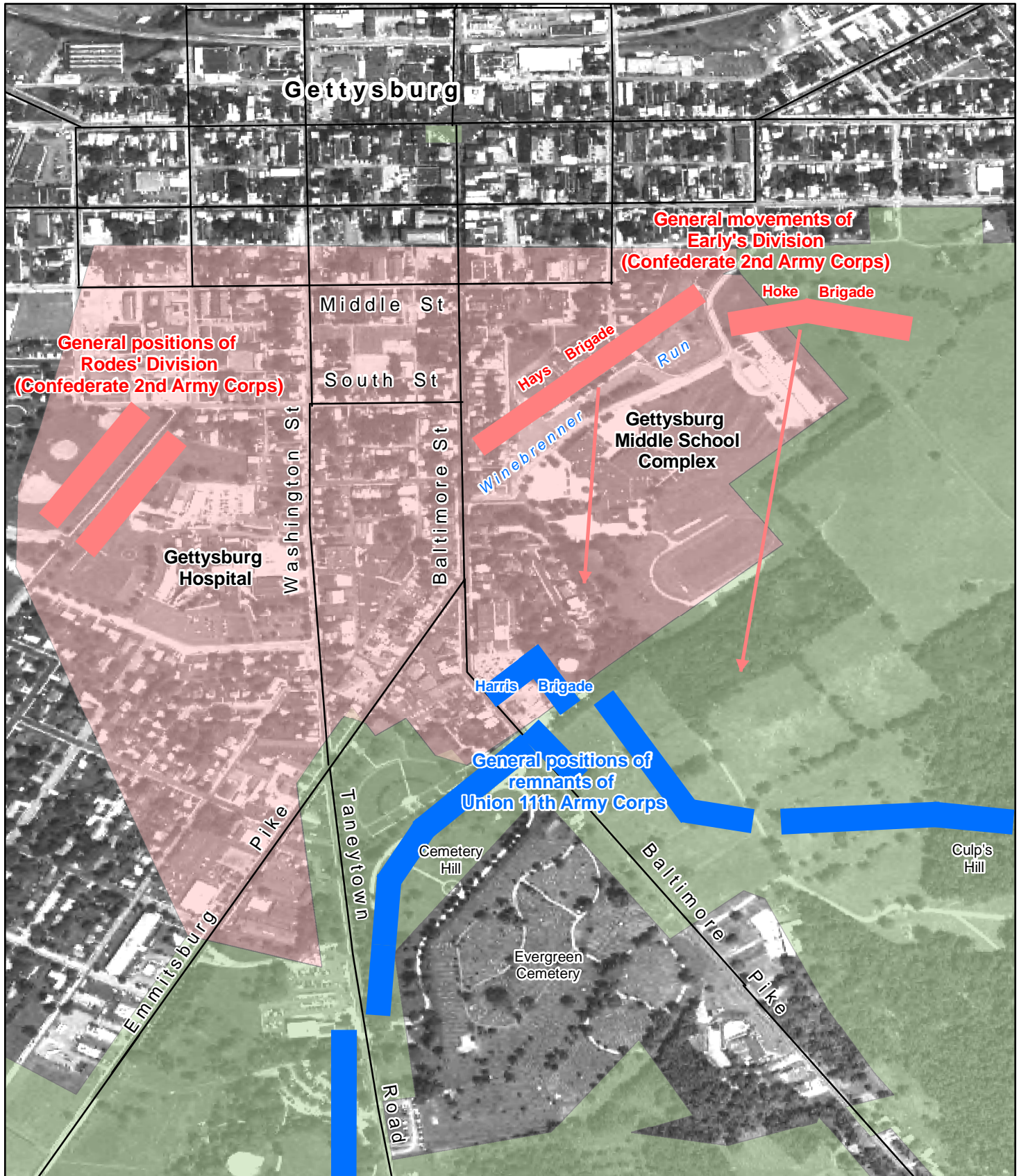
Current Landscape Conditions/Battle Interpretation: Interpretation of the Baltimore Pike/Emmitsburg Pike area of the battlefield has been greatly compromised.

Most of the land that the Hays and Hokes brigades passed over, during their July 2 assault on Cemetery Hill, was not preserved in GNMP and have been lost to residential and municipal development; in the 1970's, the borough of Gettysburg constructed a large middle school complex on the site. Also unprotected was the position of the Union Harris Brigade, just east of Baltimore Pike. Harris troops were the first to be struck by Early's force; the site is now part of an extensive tourist parking lot and also contains 2 sizable water towers.

The current intersection of Baltimore Street and Emmitsburg Pike, the site of much sniper activity during the battle, would not be recognized by the soldiers and townspeople of 1863. The area has seen much commercial growth, mostly shops that cater to tourists, along both pikes. The development at the intersection also includes a large hotel and gas station/mini-mart. It should be noted, however, that many of the buildings that witnessed this part of the battle, particularly those north of Emmitsburg Pike, have been placed on the National Register of Historic Places; bullet holes and other scars, a result of the skirmishing and sniping activity, can still be seen on most of these buildings.

The area to the west of Washington Street and Emmitsburg Pike, site of skirmishing between both sides, is now home to a commercial development, residential neighborhoods, baseball fields and Gettysburg Hospital.

# Baltimore Pike/Emmitsburg Pike, Present



- Legend**
- Unprotected Battle Site
  - Gettysburg National Military Park

This map represents current day land cover/land use on the battle site. Actual troop actions have been overlaid onto aerial imagery, which serves as a background, representing modern and commercial development. Green shaded areas represent the battle sites preserved by GNMP; red shaded areas represent sites where significant battle activity occurred, but was not included in GNMP boundaries.

0 0.0375 0.075 0.15 Miles

Projection: GCS North American 1983  
 Sources: "Gettysburg: Culp's Hill and Cemetery Hill", Harry Planz, University of North Carolina Press, 1993  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 USDA NAIP Imagery, 2005  
 Created By: Kevin Burkman April, 2008

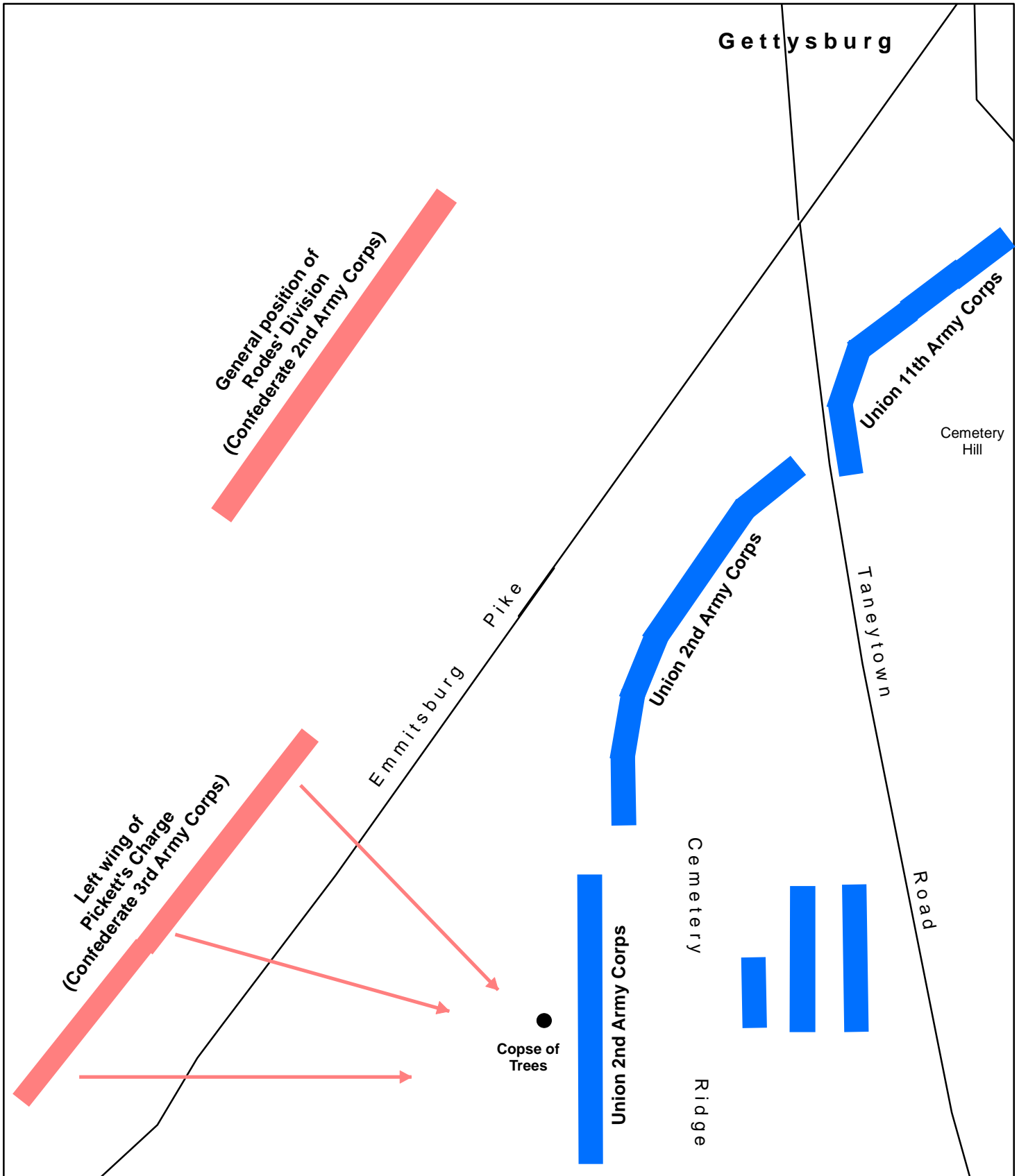


### **Cemetery Ridge, July 3, 1863**

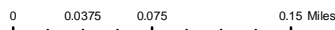
Battle Events: Cemetery Ridge witnessed the skirmish and sniper activity in front of the Confederate Rodes Division, just west of Emmitsburg Pike/Washington Street that continued from July 2. Troops from Rodes' Division and elements of the Union's 11<sup>th</sup> and 2<sup>nd</sup> Corps, located near the intersection of Emmitsburg Pike and Taneytown Road, were in constant engagement, passing back and forth across the agricultural fields of Emmitsburg Pike.

Cemetery Ridge, however, is most famous for the actions that occurred there on July 3; the assault and repulse of Pickett's Charge on the Union center. July 2 saw the Army of the Northern Virginia's commander, General Robert E Lee, pound the Union left and right flanks with massive assaults. Although the Union line bended in places, it did not break. As a result, on July 3, Lee decided to stage one of the largest single assaults of the entire war on the Union center, located on Cemetery Ridge, just south of the Emmitsburg Pike/Taneytown Road intersection. The charge was commanded by Brigadier General George Pickett and included 12,000 troops from Pickett's Division (Confederate 1<sup>st</sup> Army Corps) and Pettigrew's Division (Confederate 3<sup>rd</sup> Army Corps). The charge was preceded by the largest artillery exchange in the history of the western hemisphere, which included 111 Union artillery guns and 170 Confederate guns firing at each other for nearly 2 hours. At the conclusion of the artillery engagement, Pickett's assault force marched out of the woods on Seminary Ridge, and marched nearly a mile across the agricultural fields west of Emmitsburg Road, toward their target, the Union line at the Copse of Trees. The Confederate assault was able to temporarily breach the Union line here, but massive Confederate casualties caused the assault to fail. Pickett's force, for less than an hour's work, suffered over 50% casualties. Lee's army could ill afford this significant loss in both infantry troops and middle and upper echelon officers. As a result, the actions here on Cemetery Ridge aided in the overall defeat of the Confederate cause.

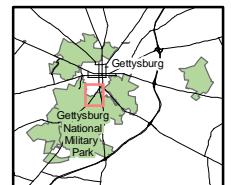
# Cemetery Ridge, July 3, 1863 (3:15PM)



This map represents the site where the left flank of Pickett's Charge struck the Union 2nd Army Corps, on the north end of Cemetery Ridge. It also includes the area west of Emmitsburg Pike, where much skirmish and sniper activity occurred between Union troops on Cemetery Ridge and Rodes' Division.



Projection: GCS North American 1983  
 Sources: "Gettysburg: Day Three", Jeffrey Wert, Simon and Schuster, 2001  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 Created By: Kevin Burkman April, 2008



The site is just south of Gettysburg Borough.

### **Cemetery Ridge, Present**

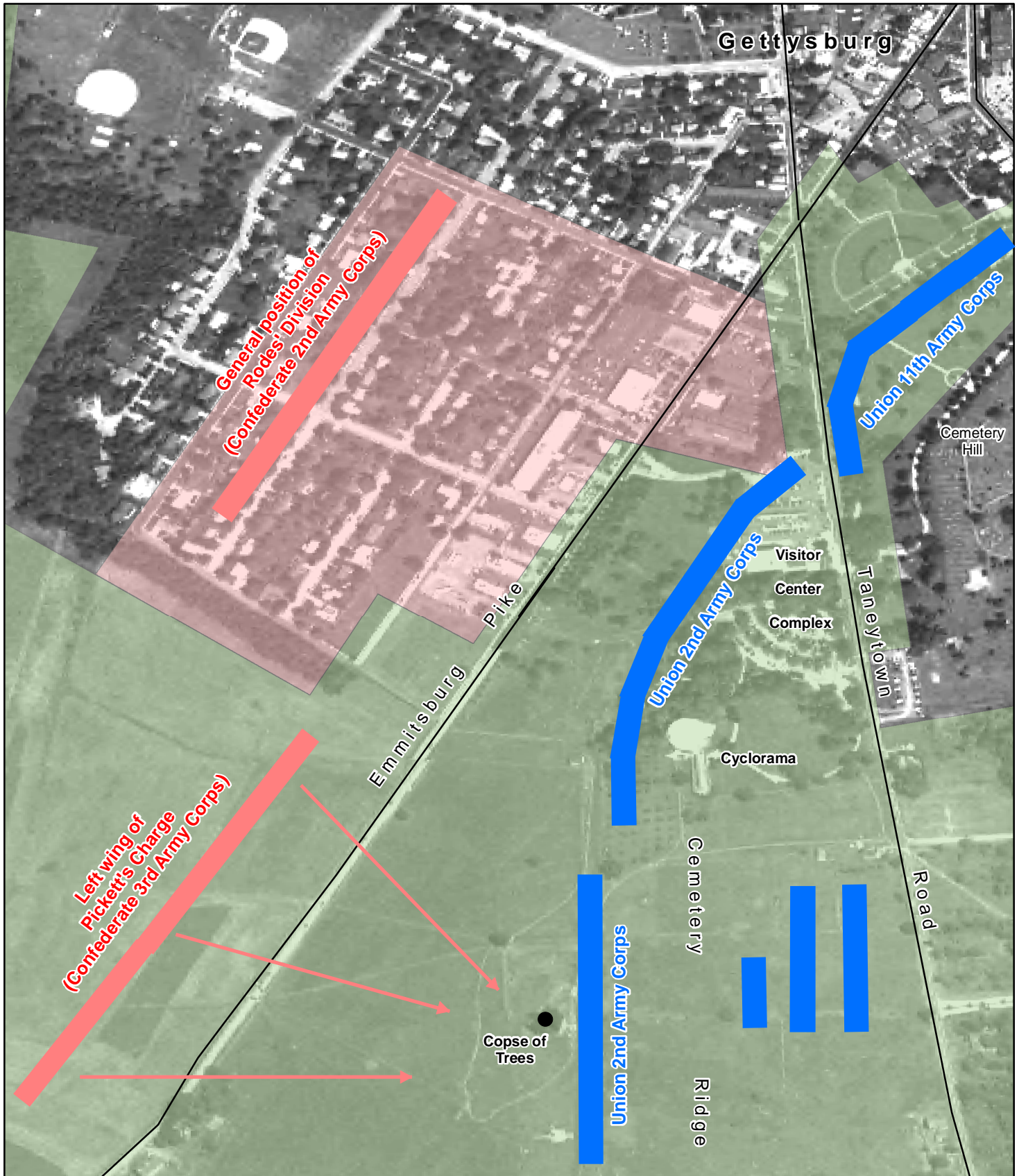
Current Landscape Conditions/Battle Interpretation: Much commercial and residential development has occurred along the Emmitsburg Pike corridor. The area where the skirmishing and sniping occurred is now blanketed with commercial development geared toward battlefield tourists; souvenir shops, hotels, fast food restaurants, and a “National Wax Museum” are located on the pike, in close proximity to one of the park’s primary entrance roads. It is impossible to interpret any battle actions at this site.

While the landscape of Pickett’s famous charge has been completely preserved in GNMP, nearby incursions, including some on the preserved battlefield itself, serve to distract the visitor from proper interpretation of the events. The current location of the park’s mid-20<sup>th</sup> century visitor center and cyclorama, in between Emmitsburg Pike and Taneytown Road, experienced much of the incoming Confederate artillery fire, before Pickett’s infantry assault. The site also witnessed much infantry movement, as Union reinforcements moved in to plug their breached line. Some interpretation of battle events is possible at this site, but it is comprised by parking lots and associated traffic.

All of the other previous battlefield analysis sites in this project provided us with examples of land changes that have been detrimental to interpreting historic events. Cemetery Ridge, however, provides us with an opportunity to study the reversal of development of historic land. A detailed description of such a reversal at Cemetery Ridge can be found in the “Battlefield Rehabilitation” section.

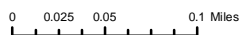


# Cemetery Ridge, Present

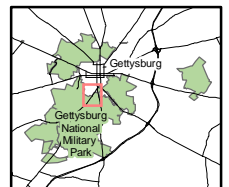


- Legend**
- Unprotected Battle Site
  - Gettysburg National Military Park

This map represents current day land cover/land use on the battle site. Actual troop actions have been overlaid onto aerial imagery, which serves as a background, representing modern and commercial development. Green shaded areas represent the battle sites preserved by GNMP; red shaded areas represent sites where significant battle activity occurred, but was not included in GNMP boundaries.



Projection: GCS North American 1983  
 Sources: "Gettysburg: Day Three", Jeffrey Wert, Simon and Schuster, 2001  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 USDA NAIP Imagery, 2005  
 Created By: Kevin Burkman April, 2008



### **Camp Letterman, 1863**

The Battle of Gettysburg produced an astounding number of wounded; some 22,000 troops required care. Most of these received short term care at the many makeshift hospitals, located in Gettysburg area buildings and farms. These troops were then transported to hospitals in Philadelphia, Baltimore and New York. However, the more seriously wounded soldiers (including hundreds of captured wounded Confederates) remained behind at Gettysburg.

To accommodate these soldiers, the Army of the Potomac established a large field hospital, located one mile east of Gettysburg, at the George Wolf farm. Named Camp Letterman, after the Army of the Potomac's chief medical director, Jonathan Letterman. The camp comprised about 100 acres of the farm, and was in operation from July 20 to November 20, 1863.

This site should allow for the interpretation of one of the war's most important, yet rarely considered aspects; care of the wounded. Over 4000 troops were treated at Camp Letterman, making it the largest of the military hospital camps ever constructed in the western hemisphere, and proved to be a role model for future military field hospitals. Additionally, 1200 Confederate soldiers were buried on the Camp Letterman grounds. Most were exhumed in the 1870's and sent to cemeteries in the south; many were not found and believed to still be on the site. Future luminaries also walked the grounds of the camp; a young author, Walt Whitman served as a Union nurse here and Fredrick Law Olmsted, director of US Sanitary Commission, also visited the site.

Recent archaeological studies have shown that despite land use activities after the camp was closed, the site maintained sub-surface integrity and holds the potential for archaeological deposits, related to the hospital activities.

### **Camp Letterman, Present**

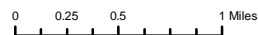
Current Landscape Conditions/Interpretation: The hundred acres that once comprised the camp have drastically changed since 1863. The camp was located just off of York Pike (present day US 30). The nearby US 30/US 15 interchange has led to much residential and commercial development along the York Pike corridor, including the Camp Letterman site. The first infraction on the site was a trailer park, built in the mid 20<sup>th</sup> century. This was followed by a Giant grocery, constructed in the 1990's. The remaining few undeveloped acres of the site are slated to become a Target store later this year. As a result, this site will be completely lost for preservation and interpretation of events.

# Site of Camp Letterman Military Field Hospital



## Legend

- Approximate Boundary of Camp Letterman
- Gettysburg National Military Park



Projection: GCS North American 1983  
 Sources: "Gettysburg: The Aftermath of a Battle", Gregory Coco, Thomas Publications, 1995  
 Gettysburg National Military Park, US Department of Interior, National Park Service  
 USDA NAIP Imagery, 2005  
 Created By: Kevin Burkman April, 2008

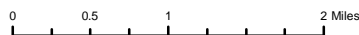


# Gettysburg Analysis Summary



## Legend

- Gettysburg National Military Park
- Battle Site Lost To Development



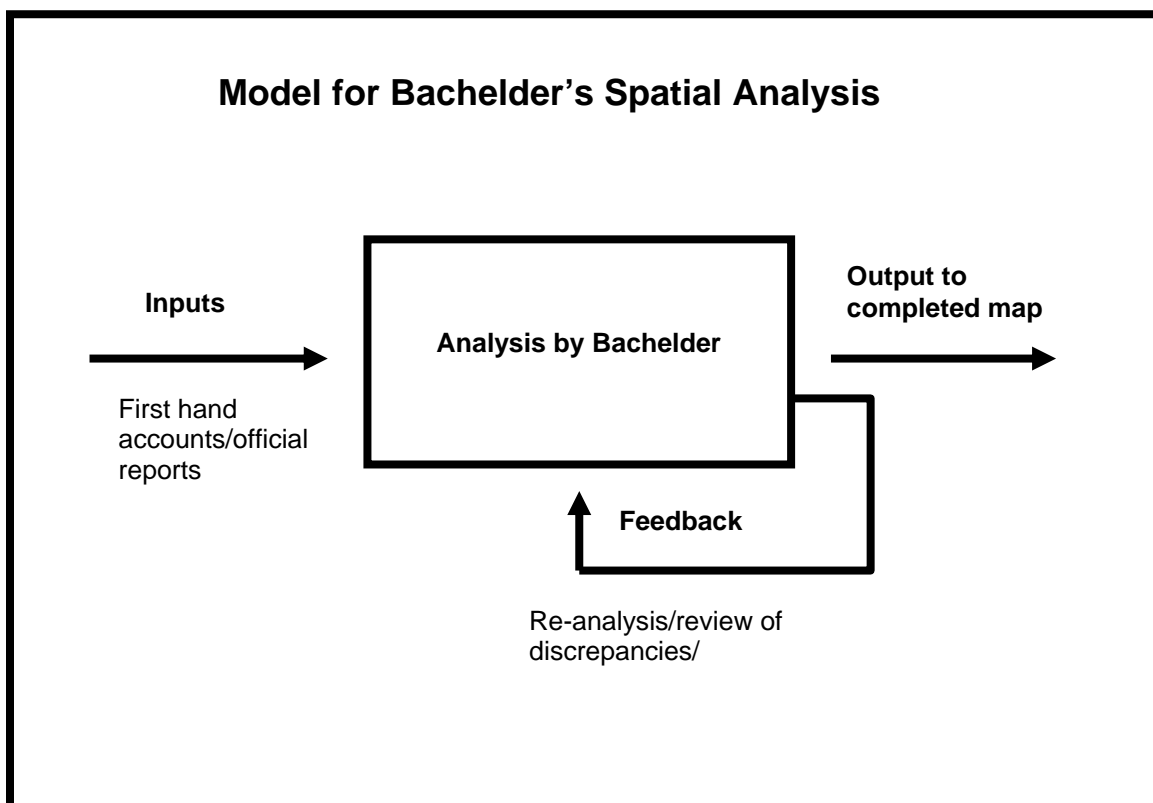
This map defines the boundary of battlefield land protected within Gettysburg National Military Park (GNMP). It also defines the areas, shaded in red, where project analysis has determined that important battle events occurred outside of GNMP, and have been lost to commercial and residential development.

## Battlefield Preservation Synopsis

### Mapping the Battlefield

Before any analysis of the battlefield landscape can occur, locations of all major events must be established and boundaries determined. Using geospatial resources (maps, first hand accounts, official reports), early historians were able to pinpoint critical features on the battlefield and devise boundaries in which the battle/landscape features occurred.

There are many maps created in modern times that help us interpret the battle in various ways. All of these maps, to a certain extent, are derivations of maps created by a historian who began his work literally days after the battle; although historian John Bachelder did not serve in the army, nor was he present at the battle, much of our present day understanding of the battle, particularly the spatial distribution of the combatants, is a result of his influence. Using a feedback model, Bachelder was able to generate data that allowed him to create the first critical spatial analysis of the battlefield. His meticulous historical investigations led to the subsequent land acquisition, preservation of battlefield land and the commemoration and location of combat units.



Bachelder's work began a week after the battle's climatic end on Cemetery Ridge, and would last nearly until his death, decades later. He initially interviewed injured soldiers in

the many field hospitals scattered around Gettysburg, verifying their battle movements and positions. He also began sketching the topography of the battlefield. Within two months, he found himself at the Army of the Potomac camps in east-central Virginia, interviewing Union army officers who were present at the battle. Accumulation of these data, which filled dozens of notebooks, would last well into 1864. His work continued after the war's end in 1865; for some 16 years he continued to interview over 1000 veterans involved in the battle, many of whom joined Bachelder on the battlefield for personal observations. He would eventually be named "Superintendent of Tablets and Legends" for the battlefield; this position gave him authority for the location and inscriptions on the monuments and markers dedicated to many of the fighting units.

Although largely unknown or forgotten by many modern military scholars, others feel Bachelder can be considered the battle's first historian. Furthermore, he set standards for the gathering of battle data and precise mapping and subsequent marking of troop dispositions.

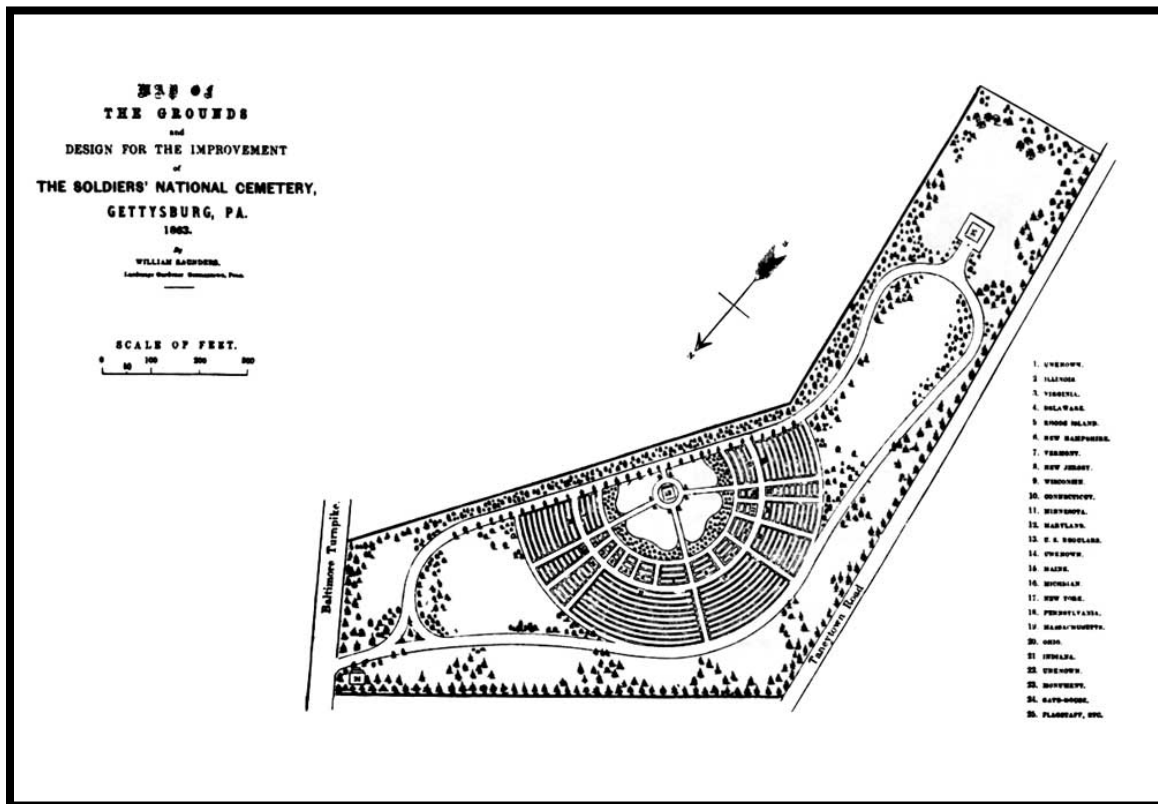
### **Establishment of Gettysburg National Military Park and Preservation of Battlefield Land**

Civic planning and policy aspects played a large part in having the battlefield at Gettysburg preserved. Initially, planners had a serious and immediate problem that had to be resolved; burial of the thousands of dead. This was directly followed by a period of consideration, on how best to commemorate the fallen soldiers, and the great Union victory. A process involving the government (created law) and stakeholders (families of the fallen and Union veterans) would eventually lead to the creation of Gettysburg National Military Park.

Preservation of the battlefield landscape began almost immediately after the battle. Initial preservation was more out of necessity; the establishment of a proper burial place for thousands of fallen Union soldiers became a priority for Pennsylvania governor Andrew G. Curtin. David Mc Conaughy and David Wills, Gettysburg attorneys and agents acting on the behalf of Governor Curtin, began purchasing property: the first parcel, located on the northwest face of Cemetery Hill, was a 17 acre tract next to Evergreen Cemetery, the site of vicious hand-to-hand fighting on the evening of July 2. This parcel, originally purchased as a burial place for Pennsylvania soldiers, would soon be dedicated to all the Union soldiers who fell at Gettysburg, by President Lincoln on November 19, 1863, during his famous "Gettysburg Address". The attorneys soon purchased an additional 600 acres of battlefield land at Culp's Hill, East Cemetery Hill and Little Round Top.

Mc Conaughy and Wills formed the Gettysburg Battlefield Memorial Association (GBMA) the following spring (1864). With later support from Governor Curtin and the state legislature, land purchase for battlefield preservation began in earnest. Some 140 acres were then purchased at Mc Pherson ridge, site of intense fighting on the first day of battle, including the death of Major General John Reynolds, the highest ranking officer killed at Gettysburg. An additional 522 acres of land were purchased by the GBMA, from 1864 to 1895.

The first attempts of the establishment of the Gettysburg battlefield as a national park began in 1890, at the resolve of Michigan Representative Byron M. Cutcheon, a Union veteran. Cutcheon attempted the passage of a bill in Congress that would create Gettysburg National Park, correctly surmising that this endeavor could only come to fruition through the oversight of the federal government; it was too large a task for the GBMA, or even the state of Pennsylvania, to do alone.



1863 Plans for Gettysburg Soldier's National Cemetery  
 Courtesy National Park Service

Initially, Cutcheon's pleas went unanswered, as there was some concern over the several hundred acres of land owned by the GBMA, and unresolved was the situation of who would control this land, should a national park be established. However, establishment of the park would be hastened when it was realized that an electric streetcar railway was being proposed for unprotected parts of the battlefield (see Management of Battlefield Landscape) in 1892. Finally, Representative Daniel E. Sickles of New York and III Corps commander of the Army of the Potomac at Gettysburg, whose actions on the 2<sup>nd</sup> day of the battle nearly cost the Union a grave defeat, sponsored a bill that would establish a national park at Gettysburg. The bill was introduced on December 6, 1894; after a few amendments, the bill was passed by Congress and signed into law by President Grover Cleveland on February 11, 1895. The passage of the bill approved the transfer of all property controlled by the GBMA, some 800 acres. The bill also authorized the

acquisition of additional battlefield land, not to exceed the area on which troops were positioned during the battle.

The battlefield at Gettysburg was one of the first to be preserved for historical ideals, a thought that was revolutionary in the 1890's.

## **Management of Battlefield Landscape**

The battlefield landscape at Gettysburg has been in a constant state of flux over the past 143 years. Burial, then re-internment of fallen soldiers, construction of monuments and park roads, changes in land cover (forests converted to grass lands and vice versa), and the removal of fences, orchards and farm lanes have had obvious implications on the landscape. There are also some implications which are not as obvious, including the ability to interpret the battle in modern times, while studying this changed landscape. Installation of the national cemetery, battlefield monuments and park infrastructure are all noteworthy components in the management of the battlefield landscape. The author has chosen to focus on a recent, controversial management plan that will have far reaching implications for park stakeholders (visitors to the park, as well as the Gettysburg community), where GIS, landscape architecture, environmental planning/policy aspects functions are incorporated into the decision making process.

All national parks in the National Park Service (NPS) are responsible for the preservation of historic, cultural and topographic features. To that end, the NPS prepares a General Management Plan (GMP) for every national park, to guide development and management of the park. This GMP provides a vision for the park's future for the next 10-15 years. In 1999, Gettysburg National Military Park (GBNMP) devised a bold and controversial plan. It acknowledged that many of the battlefield features have been obscured or changed, as natural and anthropogenic forces have occurred. Led by park superintendent Dr. John Latschar, Gettysburg's GMP would concentrate on battlefield rehabilitation. The focus of the GMP would be twofold: restoring the battlefield to its 1863 appearance and the removal of 20<sup>th</sup> century structures, including the GBNMP Visitor Center on Cemetery Ridge, which will be relocated into a new facility on nearby Baltimore Pike.

The first step in this process was to determine what influences the many battlefield features had on combat. To do this, GBNMP staff used a military-terrain analysis system, known by its acronym as KOCOAA. KOCOAA determines:

- Key Terrain
- Observation and fields of fire
- Cover and concealment
- Obstacles (natural and anthropogenic)
- Avenues of approach

Using this analysis, the park staff determined 5 key areas, where rehabilitation was



needed:

- The northern end of Cemetery Ridge (Focus point of Pickett's Charge)
  - Removal of visitor center, Cyclorama building and extensive parking lots, followed by restoration of the area.
- Cordori-Trostle Thicket, east of Emmitsburg Road (Site of intense fighting on July 2, including the annihilation of the 1<sup>st</sup> Minnesota Regiment)
  - Removal of non-historic trees, which obscure the 1863 visual perspective, followed by the planting of shrubs to reestablish the thicket
- Peach Orchard/Intersection of Emmitsburg and Wheatfield Roads (Site of Union army's infamous salient and site of intense fighting on July 2)
  - Removal of dead and dying peach trees.
  - Restoration of orchard to its 1863 dimensions, which was much larger than today's orchard
- Restoration/reinstallation of fences, orchards, farm paths and woodlots throughout the entire battlefield that affected the movement and subsequent combat actions of the troops
- Creating a sustainable historic environment, by improving ecological features on throughout the battlefield landscape
  - Conversion of non-historic agricultural areas to wetlands
  - Increasing grassland area, to expand the habitat of ground-nesting birds
  - Removal of non-native plants
  - Installation of cattle fencing, to reduce soil compaction/erosion and water quality improvement

The most contentious and controversial part of the rehabilitation is the removal and replacement of the visitor center complex. These buildings were built from the early to mid 1900's and include the visitor center, which houses thousands of artifacts from the battle, and the Cyclorama building, designed by Richard Neutra, which contains the 360-degree, 359-by-27-foot panoramic painting, "The Battle of Gettysburg," by French painter Paul Dominique Philippoteaux, depicting the climax of Pickett's Charge. Unfortunately, these buildings were placed in a key battlefield position: the very center of the Union line on Cemetery Hill. These buildings have profoundly interrupted the battlefield landscape and battle interpretation.

A \$95 million project is now underway to construct a new visitor center on Baltimore Pike, about a mile away from the present visitor's center. This site is far less historically sensitive than the current visitor's center, and will provide the park with a modern, state-of-the-art facility with museums, classrooms and archival conditions for hanging and viewing of the panoramic painting. This project, however, is not without detractors. Some people in the Gettysburg community feel the new visitor's center will affect the business community in a negative way, particularly those located on Steinwehr Avenue, within easy walking distance of the current visitor's center. These business owners, mostly hawking t-shirts, fudge and other tourist paraphernalia, fear a loss in sales; as a result, the borough of Gettysburg fears a loss of tax base. Additionally, some architects and preservationists decry the loss of Neutra's Cyclorama building. Built by the federal

government during its \$1-billion “Mission 66” program, the Cyclorama building is the only structure east of the Mississippi River, designed by Neutra for the federal government, that is still open to the public. While listed on the National Register of Historic Places, the building has been eliminated as a candidate for landmark status, clearing the way for its destruction.

### **Source Materials**

“Battle in the Civil War: Generalship and Tactics in America, 1861-85”, Paddy Griffith, Field Books, 1986

“The Civil War Military Machine: Weapons and Tactics of the Union and Confederate Armed Forces”, Ian Drury and Tony Gibbons, Smithmark Books, 1993

“Gettysburg: Culp’s Hill and Cemetery Hill”, Harry W. Pfanz, University of North Carolina Press, 1993

“Gettysburg July 1”, David G. Martin, Combined Books, 1996

“Gettysburg: The Aftermath of a Battle”, Gregory A. Coco, Thomas Publications, 1995

“Gettysburg: Day Three”, Jeffry D. Wert, Simon and Schuster, 2001

“Gettysburg: The Second Day”, Harry W. Pfanz, University of North Carolina Press, 1987

“Gettysburg the Way the Soldiers Saw It in 1863”, Katie Lawhon, CRM Magazine, No.4, 2002

“The Origin and Evolution of the National Military Park Idea”, Ronald F. Lee, National Park Publications, 1973

Gettysburg National Military Park Website, United States Department of the Interior, National Park Service