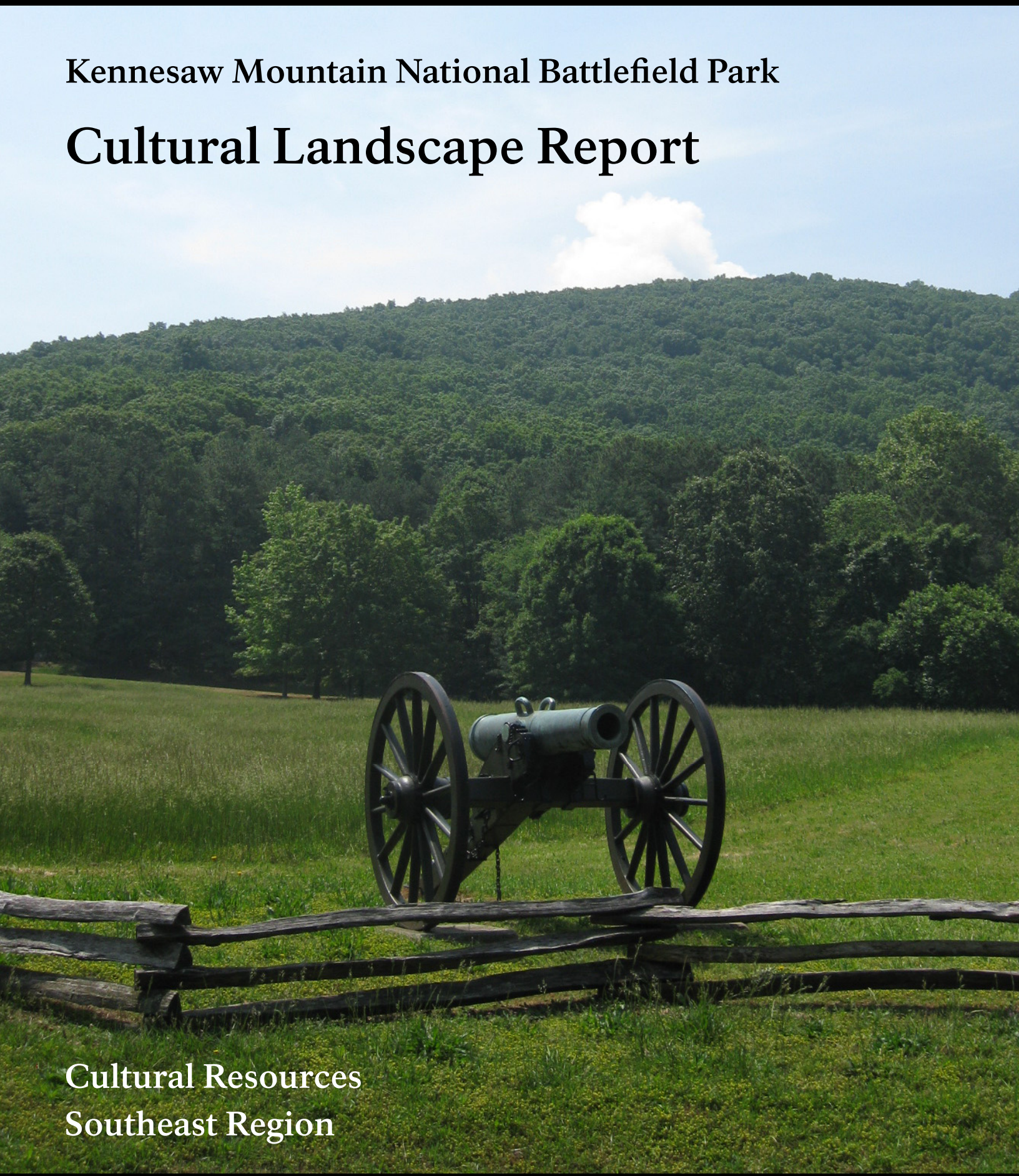
National Park Service
U.S. Department of the Interior

Kennesaw Mountain National Battlefield Park
Georgia

Kennesaw Mountain National Battlefield Park

Cultural Landscape Report



Cultural Resources
Southeast Region

Kennesaw Mountain National Battlefield Park

Kennesaw, Georgia

Cultural Landscape Report

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About the front cover: View of Kennesaw Mountain, May 2011.

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Kennesaw Mountain National Battlefield Park

Cultural Landscape Report

Approved by: _____ 11/12/2013
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Recommended by: _____ 12/23/13
Deputy Regional Director, Southeast Region — Date

Approved by: _____ 1/4/14
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68 Grading in the area of the brick residential structures, now administration buildings.
69 The maintenance complex was sited atop a level graded area.
70 The visitor center incorporates interpretive, visitor services, and commercial land uses.
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72 An interpretive sign on the Kennesaw Mountain Overlook.
73 The entrance road to the park near the visitor center.
74 Entrance to the park is restricted by a gate.
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89 An asphalt sidewalk leads to a wood plank bridge crossing a stream.
90 Concrete sidewalks in the Visitor Core Character Area.
91 Concrete sidewalk with adjacent plantings in the Visitor Core area.
92 Concrete sidewalk adjacent to the visitor center.
93 Concrete sidewalk running parallel to Old U.S. Highway 41.
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96 The Mountaintop Trail, at the overlook parking lot.
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143 Upright metal grill in the picnic area.
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146 Recycled plastic slat benches in the amphitheater.
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148 Decorative stone edging defining planting beds at the visitor center.
149 Steel edging along a visitor center sidewalk prevents mulch from washing onto the sidewalk.
150 Native stone boulders along the overlook drive.
151 Metal flagpole at the visitor center.
152 Snake fencing along the visitor center access road.
153 Snake fencing adjacent to the stone gate at the entrance to the visitor center.
154 Snake fencing protecting earthworks on Kennesaw Mountain.
155 Snake fencing defines interpretive sites such as the cannon sited atop Kennesaw Mountain.
156 Snake fencing is also used to protect many of the historic earthworks.
157 Tubular railings around the Kennesaw Mountain overlook.
158 Tubular railings edge the overlook.
159 Chain link fencing surrounds HVAC equipment located at the visitor center building.
160 Chain link fence encloses the maintenance yard.
161 Chain link fencing encloses the overflow parking lot.

162 Powder coated aluminum gate at the visitor center entrance.
163 Stone pier and gate hinge.
164 Gate at the entrance to the overflow parking lot.
165 Brown-painted metal gate blocking access to a gravel service road.
166 Brown-painted metal gate at the overlook.
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168 Low-level lighting adjacent to a sidewalk near the visitor center.
169 Cannon located on the north side of the visitor center.
170 Large concrete utility cover west of the visitor center parking lot.
171 Survey marker at the summit of Kennesaw Mountain.
172 Existing Conditions: Earthworks and Trails Character Area, north part of park.
173 Existing Conditions: Earthworks and Trails Character Area, center part of park.
174 Existing Conditions: Earthworks and Trails Character Area, south part of park.
175 Noses Creek bisects the north parcel between Burnt Hickory Road and Dallas Road.
176 Smaller tributaries to several creeks drain the character area.
177 A bridge allows pedestrians to cross Noses Creek.
178 Culverts, some with stone headwalls, are used to convey small drainageways beneath trails.
179 Earthworks and forest vegetation.
180 There are open fields to either side of the trailhead at Burnt Hickory Road.
181 Large trees define the edges of open space.
182 Open fields and woodland vegetation near the trailhead at Burnt Hickory Road.
183 Gilbert Road runs between Stilesboro Road and Old Mountain Road.
184 Roadside parking edges the south side of Burnt Hickory Road.
185 A Stone and mortar curb along Burnt Hickory Road.
186 Paved parking lot located along the western edge of Cheatham Hill Road.
187 Picnic area associated with the paved parking lot along Cheatham Hill Road.
188 Trailhead and interpretive sign adjacent to the paved parking lot along Cheatham Hill Road.
189 Cheatham Hill Road, near the paved parking lot.
190 The paved parking lot includes angled pull-in spaces.
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201 Garage / carport building from the northeast.
202 Garage / carport building from the west.
203 The gable-roof outbuilding.
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205 The doghouses.
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207 A three-panel informational sign near the north end of the Cheatham Hill Connector Trail.
208 A Park regulation sign.
209 Trail regulation signs next to a drinking fountain.
210 Sign marking a universally-accessible parking space.
211 Construction detour sign.
212 Sign identifying the West Trail.
213 Low profile interpretive sign.
214 Georgia State Historical Marker.
215 Wooden sign indicating the distance between Cheatham Hill and Kolb Farm.
216 A brown metal sign along Dallas Highway.
217 Trail signs located at the intersection of West Trail and Dallas Highway.
218 Wayfinding and regulation signage at the Kolb Farm Loop Trail.

219 Free-standing wooden bench along the Cheatham Hill Connector Trail.
220 A wooden bench with back.
221 Animal-proof trash receptacle along the Cheatham Hill Connector Trail.
222 Recycled plastic picnic tables near the north end of the Cheatham Hill Road parking lot.
223 Metal single-arm gate.
224 A metal single-arm gate at the Kolb Farm Loop Trail trailhead.
225 Three-rail split rail fence along the southwest edge of the Cheatham Hill Road parking lot.
226 Gates at the entrance of the Cheatham Hill Road parking lot.
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228 Existing Conditions: Cheatham Hill Character Area Detail.
229 Cheatham Creek, a tributary of John Ward Creek.
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231 Open fields west of the entrance drive.
232 Open meadow beyond the Texas Monument.
233 View across open field below Dead Angle.
234 Open field below the Dead Angle and adjacent forest vegetation.
235 Forest vegetation encloses the trail below the Illinois Monument.
236 Topographic modifications include grading for the Illinois Monument and marble staircase.
237 The terrace base of the Illinois Monument was graded to be level.
238 Grading for trails.
239 Historic earthworks survive from the Civil War period.
240 Earthworks maintained in mown grass.
241 Interpretive cannon emplaced behind earthworks.
242 Recreational uses are associated with hiking and horse trails.
243 Commemorative uses area associated with several monuments.
244 State Highway 120 (Dallas Highway) bisects the park.
245 Cheatham Hill Drive.
246 Cheatham Hill parking area.
247 Cheatham Hill Connector Trail trailhead into the Cheatham Hill Character Area.
248 Trail erosion is evident in several places below the Illinois Monument.
249 Trail erosion at the base of the Illinois Monument stair.
250 Forest vegetation on either side of the Cheatham Hill Trail.
251 Open meadow near the Texas Monument.
252 Grasses and tree saplings growing on historic earthworks.
253 Larger trees growing on historic earthworks.
254 Union Tunnel Marker near the base of the Illinois Monument.
255 View of the open field beyond the Illinois Monument.
256 Cannon emplacements help interpret the view from a historic earthwork.
257 Residential development adjacent to the park is visible through forest vegetation.
258 Residential development visible from the park.
259 Wood slat bench near the parking lot.
260 Backless wood bench at the trailhead for the Kolb Farm Trail.
261 Drinking fountain and animal-proof trash receptacle near the Cheatham Hill parking lot.
262 Snake fencing is found throughout the character area.
263 Snake fencing along trails.
264 The bollard and chain fence continues along the side of the monument.
265 Brown swing gate controls access to trails.
266 Small set of stone steps associated with Cleburne's Redoubt.
267 Trail regulation sign.
268 Park hours and regulations signs along the entrance road.
269 Earthworks regulations sign.
270 Trail regulations signs.
271 Low profile interpretive sign.
272 Interpretive cannon emplacements.
273 Kiosk and cell phone audio tour sign east of the parking lot.
274 Wooden earthworks regulation sign, painted gray.
275 The Neighbour Marker.

276 Marker commemorating Harker's Attack.
277 The marble C. H. Coffey Marker.
278 Small tablet interpreting historic trees.
279 The Fellows Marker.
280 Marble headstone marking an unknown grave, surrounded by a split rail fence.
281 Marble headstone marking the grave of an unknown soldier.
282 Existing Conditions: Kolb House Character Area.
283 Shade trees planted over grass adjacent to the Kolb House.
284 A low concrete wall defines the boundary of the Kolb Family cemetery.
285 The property is located along Powder Springs Road.
286 Topographic modifications include grading for the pull-off parking area.
287 The Powder Springs Road corridor was also graded to establish a wide level travelway.
288 The gravel entrance drive off of Callaway Road was also graded.
289 Interpretive uses are associated with the signs located along the parking area margins.
290 The parcel east of Callaway Road is heavily forested.
291 Powder Springs Road, looking toward the intersection with Callaway Road.
292 Callaway Road, beyond the Kolb Family cemetery.
293 The gravel driveway and parking area.
294 A flagstone path leads from the gravel parking area to the south entrance of the Kolb House.
295 A larger oak southwest of the house.
296 Ornamental shrub plantings at the corners of the cemetery.
297 Trees planted in the lawn east of the house.
298 A large oak east of the house.
299 The Kolb House.
300 The Kolb family cemetery remains privately owned.
301 View to the intersection of Powder Springs Road and Callaway Road.
302 Identity sign adjacent to the gravel driveway.
303 An identity sign with brass address numbers on the post.
304 One of three brown-painted wooden identity signs.
305 Group of interpretive signs and a sign delineating a universally accessible parking space.
306 Cell phone audio tour sign and low profile interpretive sign adjacent to the parking area.
307 Wooden plank privacy fence on the southwest side of the house.
308 Headstone markers in the cemetery.

Analysis and Evaluation

309 Period plan, 1864, north half of park.
310 Period plan, 1864, south half of park.
311 Period plan, 1942, north half of park.
312 Period plan, 1942, south half of park.
313 Contributing features, north half of park.
314 Contributing features, south half of park.
315 Big Kennesaw Mountain landform.
316 Kennesaw Mountain is rocky and has three peaks.
317 Erosion at Noses Creek prior to work, 1934.
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324 The Battle of Kennesaw Mountain.
325 Aerial view of early twentieth-century terraces in the park.
326 Culvert.
327 Stone bridge.
328 Wood plank bridge.
329 1937 highway map showing structures along Powder Springs Road, including the Kolb House.
330 Site plan showing proposed entrance road from Dallas Highway to the Cheatham Hill parcel, 1934.

331 Proposed exhibit and trail at Cheatham Hill, 1940.
332 Buildings and site plan of the CCC camp, 1939.
333 Headquarters area master plan, 1941.
334 Sketch of proposed maintenance area.
335 Kennesaw Mountain Road.
336 Farming on the battlefield after the Civil War.
337 Drawing for CCC-era check-in desk.
338 Burnt Hickory Road, 1941.
339 Existing and proposed roads at Cheatham Hill, 1939.
340 Trails at Cheatham Hill.
341 Planting plan for visitor center and parking lot, 1966.
342 The visitor center upon its completion in 1964.
343 The visitor center in 2011.
344 The CCC camp.
345 Dedication of the Georgia Monument.
346 Trailside exhibit.

Treatment Plan

347 Pavement such as the pavers around this bench require maintenance.
348 View of repaired pavers.
349 Overall treatment recommendations, north half of park.
350 Overall treatment recommendations, south half of park.
351 Eroded trail on Kennesaw Mountain.
352 Proposed repair of trail.
353 Existing bridge between the amphitheater and picnic area.
354 Proposed universally accessible bridge.
355 The amphitheater space is currently limited due to the fact that it is not universally accessible.
356 Vegetation currently obscures the foundations of buildings associated with a historic CCC camp.
357 Foundations of buildings associated with a CCC camp survive north of Kennesaw Mountain.
358 Treatment recommendations: Visitor Center detail.
359 Existing bench and eroded trail at Pigeon Hill.
360 Proposed repair to bench and trail.
361 Parking area along Burnt Hickory Road.
362 Proposed treatment of parking area along Burnt Hickory Road.
363 Treatment recommendations: Burnt Hickory Road Trails Detail.
364 Treatment recommendations: Cheatham Hill Detail.
365 A social trail follows the perimeter fence associated with the Kolb House.
366 The present gravel drive could be improved to allow visitors to access the Kolb House.
367 Several signs are located along the margin of a small parking pull-off at the Kolb House.
368 Treatment recommendations: Kolb Farm Detail.
369 Open meadow plants support pollinators.
370 Orchards are known to have played a role in the battle.
371 A seen-area analysis should guide the extent of woodland clearing as well as screen buffers.
372 Erosion is often evident along trails and trail margins.
373 Erosion is present on the earthworks where visitors have attempted to access the resource.
374 Barriers at a trailhead.
375 Interpretation will be enhanced through clearing of woodland and establishment of vistas.
376 Design primitive hiking trails as minimal, well-drained earthen- or grass-surfaced treadways.
377 Design pedestrian trails as well-drained earth, gravel, or asphalt surfaced treadways.
378 Utilize low-profile boardwalks when crossing wet areas.
379 Crushed aggregate trails need a chemical binding agent to ensure an adequate degree of firmness.
380 Paved multi-use trails should have a minimum 10-foot-wide asphalt or concrete surface.
381 Selective removal of lower branches of trees and shrubs can establish a visual clear zone.
382 Existing woodland growth sometimes obscures interpretation of historic military operations.
383 Clearing and thinning of woody vegetation can support interpretation of military operations.
384 Native grassland plant communities can be established within cleared areas.
385 Mowing patterns can be utilized to create visual aids for interpreting missing historic conditions.

386 Vegetative buffers are one of the primary tools for screening incompatible views.
387 Clearing vegetation to re-establish historic views may enhance interpretative efforts.
388 Temporary exhibits can be used to interpret historic activities.
389 Ghost structures can be used to interpret missing historic buildings.
390 Foundation outlines should not be confused with historic foundations or ruins.
391 Vegetation or mowing patterns can be used to delineate missing features.
392 An exhibit at Pamplin Historical Park near Petersburg, Virginia.
393 Exhibit earthworks at Pamplin Historical Park near Petersburg, Virginia.
394 Exhibit and interpretation at Pamplin Historical Park near Petersburg, Virginia.
395 Site plan of the exhibit at Pamplin Historical Park near Petersburg, Virginia.
396 Filter strips could be added along many road and path margins.
397 Porous pavements could be used for overflow and temporary parking areas.
398 A rain barrel could be used in association with the downspouts at the visitor center.
399 Rain gardens could be used to collect storm water and promote infiltration.

Appendix B: Earthworks Management Plan

Management Summary

B-1 Context and location maps.
B-2 USGS map of Marietta, Georgia, with the boundary of the park indicated.
B-3 Artillery emplacement on Kennesaw Mountain.
B-4 Visitor viewing area near earthworks on Pigeon Hill.
B-5 Earthworks at Cheatham Hill.
B-6 Kennesaw's earthworks are primarily managed under woodland cover.
B-7 One of the threats to the earthworks is the windthrow hazards.
B-8 Another threat addressed by the plan is trees falling on and damaging the earthworks.
B-9 Visitor access to the earthworks often leads to erosion and needs to be controlled.
B-10 The plan recommends strategies for enhancing interpretation of the battlefield landscape.

Historic Site Conditions, Significance, and Context

B-11 A circa 1830s map of Cobb County, Georgia.
B-12 A circa 1838 map of Cobb County indicating the importance of the county seat at Marietta.
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Figure Credits

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Analysis and Evaluation

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Treatment Plan

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All other maps and photographs in this chapter were prepared by the authors.

Appendix B: Earthworks Management Plan

Except as noted below, figures in this appendix were prepared by the authors in 2009–2010.

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Foreword

The Kennesaw Mountain National Battlefield Park is a window into time, with a historic cultural landscape that brings visitors from the Atlanta major metropolitan community to a place that recalls earlier periods in our history. Fields that were the site of heavily contested battles filled with blood and smoke are now places where visitors can experience the peace and tranquility of a nineteenth century community turned upside down during several days of battle. Cannons, whose roaring pierced the air several times per minute long ago, now stand in silent watch over a busy suburban landscape, rendering an understanding and rejuvenation of the park's cultural landscape more important now than ever. In 2010, the Kennesaw Mountain National Battlefield Park became the most heavily visited national battlefield in the nation. Vast numbers of soldiers have been replaced by throngs of tourists and recreational enthusiasts. Many times park staff have asked one another, "Can a battlefield be under siege?"

This project would not have been possible without the attention and knowledge of the park staff. Given the collective years of experience contained within the current staff, finding answers to difficult questions was usually never more than a conversation away. Particular recognition goes to the park's historian Willie R. Johnson. His unique contributions relied on every resource, including book knowledge, park visitors he has spoken to over the last thirty-seven years, and his own personal memory. Given the fact that nearly every square foot of land near the park boundary has been developed into residential or commercial properties, his knowledge of the way things "used to be" has been vital.

The park would also like to thank the contractors, among them Deborah Slaton of Wiss, Janney, Elstner Associates, Inc., and Jane Jacobs and Liz Sargent of John Milner Associates, and their project team, for their hard work and patience while the park handled its daily duties along with the various drafts of this report.

Additionally, the park would like to recognize the staff of the NPS Southeast Regional Cultural Resource Division for all of their editing and expert opinions that they gave to this project. Perhaps their most important contribution was their coordination between the park and the contractor. Tracy Stakely and David Hasty, among a few, helped to keep this project "on the rails" as we moved forward. That became a monumental task at times, given the park's small staff and heavy visitation. Together, the synergy of this group produced a document that will assist park managers and resource preservationists for years to come.

Nancy Walther
Superintendent
Kennesaw Mountain National Battlefield Park
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Introduction

Management Summary

Kennesaw Mountain National Battlefield Park is located in Cobb County, Georgia, approximately twenty-five miles northwest of Atlanta, and two miles northwest of Marietta (refer to Figure 2). The park lies within an area characterized by rolling hills and rock outcrops that rise from a relatively level plateau near the southern end of the Appalachian Mountains. The most distinctive landform is the isolated ridge that includes Kennesaw and Little Kennesaw mountains.

The park preserves the site of some of the most intense combat associated with the Civil War's Atlanta Campaign, including extensive systems of earthworks that mark the defensive position of the Confederate Army of Tennessee and opposing lines established by Union Gen. William T. Sherman. The Confederate position was anchored by Kennesaw Mountain—a rocky ridge that rises dramatically above the surrounding relatively level terrain and serves as a landmark within the region. From their position atop Kennesaw Mountain, the Confederate forces were afforded broad commanding views of the potential Union avenues of approach as they worked their way south toward Atlanta (Figure 1). To protect against further Union progress toward Atlanta, the Confederates strengthened their position through construction of a formidable line of earthen entrenchments designed by military engineers under the direction of Lt. Col. S. W. Presstman. The fortified position was assaulted by Union troops in the Battles of Kolb Farm and Kennesaw Mountain between June 18 and July 2, 1864, resulting in a Federal flanking move that allowed for their continued march toward Atlanta and the retreat of Confederate forces.

The ground over which these battles were contested, along with many surviving components of the field fortifications of both sides, is protected as part of Kennesaw Mountain National Battlefield Park, a unit of the National Park System administered by the National Park Service (Figure 3). The existing 2,987-acre park reflects more than a century of land acquisition to preserve and commemorate the battle. The military events associated with the Battles of Kennesaw Mountain and Kolb Farm are interpreted to the public by park rangers, guides, signage, and exhibits available in the visitor center. Sixteen miles of self-guiding trails provide access to key battlefield engagement locations, examples of Union and Confederate earthworks, and places of prospect where military tactics and troop movements can best be understood.

FIGURE 1. View from the summit of Kennesaw Mountain.

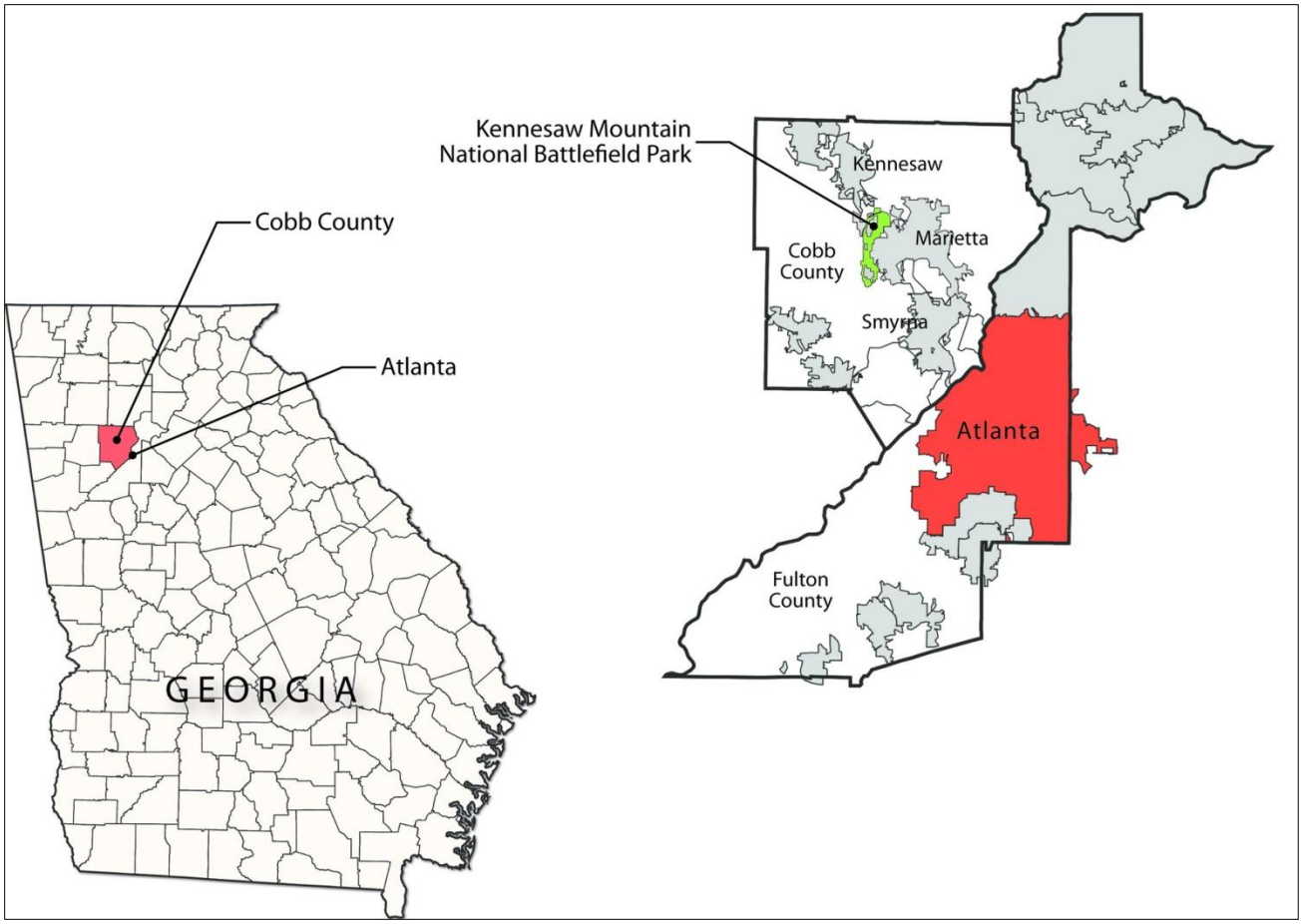


FIGURE 2. Location map.

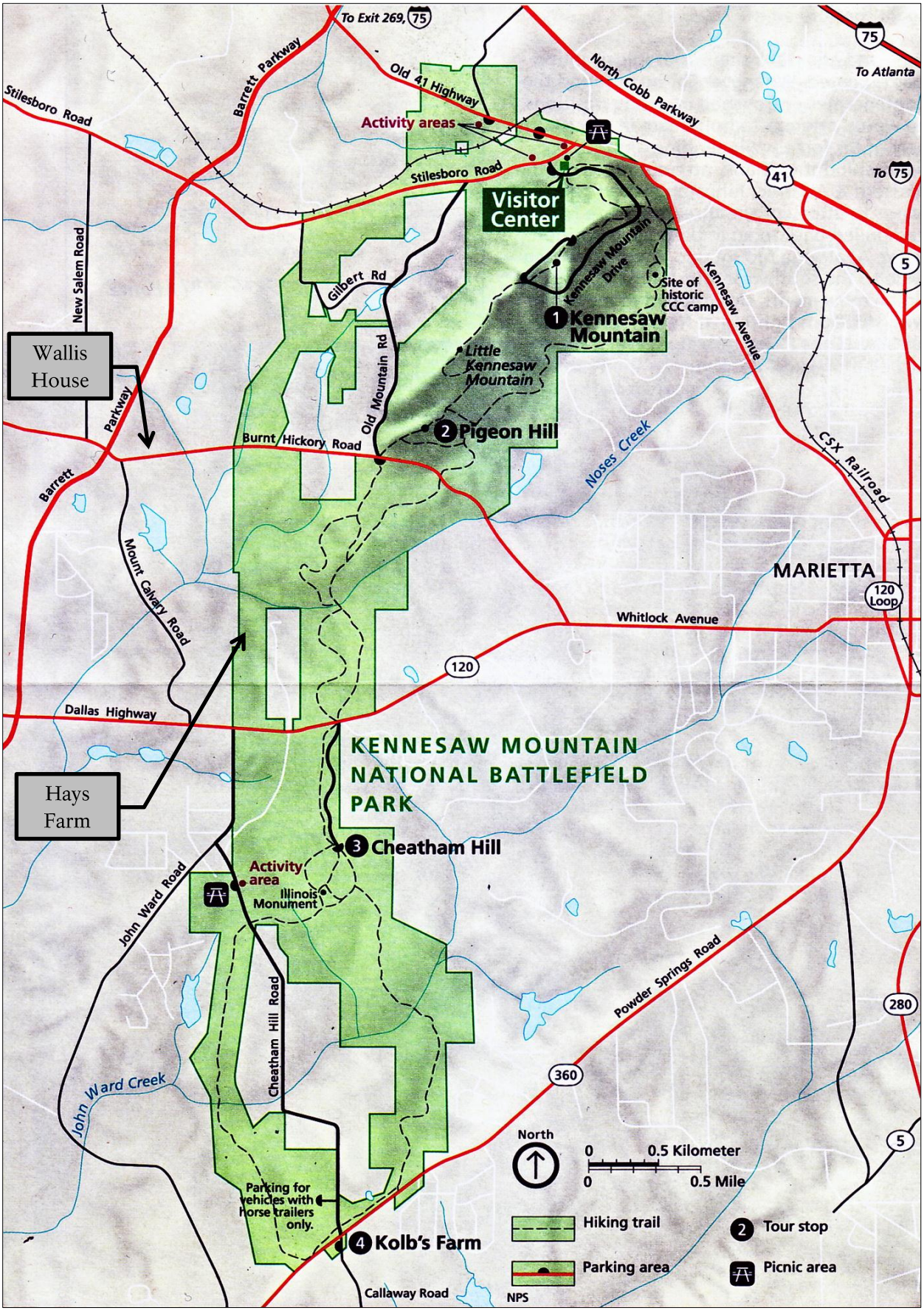


FIGURE 3. Kennesaw Mountain National Battlefield Park.

A dramatic increase in development within the region surrounding the park, and associated visitation that includes extensive recreational use, has contributed to a general deterioration of the park's historic resources. This physical decline poses a serious threat to the historic integrity and continued preservation of Kennesaw Mountain National Battlefield Park. To address protection of the park's cultural landscape, the National Park Service engaged Wiss Janney Elstner Associates, Inc. (WJE) with subconsultant John Milner Associates, Inc. (JMA) to prepare a Cultural Landscape Report (CLR) for Kennesaw Mountain National Battlefield Park.

The CLR is intended to support inventory and evaluation of park resources, improvements to the condition of these features, and implementation of park strategic planning efforts. Goals for the CLR include providing the park with an assessment of the battlefield landscape, including documentation of character-defining features and surviving historic resources; and devising specific treatment recommendations and strategies to ensure the preservation of significant park landscape resources.

The CLR is also intended to provide informed planning for preservation and/or rehabilitation of the park's cultural landscape to a more historically accurate representation of the battle period setting. Treatment guidelines provided in the CLR identify and prioritize actions needed to ensure resource preservation while balancing the goals of historic preservation with contemporary park use and management concerns. Landscape treatment recommendations are supported by implementation projects intended to facilitate park funding requests using the Project Management Information System (PMIS).

One of the most important surviving features of the Civil War battles is the system of historic earthworks. To adequately address the needs of these fragile and sensitive resources, the CLR includes a complementary earthworks management plan (EMP) that offers guidance in the form of best management practices for preservation and continued maintenance of these historic resources. The plan is provided as Appendix B of the CLR.

Historical Summary

Prior to European settlement, the Kennesaw Mountain region was inhabited by Creek and Cherokee Indians.[1] The name Kennesaw is derived from the Cherokee Indian "Gah-nee-sah," meaning cemetery or burial ground.[2] During the early nineteenth century, traders and settlers of European-American descent began to move into north Georgia. Gold was discovered near Dahlonega, Georgia, in 1828, causing non-native settlement in the area to increase rapidly. The region proved desirable to European-American settlers for its agricultural potential, especially for the cultivation of cotton. In the 1830s, the region began to experience rapid growth as settlers moved in to establish small cotton plantations in the Chattahoochee River valley. Cobb County was established in 1832 to reflect the region's growing settlement population.

By the 1860s, Cobb County was an established agricultural area. The area around Kennesaw Mountain was defined by a number of small farms characterized by clusters of farm buildings, fields, and orchards concentrated in flatter, low-lying areas. Kennesaw Mountain remained largely forested, despite timber being harvested for firewood and construction materials along its lower slopes. Several local roads passed through the area. There were also major thoroughfares that extended east-west, crossing the north-south trending line of mountain ridges, dominated by Kennesaw Mountain, at low points and gaps.[3]

The Battle of Kennesaw Mountain that occurred on June 27, 1864, was a key battle of the Atlanta

1. Jessica McNeil and Robert Hellmann, *An Archeological Investigation of a New Trail System at Kennesaw Mountain National Battlefield Park* (Tallahassee, Florida: National Park Service Southeast Archeological Center, 2010), 15–16.
2. http://www.nps.gov/kemo/historyculture/index.htm, accessed December 20, 2012.
3. Blythe et al., 35.

Campaign (Figure 4). It followed several clashes between Confederate and Union forces in northwest Georgia during the spring and early summer of 1864 as the Union army marched onward toward Atlanta. Kennesaw Mountain proved strategically important as the last commanding elevated position before the Chattahoochee River, the final obstacle that Union forces would encounter before reaching Atlanta. For the Confederates, Kennesaw Mountain served as key and decisive terrain that the Confederates were determined to hold at all costs in preventing the Union from moving closer to Atlanta.

FIGURE 4. The Battle of Kennesaw Mountain, June 27, 1864.

By spring 1864 Union forces had gained control of the Mississippi River and most of Tennessee; however, many of the major manufacturing and production centers of the Confederacy had not yet been directly affected by the war. Atlanta was one of these centers, and also served as a major railroad junction for the Southeast. As part of a broader strategy, the Union army soon set their sights on taking control of Atlanta.

In March 1864, President Lincoln promoted Ulysses S. Grant to the rank of lieutenant general and placed him in charge of all Union armies. Grant quickly determined the importance of disrupting key Confederate strongholds, including the capital at Richmond, as well as supply and manufacturing centers like Atlanta. Grant devised an overall strategy that he hoped would end the war, focusing on simultaneous attacks against Confederate supply centers. Within the Eastern Theater, Grant ordered Maj. Gen. William T. Sherman to take command of the Union forces in Chattanooga, Tennessee, and directed him to travel southeast from Chattanooga into Georgia, while he led his own army southward into Virginia toward Richmond.

In early May, 100,000 Union troops under Sherman's command began to move south from Chattanooga. Their progress was opposed by 65,000 Confederates under the command of Gen. Joseph E. Johnston. Throughout the month of May, using his superior numbers, Sherman was able to continually outmaneuver Johnston by employing a series of flanking moves, while the Confederates were repeatedly forced to retreat to avoid being cut off from their supply route along the Western & Atlantic Railroad. As they approached the outskirts of Atlanta, and recognizing the strategic importance of Kennesaw Mountain, Johnston initiated efforts to establish defensive trenches that would halt the advance of the Union Army.[4]

Confederate Lt. Col. S. W. Presstman oversaw the construction of the Confederate defensive lines on and around Kennesaw Mountain in May and June 1864. The Confederate defenses consisted of an almost six-mile-long network of earthen fortifications, extending across the Western & Atlantic Railroad and along the western slopes of Kennesaw and Little Kennesaw mountains to a point south of Powder Springs Road and east of the Kolb Farm. The line was protected with 187 cannon emplaced within artillery positions atop high points at Kennesaw Mountain (Big Kennesaw) (Figure 5), Little Kennesaw Mountain, Pigeon Hill, Cheatham Hill, and the Kolb Farm.

4. EDAW, *Kennesaw Mountain National Battlefield Park: Lost Mountain to Brushy Mountain Earthworks Preservation Plan* (Atlanta: Georgia: National Park Service, January 1998), 1.

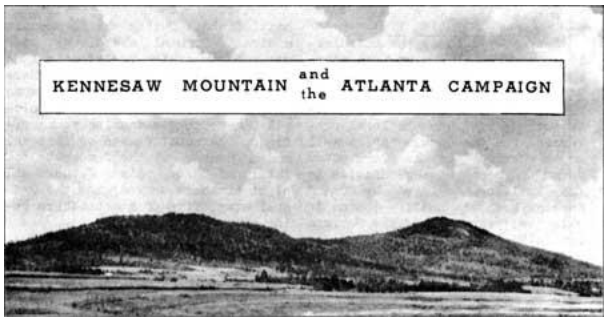


FIGURE 5. View northwest toward Big (right) and Little Kennesaw Mountains.

The earthworks were designed to protect both artillery and infantry troop positions behind soil berms. They were cut out of the forward slopes of the hills and composed of a trench in front and an earthen berm or parapet behind built to a height that would protect and conceal the soldiers stationed to its rear. In some cases, an interior trench was also excavated; the earth removed to construct the trenches was used to form the parapet wall. Wood logs and stone were sometimes used to shore up the earthen walls or as headlogs, which offered additional protection for the soldiers from incoming fire. Battery emplacements were on the highest ground, sited so gunners could aim at all probable avenues of approach. Geometrically-formed enclosures known as redoubts and redans, and angles sometimes known as salients, were built periodically along the line to establish artillery positions that afforded cross fire. Trees in front of the line were felled to establish a clear field of fire for the weaponry. Cut trees were fashioned into abatis placed in front of the works to slow the forward movement of an attacking army. Rifle pits or lines of pickets were created forward of the main Confederate line to serve as an early warning system and initial line of defense.

To support their position at Kennesaw Mountain, Confederate forces also dug a ten-mile trench and redoubt line between Lost and Brushy mountains. When General Sherman rode the length of the line prior to the battle, he was said to have commented that Johnston must have stretched his troops thinly along the line in order to man the system in its entirety. Sherman's analysis proved correct; Johnston's army did not include sufficient numbers to fully man all ten miles of line.

The first engagement of the two armies occurred at Gilgal Church on June 15, followed by a clash at Lost Mountain on June 16, 1864. In both cases, the Confederates were forced to retreat. In both cases, Johnston ordered the troops to move behind the earthworks at Kennesaw Mountain. Following their departure, Sherman moved to occupy the former Confederate position atop Brushy Mountain.

Within a few days, Sherman's troops, accompanied by 254 pieces of artillery, began to approach Johnston's position at Kennesaw. As Sherman's men approached, they established their own trenches and parapets within the low-lying farmland at the base of Kennesaw Mountain to protect against Confederate fire.

On June 20, Sherman initiated his attack, sending a cavalry division along the Western & Atlantic Railroad rail line, to flank the north end of the Confederate line. At the same time, Sherman sent another division to flank the south end of the line via Powder Springs Road. Johnston, determined to hold his position, sent troops under the command of Lt. Gen. John Bell Hood to reinforce and extend his line to the south, resulting in a temporary stalemate.

Two days later, on June 22, Sherman's forces again advanced eastward along Powder Springs Road. Johnston countered, sending two divisions to meet the advance. There the two armies clashed in the Battle of Kolb Farm. By establishing their position behind hastily constructed field fortifications, Sherman's men were able to repulse Johnston's counterattack, and the Confederates were forced to retreat to their positions on the higher ground, having suffered 1,000 casualties to the Union's 350. The battle had not succeeded in meeting the Union objective of forward advance on Atlanta. The challenges posed by the heavily fortified Confederate line led Sherman to question his fundamental approach for gaining ground on the way to Atlanta by outflanking Johnston. His reconsideration would lead directly to the Battle of Kennesaw Mountain, where he elected to employ a two pronged frontal attack against the Confederate positions along Kennesaw Mountain, Little Kennesaw, and Pigeon Hill.

On the morning of June 27, Maj. Gen. John A. Logan and his corps attacked the junction of Little Kennesaw and Pigeon Hill, while a similarly large force approached Cheatham Hill a mile to the south. At Cheatham Hill, the Union troops were ordered to concentrate their attack on the "Dead Angle," a salient associated with the Confederate line that was considered vulnerable because it did not appear to offer sufficient cross firing opportunities, and which Union officers thought to be its weakest point. Unbeknownst to the Union forces, however, the Confederates had reinforced the seeming weak point, establishing unusually deep trenches along the contour of the ridge and concealing artillery positions on either side of the salient angle. Fronting the works, they had placed heavy abatis supplemented by chevaux-de-frise, or cut tree branches with sharpened ends.

The battle began with 5,500 Union troops moving toward Pigeon Hill through the dense underbrush and abatis placed along Burnt Hickory Road. Slowed by the rough terrain, the abatis, and subsequent heavy fire from the Confederate batteries on Pigeon Hill as well as Little Kennesaw Mountain, the Union troops were unable to challenge the Confederate position. To facilitate the attack, Union troops fired extensive volleys of artillery on the Confederate positions atop Kennesaw and Little Kennesaw Mountains from earthworks constructed on the lower-lying farm fields to the west of the ridgeline (Figure 6).

In a coordinated attack at Cheatham Hill involving 9,000 Union troops, Sherman would fare no better. Maj. Gen. John A. Newton's division approached the western end of the line, while the brigades of Col. Daniel McCook and Col. John G. Mitchell attacked the center at the Dead Angle. Their initial approach was through a grove of trees, which provided the troops with cover and concealment. However, once they reached the open field directly below the Confederate line they were met with a barrage of fire from the opposing infantry and artillery stationed behind the fieldworks. Colonel McCook was mortally wounded in the attack. Those Union troops reaching the vicinity of the Confederate trenches established defensive trenches in a small depression near the opposing line. Under the protective cover of the landform and their trenches, the Union troops began to tunnel toward the Confederates in an unsuccessful attempt to use explosives to disrupt and possibly break their line. Eventually, as night fell, many of the Union soldiers were able to retreat undetected, but the attack had been a failure.

FIGURE 6. Sketch of the bombardment of Kennesaw Mountain by Union forces by Alfred R. Waud.

Between the two attacks, Sherman suffered 3,000 casualties, while Johnston lost only 1,000. The frontal attack had been a costly mistake. However, a small diversionary move by Maj. Gen. John M. Schofield at the south end of the line near the Kolb Farm would prove instrumental in the events that followed. This small flanking move provided a break large enough to allow the Union cavalry to advance south toward the Chattahoochee River. In response, Sherman sent reinforcements to Schofield's section of the line. The threat of again being outflanked led Johnston to retreat in hopes of holding a position further south that would protect Atlanta from Sherman's army.

On July 2, the Confederates withdrew from Kennesaw Mountain, first taking up a position around Smyrna Station four miles southeast of

Marietta, and subsequently moving to the north bank of the Chattahoochee River on July 4. The Union cavalry crossed the river upstream of Johnston's main position, and the Confederates were again forced to retreat across the river to the outer defenses of Atlanta on July 9. The two armies clashed in a series of battles throughout the month of July. Sherman subsequently began an artillery bombardment of the city in August. Initially unsuccessful in his attempt to control the city, Sherman determined to move counterclockwise around Atlanta; his forces systematically gained control of the supply routes, including the rail lines entering the city from the south. On September 1, with all railroads in Union hands, the Confederates were forced to surrender Atlanta.

After the war, the region returned to modest agricultural production, with cotton becoming one of the most important crops. In the 1890s, within a broader context of national reunification and remembrance, veterans of the Civil War began to gather at the battlefield to commemorate the battle events. One group—the Kennesaw Mountain Battlefield Association—formed with the purpose of acquiring and marking the Cheatham Hill battlefield. By1899, they had secured 60 acres of hallowed ground that included the earthwork known as the Dead Angle. The veterans group, in conjunction with the State of Illinois, later placed several monuments on the site to commemorate the battle. This parcel, along with portions of the larger battlefield landscape, were authorized for protection by the War Department in 1917. In 1933, administration of the nascent park was transferred to the National Park Service, which expanded on the work of the War Department, assembling parcels totaling several hundred acres, protecting resources, and opening the park to the public. The work was supported by Civil Works Administration and Civilian Conservation Corps crews, who undertook soil conservation and revegetation efforts. The CCC was also responsible for constructing new roads and trails throughout the park as more land was acquired by the federal government.

The onset of World War II slowed development at the park until the late 1950s, when funding associated with the Mission 66 program allowed for the development of additional park facilities. As part of the program, a permanent visitor center and park personnel residences were constructed during the 1960s, while the historic Kolb House was restored to its Civil War appearance.

Since Mission 66, the park has been listed in the National Register of Historic Places, parcels have continued to be added to the park, interpretive programming has been enhanced, the visitor center has been expanded, and trails, parking, and other access systems have been improved and expanded. It is anticipated that a second historic dwelling, used as a general's headquarters during the Battle of Kennesaw Mountain, will be added to the park in the future.

Scope of Work and Methodology

Scope of Work

The CLR for Kennesaw Mountain National Battlefield Park is comprised of three parts. Part 1 includes a site physical history of the park landscape, existing conditions documentation of its extant historic, natural, and cultural resources, and a comparative analysis that indicates the role of historic landscape features in the physical history of the park. The CLR also features a National Register-level significance evaluation and integrity assessment. Part 2 consists of a treatment plan that addresses long-term management of the historic landscape to protect significant historic resources while also accommodating contemporary needs such as visitor access, interpretation, and maintenance. Part 3 is an earthworks management plan that considers the issues involving management of the park's extensive system of Civil War fortifications in more detail. The individual components that comprise these three parts include the following:

Part 1.

Site Physical History. The CLR site physical history section consists of a narrative description of how the landscape has evolved over time. The narrative is organized chronologically and is supported by graphics such as maps, plans, and photographs. The narrative text is based on research of primary and secondary sources and other available historical documentation. It uses all available source information to illustrate the physical character, attributes, features, and materials contributing to the significance of the landscape over the course of its history. This section also introduces the historical contexts for the site-specific developments. A period plan for each significant historic period is included with the associated section of the narrative.

Existing Conditions. The existing conditions documentation section includes a narrative description of the park landscape as a whole, including its individual natural, historic, and cultural resources and their connection to larger systems. The park landscape is then broken down into four distinct zones, referred to as character areas, that are units of land that possess a cohesion of character that may reflect landform and topography, vegetation, or cultural resource concentrations. For each character area, the CLR provides detailed descriptions of each individual landscape resource. The descriptions are organized by the eleven landscape characteristics identified in the National Park Service's *A Guide to Cultural Landscape Reports:* natural systems and features, responses to natural resources, patterns of spatial organization, topographic modifications, land uses and activities, vegetation, circulation, buildings and structures, views and vistas, small-scale features, and archeological resources. The descriptions draw from research, field investigations, and review of available park planning documents and inventories. The condition of each feature is also assessed. Contemporary site functions, visitor services, and natural resources are described to the extent that they contribute to or influence treatment decisions. Narrative text is illustrated with contemporary photographs and labeled existing conditions plans.

Analysis and Evaluation. The analysis and evaluation section compares findings from the site history and existing conditions documentation sections to identify the significance of the landscape within its broader historic contexts. A National Register-level significance evaluation for the park landscape is included that confirms the park's established primary period of significance and identifies other potential periods of significance based on historical research and analysis. An understanding of which features were present during the period of significance is derived from a comparison of contemporary and historic conditions, supported by the preparation of period plans, which convey the battlefield at key snapshot moments in time. The identification of surviving historic resources and other changes that have occurred over time within the landscape is also used to develop an integrity assessment. The historic integrity of resources is assessed using the seven criteria recognized by the National Register of Historic Places—location, design, setting,

materials, workmanship, feeling, and association—to determine if the characteristics and features that defined the landscape during the historic period are present and retain sufficient evidence of their historic qualities to continue to convey their significant associations.

Part 2.

Treatment Plan. The treatment plan provides a preservation strategy for the long-term management of the cultural landscape based on its significance, existing condition, and current and anticipated or planned future use. The treatment plan is composed of narrative text, supported by illustrations that convey recommendations for repair, rehabilitation, and management of the landscape. A preferred treatment alternative is proposed for the park from the four options identified by the Secretary of the Interior—preservation, rehabilitation, restoration, and reconstruction—as appropriate for historic properties. Treatment recommendations and guidelines that balance the preservation of park resources with contemporary needs of park operations are also provided in narrative and cartographic form, often supplemented with photographs and diagrams. Finally, the treatment plan provides implementation guidelines for preservation projects resulting from the recommendations. These guidelines are conveyed in a format that is compatible with the National Park Service Project Management Information System (PMIS) used by park staff to secure project funding.

Appendices and Bibliography. Appendices included in the CLR range from drawings, illustrations, maps, technical information, and other supplemental support documentation used to develop the report. The Bibliography lists the sources used in the preparation of the document.

Part 3.

Earthworks Management Plan. The earthworks management plan is included as one of the CLR appendices. It is composed of a narrative history of the park's earthworks and their relationship to a broader context of military fortifications, a description of their current condition, and a treatment plan that identifies protection, repair, and management strategies to support long-term stewardship of these resources.

Methodology

The CLR for Kennesaw Mountain National Battlefield Park was prepared in accordance with the guidance offered in the most recent versions of various federal standards documents, including:

- *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*
- The Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*
- NPS Director's Order 10A: *Design and Construction Drawings*
- NPS Director's Order 28: *Cultural Resources Management*
- NPS Director's Order 77: Natural Resource Protection; Reference Manual 77: *Natural Resource Management*
- NPS-SER-82: *Biotic Cultural Resources: Management Considerations for Historic Districts in the National Park System, Southeast Region*
- The Uniform Federal Accessibility Standard (UFAS) and Americans with Disabilities Act Accessibility Guidelines (ADAAG)
- The National Park Service's Guiding Principles of Sustainable Design
- National Register Bulletin: *How to Apply the National Register Criteria for Evaluation*
- National Register Bulletin: *Guidelines for Identifying, Evaluating, and Registering Battlefields*

- National Register Bulletin: *Guidelines for Documenting and Evaluating Rural Historic Landscapes*

- National Register Bulletin: *Telling the Stories: Planning Effective Interpretive Programs for Properties Listed in the National Register of Historic Places*

In addition, the methodology used by project team members in preparing each component of this study is described in detail below.

Background Research and Data Collection. Prior to visiting the site, CLR team members began to collect documents and other materials pertaining to the project and site. In addition to assembling its available research materials associated with previous work on two Cultural Landscape Inventories and the Earthworks Management Plan, the team acquired the National Park Service List of Classified Structures for park resources, secondary sources addressing the history of the site and region, and studies, maps, and plans available from the National Park Service Denver Service Center Technical Information Center. In preparation for field investigations, project personnel requested Geographic Information Systems (GIS) files from the park and the Southeast Regional Office to use in developing base maps for field inventory.

Base Mapping. In anticipation of conducting fieldwork, the team prepared an AutoCAD base map of the park by compiling information available from GIS mapping, aerial photography, and historic site plans. This map was later refined and updated using the information collected during field investigations. Other layers of GIS information were used in conjunction with the AutoCAD map to generate diagrams and other report graphics.

Start-up Meeting. On May 11, 2011, project team members from WJE and JMA met with park and regional National Park Service personnel at the Kennesaw Mountain National Battlefield Park Visitor Center to initiate work on the CLR. Those participating in the meeting included:

NPS Southeast Regional Office

- David Hasty, Landscape Architect

NPS Kennesaw Mountain National Battlefield Park

- Dr. Stanley Bond, Superintendent

- Willie Ray Johnson, Historian

- Anthony Winegar, Chief Park Ranger

Wiss, Janney, Elstner Associates, Inc.

- Deborah Slaton, Project Manager and Historian

- Tim Penich, Project Architect/Historian

John Milner Associates, Inc.

- Jane Jacobs, Project Landscape Architect

- Liz Sargent, Historical Landscape Architect

- Lauren Noe, Landscape Designer

The meeting began with introductions of park, regional office, and contractor project staff. During the meeting, David Hasty introduced the purpose, goals, and methodology of the CLR, and the park identified the issues of concern to be addressed in the report. Project administration procedures were established, materials needed by the CLR team were identified, and a process for transmission determined. The park also identified the resources available to the team and any special conditions unique to the project or site. National Park Service personnel subsequently provided the CLR team with a site tour, focusing on areas of the landscape that were not addressed as part of the team's previous work preparing the Earthworks Management Plan and two Cultural Landscape Inventories.

Research sources available to the project team were subsequently discussed. The National Park Service indicated that the best sources of research materials would be the park archives, followed by

the National Park Service Southeast Regional Office, and the Denver Service Center Technical Information Center. Other sources of interest included park natural resource and archeological studies, the park's National Register nomination, and the National Park Service List of Classified Structures.

Park personnel identified specific issues of concern relating to current management, for consideration by the project team during the preparation of the CLR, including the following:

- Management strategies are needed for recent and anticipated battlefield land acquisitions, such as the Hays Farm and Wallis House property, including Harriston Hill (Figure 7).
- Park trails extend to either side of several busy public road corridors (Figure 8 and Figure 9). Recommendations for enhancing pedestrian safety at these trail crossings should be considered by the CLR.
- The proposed widening of Powder Springs Road will affect the integrity of the Kolb Farm. Treatment recommendations and guidelines for maintaining the character of the property should be considered by the CLR.
- The CLR should consider ways to mitigate the challenges posed by high visitation and limited staffing.
- Parking is insufficient to accommodate visitation, despite several recent parking area expansion projects. The CLR should consider options for improving the situation.
- Further landscape rehabilitation efforts are needed to return appropriate portions of the park to their condition at the time of the Battle of Kennesaw Mountain.
- The CLR should also offer guidance regarding:
    - field management;
    - invasive plant control;
    - trail use and maintenance; and
    - protection and interpretation of buildings and sites.

FIGURE 7. The Wallis House.

FIGURE 8. Pedestrian crossing of Cheatham Hill Road associated with the activity area parking lot.

FIGURE 9. Pedestrian crossing of Cheatham Hill Road associated with the park's western trail system.

- Additional recommendations should be provided in the CLR to address
    - National Historic Landmark status;
    - earthworks stabilization needs;
    - proposed relocation of the Georgia Monument;
    - rehabilitation of the Illinois Monument;
    - a park sign plan;
    - collections plan;
    - a visitation study; and
    - special events.

Field Investigations. Following the start-up meeting, National Park Service personnel provided the team with an overview of and orientation to the park. The tour included visits to the sites of current and anticipated future parcel acquisition, as well as rehabilitation and construction projects, and locations where improvements are needed to better accommodate visitors and special events and programs.

CLR team members subsequently conducted preliminary field investigations to document landscape resources associated with the park. Team members photographed primary and representative landscape features, both cultural and natural, and annotated draft base maps with observations about materials, resource condition, and corrections to the mapping files. The location and orientation of photographs were noted on the field maps. Where available mapping was lacking in detail, team members prepared sketch maps that were later used to enhance the electronic files.

Historical Landscape Documentation and Site Physical History. CLR team members also conducted research at the park archives following the start-up meeting. The focus was on historic records addressing physical park development such as maps, plans, and photographs.

Research was also later conducted remotely with the National Park Service Denver Service Center Technical Information Center, the National Park Service Southeast Archeological Center, and other archives.

The site physical history was drafted based upon review of the materials collected during these various research efforts. The information was first organized into a site history chronology using the physical events at Kennesaw Mountain. The chronology was then used to identify a series of definable historic periods for the park's evolution. Each period was described through historical narrative, supplemented with historic maps, photographs, and plans.

Historic Period Plan Preparation. Historic period plans of the Kennesaw Mountain cultural landscape were prepared to represent the site at the time of the 1864 battle, as well as completion of initial park development by 1942. The CLR team developed the historic period plans through registration of historic mapping sources with existing conditions information; preparation of the existing conditions base map thus preceded work on the period plans. The project team used all available historic photographs and written descriptions of the landscape found in the research materials collected for the project to develop details of the period plans. Limited secondary sources were also used to corroborate information and to generate queries for primary sources. Secondary sources were typically evaluated for their credibility and utilized with caution.

Existing Conditions Documentation. The documentation of existing conditions was developed through preparation of cross-referenced narrative, graphic, and photographic materials, organized in accordance with the framework established in National Register Bulletins: *Guidelines for Documenting and Evaluating Rural Historic Landscapes, Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields*, as well as the National Park Service's *A Guide to Cultural Landscape Reports.* Existing conditions resource

information was organized into the series of landscape characteristics suggested above

The CLR documentation includes information derived from existing conditions base mapping, field investigations, review of photographs taken in the field, and examination of park planning documents, park files, and other relevant cultural and natural resource documents received from the National Park Service or acquired through research. Documents such as the soil survey for Cobb County proved invaluable in establishing a geographic and geologic context for the park and in understanding local conditions.

The existing conditions documentation includes photographs of representative landscape features, which are referenced in the text. A documentation notebook containing all existing conditions documentation photographs and field maps was provided to National Park Service at the end of the project to supplement the representative photographic coverage included in this report.

The team also prepared an inventory of existing landscape features based on documentation of the site and an understanding of historic conditions. The inventory was used to ensure that each feature was discussed in the text and its condition assessed. It also formed the basis for the subsequent comparative analysis of historic and existing landscape conditions. The inventory is conveyed as Appendix A of the CLR.

Feature condition assessments were made using the categories suggested by the *Guide to Cultural Landscape Reports*: Good, Fair, Poor, and Unknown.[5] The condition ratings were annotated as possible to include specific condition-related observations made in the field. These often help to justify the ratings.

Evaluation of Significance. Kennesaw Mountain National Battlefield Park was listed in the National Register of Historic Places as a historic district in 1995. The nomination indicates that the park is a historic district significant for its associations with the important Civil War battles of Kolb Farm and Kennesaw Mountain. The park is the only protected battlefield of any size associated with the Atlanta Campaign, which played an influential role in the outcome of the Civil War and national politics. The park is also a significant commemorative property associated with the activities of veterans and others to mark, protect, and honor hallowed ground, beginning with the acquisition of Cheatham Hill in 1899. The significance evaluation provided in the National Register nomination was considered in conjunction with the guidance provided in the National Register Bulletin: *How to Apply the National Register Criteria for Evaluation.* The CLR considered the potential to update the nomination based on additional findings provided by the recent research and documentation. The CLR also provided suggestions for future National Register nomination updates to potentially address significance under Criterion D for information potential, additional areas of significance such as park development and archeology, and modification of the period of significance to reflect physical development within protected battlefield land beginning in 1899.

Comparative Analysis of Historic and Existing Conditions. To better understand the relationship between the existing park landscape and the character of the landscape present during the period of significance identified, the CLR team prepared a comparative analysis of historic and existing conditions. The analysis focused on extant features, their dates of origin, and their evolution over time. The three primary goals of the comparative analysis were to:

- Understand which features survive from the period of significance
- Establish the basis for an integrity assessment
- Provide an understanding of the similarities and differences between historic and existing conditions to serve as the basis for the

5. Robert R. Page, Cathy A. Gilbert, and Susan A. Dolan, *A Guide to Cultural Landscape Reports; Contents, Processes, and Techniques* (Washington, D.C.: Department of the Interior, 1998), 67.

development of a well-grounded treatment plan for the cultural landscape.

Identification of Character-defining Resources

Based on the findings of the comparative analysis of historic and existing landscape conditions, the CLR identifies those resources that contribute to its National Register significance, those that are non-contributing, and those that are missing from the historic period of significance.

Assessment of Integrity. The CLR summarizes the site's overall integrity and then assesses its integrity in accordance with the seven aspects—location, design, setting, materials, workmanship, feeling, and association—identified in National Register Bulletin: *How to Apply the National Register Criteria for Evaluation.*

Treatment Plan. Work on the treatment plan proceeded from the guidance afforded during the project start-up meeting held in May 2011. During the meeting, park personnel conveyed project goals, needs, and objectives beyond those available in the scope of work. These issues are documented above. The treatment plan is also based on the findings of the comparative analysis prepared as part of the CLR and the National Register-level significance evaluation suggested an overarching treatment approach to support preservation and enhancement of the park's historic landscape character, as well as its interpretation. After identifying a recommended treatment approach, the team prepared a treatment concept narrative intended to guide the development of treatment guidelines and recommendations. The individual guidelines and recommendations subsequently developed are consistent with the concept narrative, and respond to each of the NPS management issues and concerns conveyed during project meetings and in the project scope of work, the CLR condition assessments of site resources, and the results of the comparative analysis and integrity evaluations.

Description of Study Boundaries

The park is generally oriented north to south, and forms an elongated irregular rectangle more than 5 miles long and 2 miles wide (refer to Figure 3). Sections of the park encompass large blocks of privately-held non-park land. Four public roadways cross the park from east to west, generally dividing it into three land bays. These roadways—Old U.S. Highway 41, Burnt Hickory Road, Dallas Highway, and Powder Springs Road—are heavily traveled, two- to four-lane high-speed corridors. The Western & Atlantic Railroad line also crosses the park in its northern section.

The Kennesaw Mountain National Battlefield Park Visitor Center is located in the northern third of the park between the intersections of Old U.S. Highway 41 with Stilesboro Road, near Kennesaw Avenue. The visitor center is located near a cluster of buildings that serve administrative and maintenance needs. A picnic area, interpretive trails, and the Georgia Monument are accessible from the parking area associated with the visitor center. Also extending from the visitor center is Kennesaw Mountain Road, a steep, narrow route that winds up hill to the mountain summit where visitors can learn about the Confederate artillery battery that defended the position in spring and early summer 1864.

The middle section of the park is edged to the north by Burnt Hickory Road and to the south by Dallas Highway. It is primarily characterized by trail systems that follow the linear systems of Union and Confederate earthworks through wooded undulating terrain.

Cheatham Hill is located to the south of Dallas Highway. It is accessed via a dedicated drive that leads to a large parking area, trail system, and recreation area. The trail system provides access to the Confederate position that was attacked by Union forces on June 27, 1864, marked by surviving earthworks and commemorative markers and monuments. Below the most dramatic of these—the Illinois Monument—the park maintains a large open field to interpret the attack route of Union soldiers.

Powder Springs Road edges the central land bay to the south. A small portion of the park is located to the south of Powder Springs Road. The parcel includes the Kolb House, a historic dwelling that was present at the time of the battle.

Conditions along the park's boundary vary to a great degree. They can be described as follows: The northwestern corner of the park falls north of Old U.S. Highway 41 and west of Ridenour Road. From this point, the boundary line travels due east for approximately 2,500 feet, with a small southerly dip occurring in the vicinity of Ridenour Road. The boundary subsequently turns due south, extending for 1,100 feet toward the intersection of the Western & Atlantic rail line with Old U.S. Highway 41. As it reaches the rail line right-of-way, the boundary line turns northeast, paralleling the rail line for approximately 1,000 feet. It then turns southeastward, extending for 400 feet before bending in a more easterly direction to parallel Old U.S. Highway 41 approximately 400 feet to its north. The boundary then jogs southward for 300 feet, before turning again to follow a southeasterly orientation, crossing Old U.S. Highway 41 and paralleling the alignment of Kennesaw Road. At Kirk Road, the boundary turns west for 300 feet before turning due south, paralleling the former CCC camp for 3,200 feet. The boundary turns due west at this point, and continues for another 2,400 feet. At this point it turns due south for another 2,300 feet.

The boundary thereafter continues to jog west and south until it reaches Burnt Hickory Road and a bridge crossing Noses Creek. The boundary follows Noses Creek southwest, and then turns due south again. The boundary then jogs west and south until it reaches Dallas Highway. The boundary follows the northern margin of the road corridor for 900 feet before turning due south, bounding the Cheatham Hill section of the park to its east. Here, the park margin continues for 2,400 feet before turning eastward, and then progresses for another 1,200 feet in this direction. The boundary subsequently jogs south again, continuing for 1,900 feet, before heading southeast for 1,500 feet. The boundary jogs southward, eastward, south again, and then begins to angle back toward the southwest until it reaches Powder Springs Road. The road then forms the southern park boundary until the intersection with Cheatham Hill Road and Callaway Road, where it extends southward to encompass the Kolb Farm property. The boundary then edges the Powder Springs Road corridor again to its north before turning northwestward to form the western edge of the park.

Northeast of the Kolb Farm property, the boundary breaks to form two noncontiguous sections below Cheatham Hill. Between them is a large irregularly-shaped area of privately-owned property that is more than 6,000 feet long and varies in width, but is approximately 4,000 feet at its widest point.

The western park boundary generally extends in a north to northwesterly direction for approximately 8,800 feet before reaching the southwestern margin of the Cheatham Hill parcel. Thereafter, the park boundary continues due north until reaching Burnt Hickory Road. The width of the park in this location is approximately 2,600 feet. North of Burnt Hickory Road, the park is not continuous but includes privately-owned parcels in its center. Here, the outparcels form a rectangle approximately 900 feet wide by 1,400 feet long.

The park boundary continues in a northerly direction for 3,600 feet beyond Burnt Hickory Road before turning to the northeast. Here, it includes a third parcel composed of privately-owned land. The outparcels form an irregular shape that extends northeastward to Stilesboro Road, and encompasses Old Mountain and Gilbert roads. These roads also pass through the western half of the park. The western park boundary continues to jog north and eastward across Stilesboro Road and Old U.S. Highway 41 until joining the northwestern corner of the boundary described above.

Summary of Findings

Kennesaw Mountain National Battlefield Park is nationally significant for its association with the military events of June 27, 1864. The park is also significant for a century-long heritage of battlefield commemoration at Cheatham Hill, and park development as a unit of the National Park System beginning in the 1930s and continuing through 1942. Today, the National Park Service protects the battlefield, as well as the access and educational/commemorative gestures initiated by veterans, the State of Illinois, and the U.S. War Department between 1899 and 1933, while also offering extensive opportunities for visitor interpretation and recreation along its 16 miles of trails at a visitor center, and through special programs.

Kennesaw Mountain National Battlefield is presently listed in the National Register of Historic Places for its associations with the Battles of Kennesaw Mountain and Kolb Farm. The park is the largest, and one of the only, battlefield sites associated with the Atlanta Campaign protected and interpreted to the public. The park contains extensive systems of Civil War earthworks and two historic dwellings present at the time of the battle. It also protects evidence of historic road corridors, woodland and field patterns, and the landform and topography that influenced military tactics and events associated with the battle.

The park currently faces several challenges that will need to be addressed within the context of protecting historic resources.

Based on the park's need to meet current and projected future interpretive, functional, and management goals, **rehabilitation** is recommended as the most appropriate overarching treatment approach for the Kennesaw Mountain National Battlefield Park landscape. Because rehabilitation is defined as the act or process of making possible a compatible use for a property, this approach allows for protection of the site's historic character and resources while carefully addressing the need for limited enhancement of interpretive opportunities and circulation routes, ecological maintenance and restoration, and the development of appropriate visitor amenities.

Within the framework of the rehabilitation treatment approach, the CLR describes a concept for the long-term management of the cultural landscape at Kennesaw Mountain National Battlefield Park that seeks to balance the protection and enhancement of the site's historic integrity with contemporary park visitor access and interpretation needs and sustainable land management practices. The treatment plan reflects a three-pronged strategy involving natural and cultural resource management, interpretation, and consideration of the overall visitor experience. In support of achieving the concept, the CLR provides a series of landscape treatment recommendations intended to improve the functionality and appearance of, and appreciation for historic, cultural, and natural resources. To this end, the CLR advocates reestablishing certain historic patterns of spatial organization, such as woodland and field configurations, while establishing aids to interpreting missing landscape features and telling a broad story that includes the history of the local community at the time of the battle, the initial commemoration of the battlefield, and National Park Service development of the site for resource protection and visitor access.

Over the past seventy years, the popularity of the park, particularly as a recreational resource, has taken its toll on the condition of many landscape features. The CLR treatment plan for Kennesaw Mountain National Battlefield Park also provides recommendations for maintenance and repair practices intended to support resource integrity and condition goals, and enhance the appearance and cohesion of the historic landscape. These practices will also potentially improve the efficiency of maintenance practices. Protection, repair, and when necessary, replacement in-kind of historic features are also recommended to ensure that the park survives to delight future generations. Minor adjustments within the landscape, such as adding soil to compacted trail and road margins, carefully rehabilitating or

repairing the joints and seams between different materials, rerouting eroded trails, and revegetating areas of erosion and soil loss are recommended to help return the park to its intended character and a healthy, well-functioning appearance.

Finally, the treatment plan offers suggestions for enhancing sustainability using green building practices that provide a positive impact without affecting the integrity of the historic landscape.

The treatment recommendations form the basis for eight projects that offer the park concrete strategies for implementation. The eight projects include:

1. Prepare a vegetation management plan.
2. Address soil erosion problems associated with trails and slopes.
3. Rehabilitate the trail system to enhance the visitor experience.
4. Clear and thin non-contributing woody vegetation to reestablish historic patterns of spatial organization and views.
5. Establish screen buffers.
6. Enhance interpretation within the park, emphasizing the cultural landscape of the battlefield.
7. Address site furnishing needs.
8. Adopt Best Management Practices (BMPs) for storm water management, tree removal, new landcover establishment, invasive alien plant control, and sustainable management practices.

Recommendations for Further Study

Ongoing management of the historic battlefield landscape would benefit from additional baseline knowledge relating to the natural and cultural resources that have been a part of the region over time, including knowledge of cultural activities and features that preceded the Civil War. There are various aspects of the history of the Kennesaw Mountain National Battlefield Park that are not currently well documented. Additional knowledge is anticipated to support informed preservation planning strategies and interpretive goals for the park. Gaps in available documentation might be addressed through additional documentary research, oral history, and archeological investigations. Archeological investigations are likely to yield valuable information about prehistoric and historic periods of cultural occupation and use of the area. Features such as road traces, house sites, springs, gaps, and points of prospect could be specifically targeted for further investigation due to the high probability that they supported cultural activities in the past. The identification of additional maps, aerial photographs, and narrative descriptions of the landscape between early settlement in the 1830s and the 1860s in particular would be helpful in further understanding the evolution of the cultural landscape over time.

Any planned restoration of the battlefield to 1864 landscape conditions should be based on historic documentation and/or archeological investigation. Although detailed primary source maps of the entire battlefield from the 1860s are lacking, several historic ground cover maps have been prepared by the National Park Service since the early 1940s to consider the character and composition of the landscape in 1864. The maps and narrative descriptions of the landscape produced as part of these efforts should be compared, and refined based on reexamination of the primary source material to produce a more comprehensive contemporary interpretation. The end product could be used to form the basis for future landcover restoration programs involving historic field clearing and restoration.

Additional review of primary source material should be coordinated with information provided by past archeological investigations, and consideration should be given to conducting additional investigations to address research questions developed as part of the study. In particular, the location and composition of homesteads, farmsteads, roads, and churches present in the park at the time of the battle should be considered in more detail. Evidence of historic road traces and other features should be confirmed and documented with global positioning system (GPS), and used to update the park's GIS mapping.

Further investigation into the archeological information potential of the CCC camp at the base of Kennesaw Mountain is also warranted.

There are several features associated with early park development for which little or no documentation was located on behalf of this study. Those features for which a date of origin or modification was not located are indicated in the inventory appendix of the CLR. Further research may yield information about the features listed as having an undetermined date of origin in Appendix A.

The information generated through these investigations should be considered for inclusion in the interpretive programs offered at the park. Of particular interest would be broadening the story of local lifeways, farming practices and field patterns, and other elements of the landscape that influenced the battle. Linking the cultural landscape to the principles of KOCOA military terrain analysis as part of the interpretive process would also be of interest to visitors.[6]

To further the goal of protecting the existing earthworks, the CLR recommends that the National Park Service complete more detailed documentation of the resource. This might include resource assessment using GPS technology, measurement of earthworks in plan and profile, and establishing stations for re-measurement that would support monitoring programs.

The park should also consider the use of GPS to record the locations of all cultural landscape features, particularly those at risk of loss due to both natural processes and cultural activities, to support future research and mitigation needs.

Finally, the park should consider preparing natural resource inventories that would identify rare, threatened, or endangered plant and animal species present within the park, or habitats that might support such species, to establish informed resource management strategies.

6. KOCOA is a U.S. Army acronym that stands for (K) Key Terrain; (O) Observation and field of fire; (C) Cover and Concealment; (O) Obstacles; and (A) Avenues of Approach.

Site History

European Settlement and Development of the Kennesaw Mountain Area, 1830–1864

Prior to European settlement, the Kennesaw Mountain region was inhabited by Creek and Cherokee Indians.[7] The name Kennesaw is derived from the Cherokee Indian word "Gah-nee-sah," meaning cemetery or burial ground.[8] During the early nineteenth century, traders and settlers of European-American descent began to move into north Georgia. Beginning in 1805, the State of Georgia began to hold lotteries to distribute Creek and Cherokee lands to white settlers. By 1827, the Creek Indians no longer retained territory within the state. When gold was discovered near Dahlonega, Georgia, in 1828, European-American settlement in the area increased rapidly, leading to conflict with remaining local native tribes.[9]

A sixth land lottery and a gold lottery were held within the region in 1832, despite Supreme Court rulings that found the state's land-taking system unlawful due to Cherokee claims to the territory. With the support of President Andrew Jackson, the State of Georgia ignored the Supreme Court ruling and continued division of Cherokee lands; the U.S. Army was engaged in 1838 to forcibly relocate the Cherokees from Georgia to reservations in Oklahoma. The route of their relocation has come to be known as "The Trail of Tears."[10]

Cobb County was established in 1832 from former Cherokee territory encompassing all of northwest and north-central Georgia.[11] In 1834, the town of Marietta was incorporated and made the county seat (Figure 10 and Figure 11).[12] An 1835 Cherokee Land Lottery officially opened the area for white settlement.

The region proved desirable to European-American settlers for its agricultural potential derived from the cultivation of cotton. By the time pioneering farmers began to acquire land within Cobb County, cotton had become an important cash crop. The value of the crop to regional farmers grew exponentially after the introduction in 1786 of a long-fibered variety that could be grown on the uplands and piedmont of eastern Georgia, and the 1793 invention of the cotton gin.[13] After 1835, the region began to experience rapid growth as settlers moved in to establish small cotton plantations in the Chattahoochee River valley. African and African-American slaves provided the labor to clear and cultivate land associated with these plantations; the number of slaves steadily increased within the former

7. Jessica McNeil and Robert Hellmann, *An Archeological Investigation of a New Trail System at Kennesaw Mountain National Battlefield Park* (Tallahassee, Florida: National Park Service Southeast Archeological Center, 2010), 15–16.
8. http://www.nps.gov/kemo/historyculture/index.htm
9. Ibid. See also Robert W. Blythe, Maureen A. Carroll, and Steven H. Moffson, *Kennesaw Mountain National Battlefield Park: Historic Resource Study* (Atlanta: National Park Service, Southeast Regional Office, March 1995), 34.
10. McNeil and Hellmann, 17–18, citing Henry Thompson Malone, *Cherokees of the Old South: A People in Transition* (Athens: University of Georgia Press, 1956), 179–183.
11. Thomas H. Gresham, Principal Investigator, *An Archeological Survey of the Proposed Kennesaw Mountain Multi-Use Trail, Cobb County, Georgia* (Athens, Georgia: Southeastern Archeological Services, October 2, 2001), 7.
12. McNeil and Hellman, 18.
13. Gresham, *Archeological Survey*, 7.

Cherokee territory during the antebellum period, from 381 individuals in 1838 to 3,819 in 1860.[14]

In 1838, the State of Georgia agreed to guarantee the bonds to establish the first rail line through the area. By 1842, the Western & Atlantic Railroad had laid nearly 30 miles of track. Regular train service began in 1850 between Chattanooga and Atlanta that extended through Cobb County.[15] The Union advance toward Atlanta during the 1864 campaign followed the route of this rail line (Figure 12).

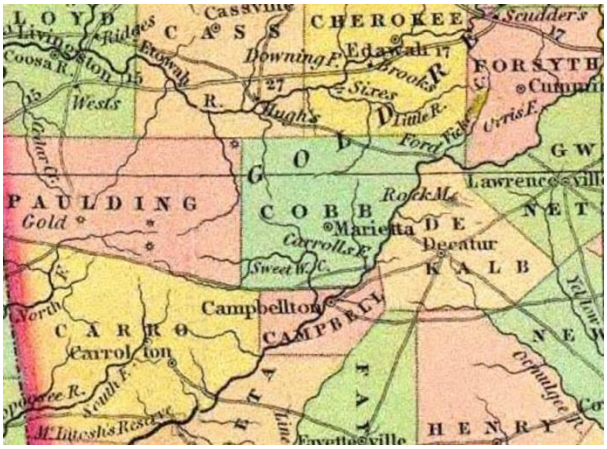


FIGURE 10. A circa 1830s map of Cobb County, Georgia.

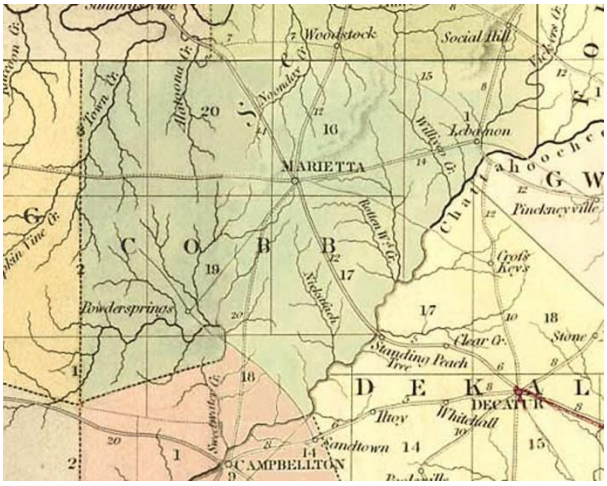


FIGURE 11. A circa 1838 map of Cobb County, Georgia, showing a radial pattern of roads extending from the county seat at Marietta.

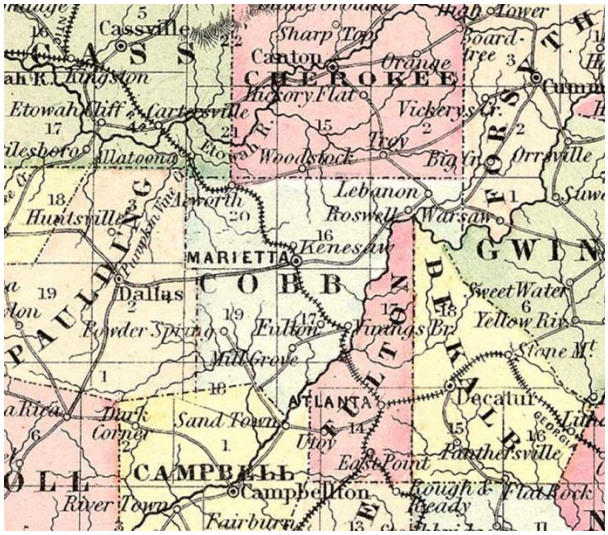


FIGURE 12. A mid-nineteenth-century map of Cobb County, Georgia, indicating the alignment of the Western & Atlantic Railroad line.

Area farms typically ranged from 50 to 150 acres in size.[16] Only land intended for cultivation was cleared. As cattle grazed by roaming free, it was necessary to fence cultivated fields to protect the growing crops. Wooden rail fences were most often used for this purpose. Fields were typically located near dwelling precincts and on the hill tops that proved easier to clear and cultivate. To limit erosion, fields followed the contour of the hills. Few local farmers employed conservation practices such as crop rotation or soil amendment, however. As the natural fertility of the soil waned, cultivated fields were typically abandoned and allowed to lie fallow, while the farmers cleared new ground to establish their crops.[17]

By the 1860s, Cobb County was an established agricultural region. The area encompassed by contemporary park boundaries included small farms characterized by clusters of residential and agricultural buildings on level terrain, fields, and orchards along existing road corridors. The slopes and ridges of Kennesaw Mountain remained forested, although timber was likely harvested along its lower slopes for firewood and construction materials (Figure 13). The area was

14. Ibid, from S. B. Temple, *First 100 Years, a Short History of Cobb County* (Covington, Georgia: Cherokee Publishing Company, 1935, reprinted 1980).
15. Blythe et al., 34.
16. Blythe et al., 35.
17. National Park Service, "Historical Base Map, Part of the Master Plan, Kennesaw Mountain National Battlefield Park, Marietta, Georgia," Sheet No. 4, January 1941 edition, annotations for Kennesaw Historical Base Map section.

crossed by a network of local roads, with major thoroughfares, such as Stilesboro, Burnt Hickory, Dallas, and Powder Springs roads, running east to west and crossing the predominantly north-south line of the mountain ridges at gaps and low points.[18] The Western & Atlantic Railroad and Stilesboro Road paralleled one another.

An antebellum farmstead owned by early settler Peter Valentine Kolb survives within the park. At the onset of the Civil War, Kolb appears to have been a prosperous landowner. In addition to the extant log house, Kolb's farm included slave quarters, a smokehouse, a summer kitchen, and a barn. A family cemetery stood east of the house.[19] The dwelling is thought to have been built in 1836 on land acquired in 1833 by William Gibson of Newtown County, Georgia, as part of a state lottery. Gibson sold the property to P. Valentine Kolb in September 1845. Although the existing Kolb House is the earliest to have been built on the property and may have been built by Gibson, it has been known as the Kolb House since the mid-nineteenth century.

According to tax records, Kolb owned 400 acres of second quality land and 120 acres of third quality land within the region in 1848, and an additional 40 acres in a nearby county. In 1851, he was recorded as owning ten slaves. Although there are no maps available to indicate the composition of Kolb's property at the time of the battle, interviews with his granddaughter described the property, including the smokehouse:

> located left and quite a distance from the house . . . a stone fence with a hedge of privet inside . . . a well with a curb of stone, a blacksmith shop on the north side of Powder Springs Road opposite the well; a cotton gin; a grist mill, and a saw mill located on the north side of Powder Springs Road ¼ mile distant down the hill from the blacksmith shop, several Negro houses which were located across the road and down a small slope and also on the same side of the road as the house and Negro quarters opposite the mill.[20]

Another surviving antebellum farmhouse near the park is the Wallis House. The Wallis House was built circa 1853 by Josiah Wallis, who arrived in Cobb County around 1850, purchased 400 acres, and built this farmhouse for his residence. The Wallis family returned to their native Newton County in spring 1864 in anticipation of Sherman's advance toward Atlanta. The house was used as a Confederate hospital during the war.

In addition to the Kolb Farm and Wallis House, a number of other small farms were situated in the area for which little evidence survives above ground today. These smaller properties included the Carnes, Johnson, Kirk, York, Hardage, Cass, Eaton, Springer, Channel, and Greer farms. One of the larger properties, the multi-acre York Farm, was situated west of Pigeon Hill on the north side of Burnt Hickory Road.

The area near Kennesaw Mountain also featured a number of churches and schools. Shiloh Church and School was situated on the north side of Dallas Highway just southeast of Bald Knob. The New Salem Church was located southeast of Pigeon Hill near Burnt Hickory Road.

18. Blythe et al., 35.
19. Ibid., 36–37.
20. Moore, Cooper, and Walker, *1985-1986 Archeological Investigations at the Kolb Farm Battlefield Site; Kennesaw Mountain National Battlefield Park Georgia*, 4–5. Property features were described in the document as: "the dwelling, a mill on 11-1/4 acres in the southwest corner of Lot 338 in possession of William A. Coleman, brother in law of P.V. Kolb, April 1883, a barrel factory on 11-1/4 acres in possession of Emmitt W. Channell as soon as he and his associates including W.J. Pledger had cut nearly all the timber surrendered the title 1883-84, a tenant house on 14-1/2 acres north of Powder Springs Road in Lot 338, 1908, and Pledger's gin house on ½ acre Lot 338 west of Powder Springs Road."

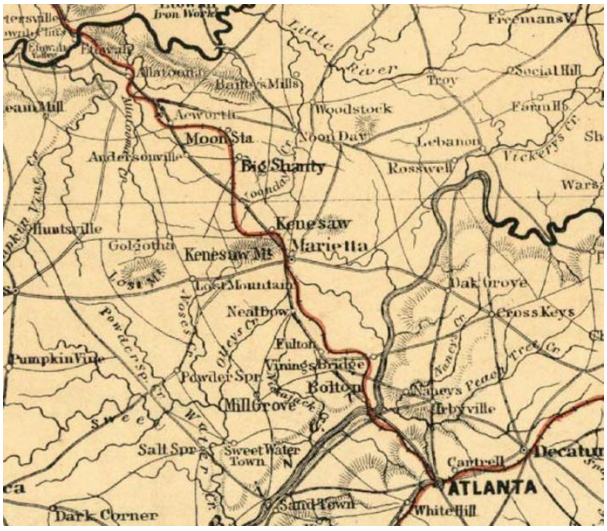


FIGURE 13. Another mid-nineteenth-century view of Cobb County and the rail line, illustrating the relationship between Atlanta, Marietta, Kennesaw Mountain, Lost Mountain, and other features that played prominent roles in the military events of spring and summer 1864.

The Atlanta Campaign and the Battle of Kennesaw Mountain, May–September 1864

The Civil War in Georgia

On January 18, 1861, Georgia seceded from the Union, becoming one of the founding states of the Confederacy on February 4, 1861. Much of the fighting prior to 1863 took place north and west of Georgia. However, the successful Union campaign for middle Tennessee in the summer of 1863 opened the way for a Union advance into Georgia. The costly Confederate victory at the Battle of Chickamauga on September 19–20, 1863, bought a temporary reprieve for Georgia. On September 29, Maj. Gen. Ulysses S. Grant, having masterminded the siege of Vicksburg that brought the entire Mississippi River under Union control, was ordered to Chattanooga to take command of Union forces. After a series of battles in October and November 1863, the Confederates were forced to retreat, leaving the Union in undisputed control of Tennessee and opening the way for the invasion of Georgia.

Beginning of the Atlanta Campaign

By spring 1864, there remained several prime manufacturing and production centers in cities in the South that had survived to date unscathed and able to support the Confederate war effort. After Lt. Gen. Ulysses S. Grant was promoted by President Lincoln and placed in charge of all Union armies in March 1864, he quickly devised a plan to strike and gain, or disrupt, the ability of the Confederacy to continue manufacture of arms and goods supporting the war effort. Atlanta, an industrial center and major railroad junction for the Southeast, as well as a base of supplies and communication for the Confederate army, was immediately targeted by Grant. Grant's strategy involved simultaneous attacks on the Confederate breadbasket in the Shenandoah Valley of Virginia, their capital at Richmond, and the industrial production hub of Atlanta. While Grant led the campaign in Virginia, he placed Maj. Gen. William T. Sherman in command of the Armies of the

Cumberland, Tennessee, and Ohio that would begin to march on Georgia.[21]

On May 1, 1864, Sherman assembled the 100,000 Union troops under his command, along with 254 cannon, and began to move south from Chattanooga, Tennessee. Opposing his advance within the area were 65,000 Confederates and an artillery corps of 187 cannon under the command of Gen. Joseph E. Johnston. Throughout May, Sherman used his superior numbers to outmaneuver Johnston, forcing him to retreat in order to avoid being cut off from the supply and approach route associated with the Western & Atlantic Railroad.

The first encounter between Sherman and Johnston occurred at Dug Gap, also known as Rocky Face Ridge, near Dalton, Georgia, between May 8 and 10, 1864. While Gen. George Thomas commanded troops ordered to approach Dug Gap where entrenched Confederate lay waiting, soldiers under the command of Maj. Gen. James B. McPherson were sent by Sherman to flank the Confederates. Understanding that the Confederate earthworks sited in the steep and rocky mountains afforded the opponent a huge advantage, Sherman initiated a tactic here that he would return to again and again throughout the campaign—rather than approach directly, he would try and circumnavigate the Confederate positions to reach his objective. Realizing on the morning of May 11 that Sherman had slipped by and was moving south under cover of Taylor Ridge, the Confederates retreated south along a good road that Johnston had ordered built before reinforcing Dalton. Johnston and his troops continued to Resaca, Georgia, on May 12 where they would reinforce other existing troops.[22]

Sherman continued south, forcing a second confrontation on May 14 and 15. Here, the two forces clashed along Camp Creek. The Confederates held the Western and Atlantic Rail line and trestle bridge within the field of fire of their artillery pieces. Sherman's troops experienced far heavier casualties in the exchange, and Johnston was also able to enact damage to several important communications and transportation systems that would hamper Sherman's continued progress. Johnston then quietly moved his troops south during the night of May 15 to Cassville, a small town located east of Rome. Realizing that the new position remained vulnerable, Johnston pushed on to the Altoona Hills, which he determined could be fortified with fieldworks to provide a much needed advantage to his forces (Figure 14 through Figure 16).[23]

Based on his understanding of the local terrain from previous visits to the area, Sherman understood that Johnston's fortified position in the hills could not be taken without severe penalty. He therefore determined to continue his previous approach of flanking, rather than directly engaging, Johnston's troops. He was determined to follow the road leading to Atlanta from nearby Dallas, Georgia, abandoning earlier plans to approach via the railroad line. Johnston anticipated Sherman's decision and sent a strong force to meet him. The two armies engaged at the New Hope Church crossroads. The ensuing battle occurred on May 25 and 26, extending along a six-mile-long skirmish line. A corps under the command of Maj. Gen. Joseph Hooker was ordered to attack directly and suffered the penalty. Overall, the Union lost 1,600 men, as well as the battle.[24]

Sherman was unable to make substantial headway toward Atlanta after this, and returned to his original pursuit of the rail line as the most appropriate avenue of approach to the city. Heading northeast in their return to the rail line, they encountered Gen. Patrick Cleburn's Division (Hardee's Corps) at Pickett's Mill on May 27, losing additional men. By the end of the day, the campaign had taken its toll on the Union troops, with more than 9,200 casualties recorded to Johnston's nearly 5,400.[25]

21. Blythe et al., 19–20, 26.
22. Gresham, *Archeological Survey,* 7–8.
23. Ibid.
24. Ibid.
25. Ibid.

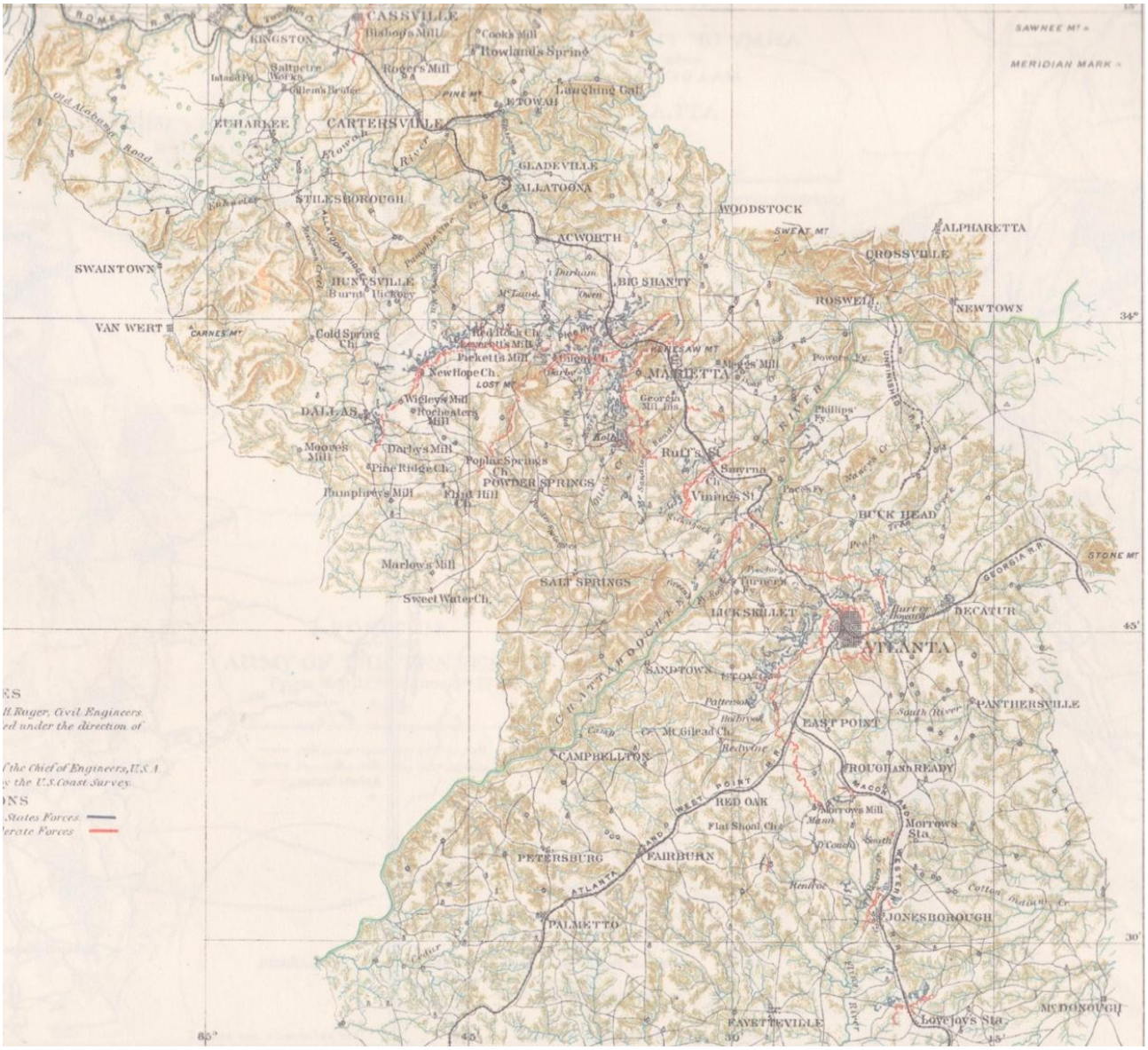


FIGURE 14. Entrenchments around the city of Atlanta and the line around Marietta, Georgia, June 1864. From the *Military Atlas of the Civil War*.

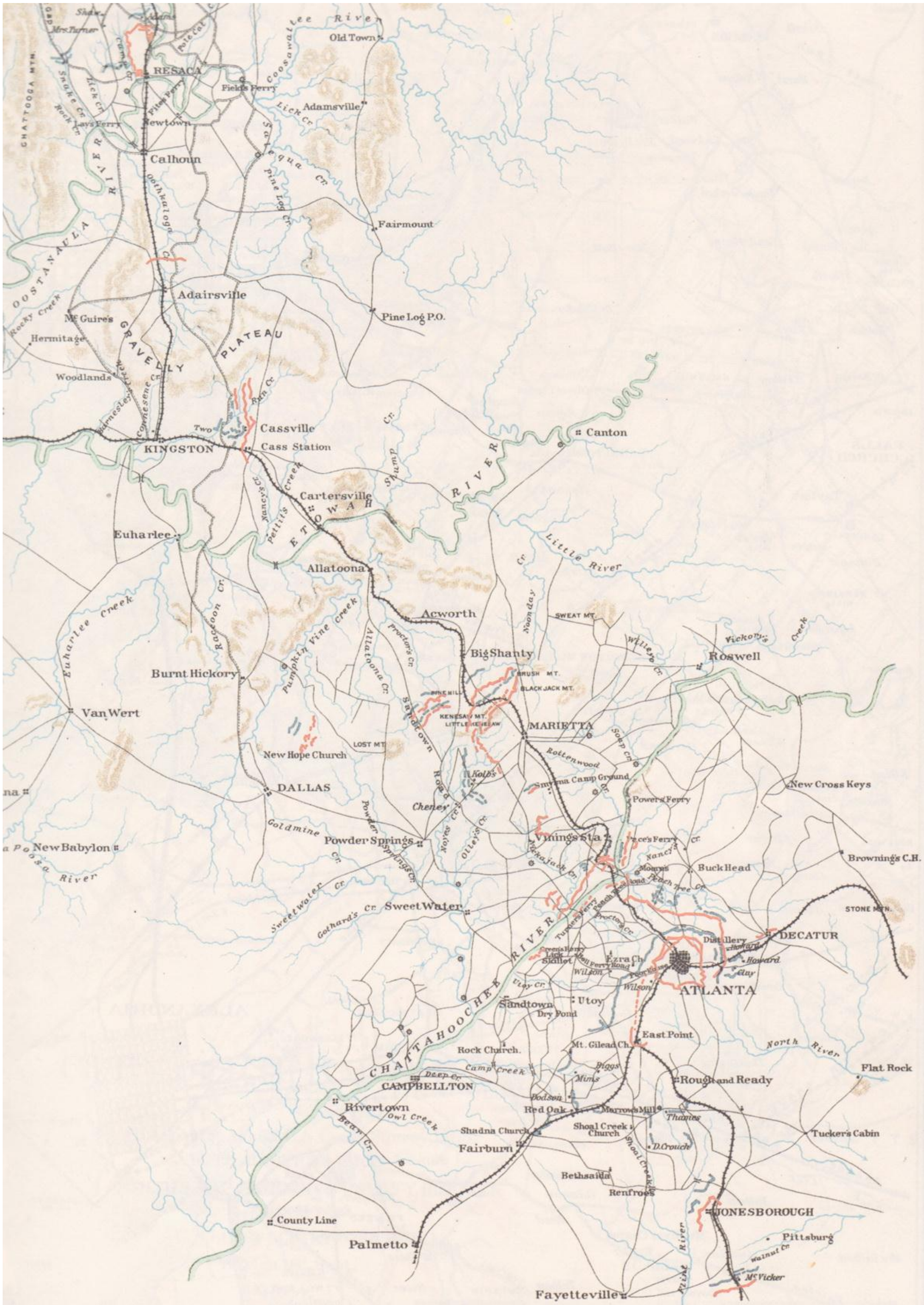


FIGURE 15. Entrenchments around the city of Atlanta and the line around Marietta, Georgia, June 1864. From the *Military Atlas of the Civil War*.

FIGURE 16. Entrenchments around Marietta, Georgia, June 1864. From the *Military Atlas of the Civil War*.

Sherman's forward progress was also impeded by the onset of heavy rains that began on June 1 and would not let up for nearly two weeks. Roads became muddy and nearly impassable for the heavy artillery. As they slowly moved south and east along the rail line, the Confederates took the opportunity to establish strong fortifications at Pine Mountain, Lost Mountain, and Kennesaw Mountain, which was particularly well positioned to control movement along the rail line.[26]

By the first week of June, Johnston's forces had entrenched along a line some thirty miles northwest of Atlanta in Cobb County. His fieldworks followed the high ground extending between Lost Mountain, Brushy Mountain, and Pine Mountain west of Kennesaw Mountain (Figure 17 through Figure 19). Federal forces advanced along much of the line, achieving positions as close as 200 yards to the Confederate trenches in some cases.[27] In front of the Kennesaw Mountain line, however, the Union placed only a few artillery. They used these to occupy the Confederates while attempting to assault weaker positions. Sherman believed the center of the Confederate line, located between Kennesaw and Lost Mountain, constituted its weakest point.

By June 15, the rains finally began to slow, allowing Sherman's troops to mount a concerted attack on the Confederate positions. They focused the attack on the center of the line, which they perceived to be its weakest segment. To counter, the Confederates were forced to swing the west end of their lines south and east. After being shelled continuously by the Union forces, Johnston's men positioned atop the most advanced position elected to retreat. Realizing the danger, Johnston decided to remove his troops from Brushy Mountain as well, relocating the majority of his forces to the formidable entrenchments that lay waiting on Kennesaw Mountain, which they stubbornly held until Sherman outflanked them on July 2, 1864.[28]

These events were reported by Federal Maj. Gen. John Logan, Commander of the 15th Army Corps (Figure 19):

> At 6 a.m. of June 10, as directed in Special Field Orders, No. 34, Department and Army of the Tennessee, I moved in the advance on the Marietta road, carrying ten days' subsistence with about 150 rounds of small-arm ammunition per man. Smith's division had the advance, followed by divisions of Harrow and Osterhaus, respectively. The infantry skirmishers of the enemy were found posted about one mile south of Big Shanty Station behind slight rail piles, from which they were soon dislodged by our artillery. It was soon evident that the enemy intended making a decided stand, and that they had a formidable line of works in front of Kennesaw Mountain. This line was developed crossing the Marietta road at the distance of two miles and a half from Big Shanty. On the east and west of the road the course of the main line was not determined for several days, the enemy keeping his wings well advanced, and erecting several lines of temporary works, retiring afterward from one to another of them as he was pressed by our troops.[29]

26. Ibid.
27. Ibid., 8.
28. Ibid., 10.
29. Ibid., 8–9, from the *Official Records of the War of the Rebellion*, 1880–1901: 38 (3) 97–98.

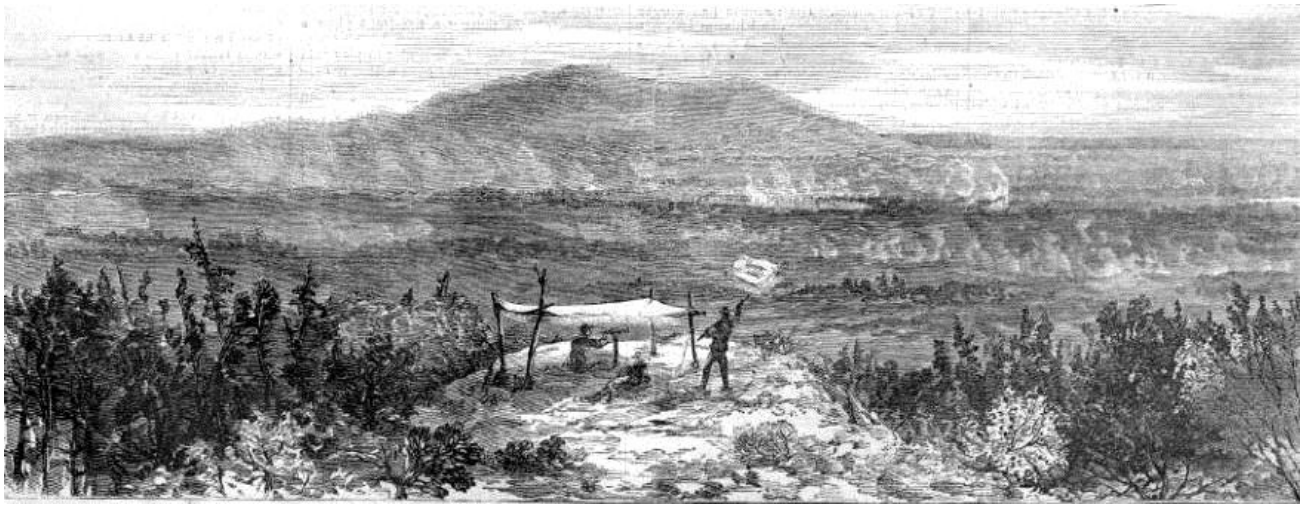


FIGURE 17. View of Kennesaw from Pine Mountain.

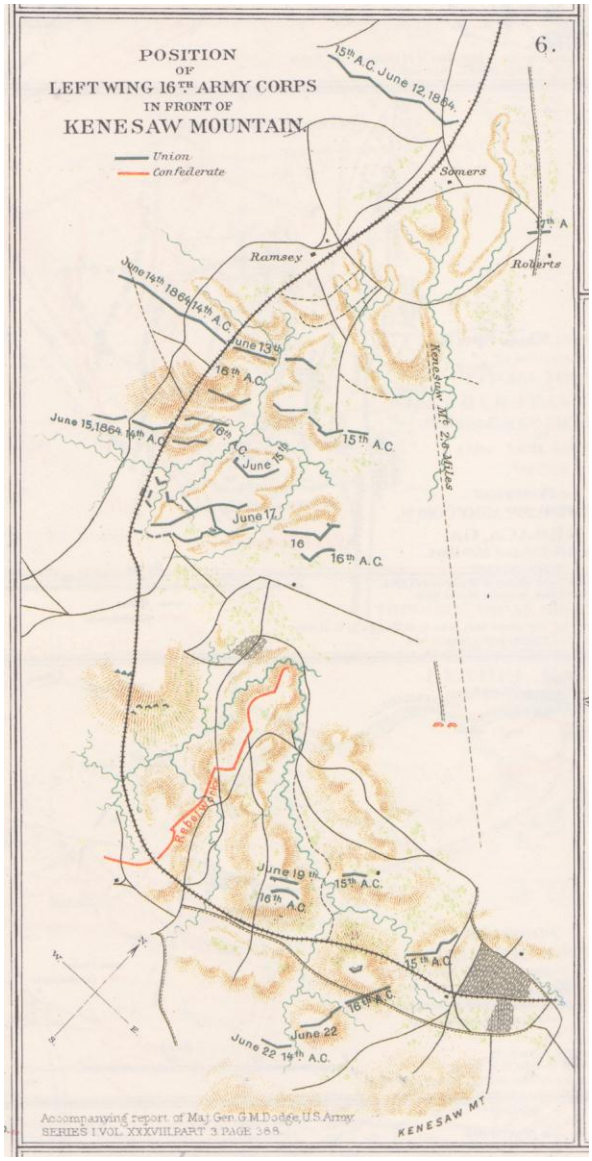


FIGURE 18. Military movements of the left wing, 16th Army Corps in front of Kennesaw Mountain, June 1864. From the *Military Atlas of the Civil War*.

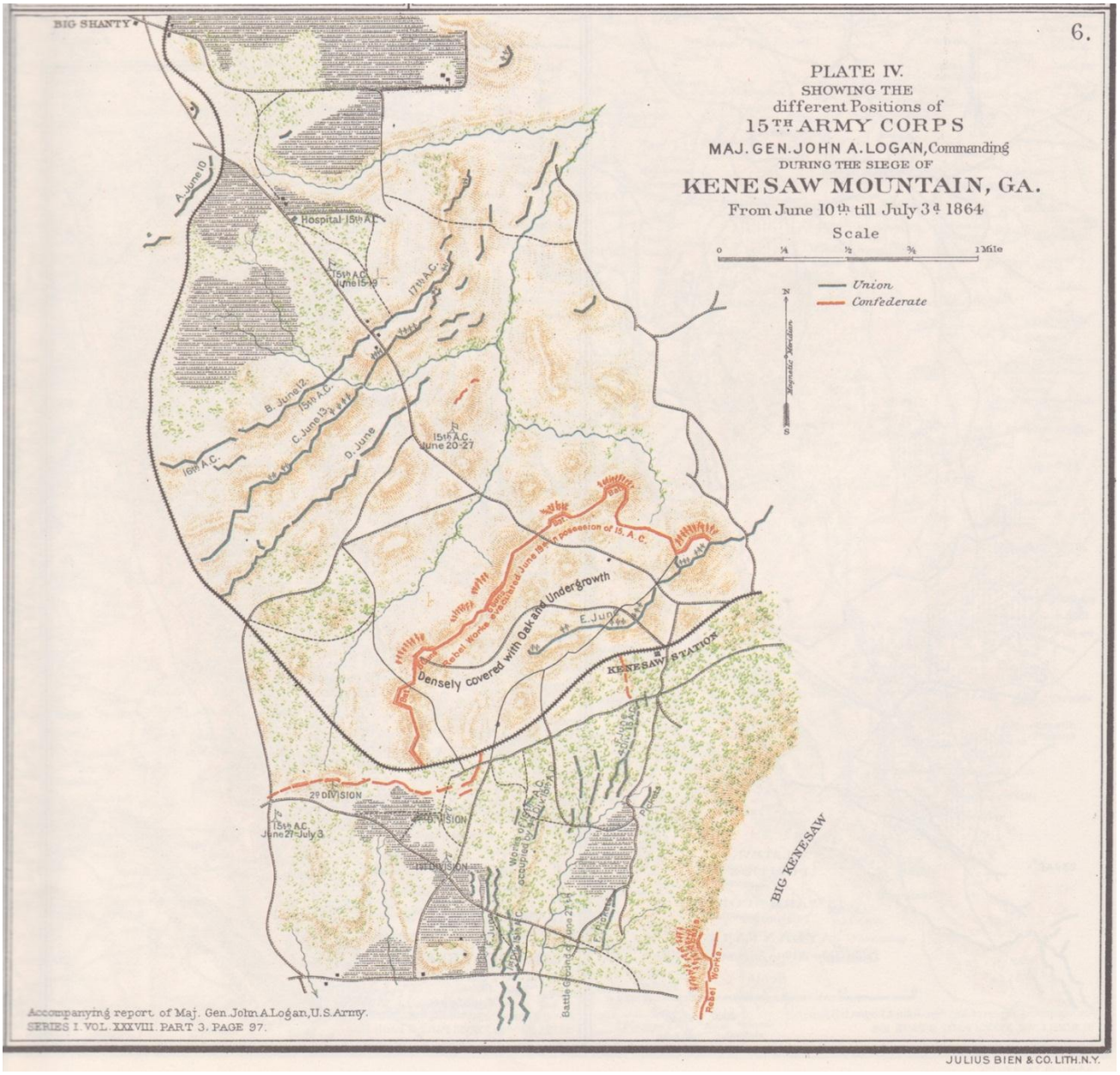


FIGURE 19. Military movements of the 15th Army Corps under the command of Maj. Gen. John A. Logan, June 1864 near Kennesaw Mountain. From the *Military Atlas of the Civil War*.

FIGURE 20. View of the Kennesaw Mountain battlefield from behind the Confederate earthworks on Pigeon Hill, circa 1864. Note the log revetments and the cleared field of fire.

Confederate Defensive Earthworks at Kennesaw Mountain

Kennesaw Mountain and the curving ridgeline that extends to the northeast and southwest around Marietta, Georgia, offered Confederate Gen. Joseph E. Johnston high ground affording long views of the potential avenues of approach by Union troops, and an easily defended natural bastion.[30] Confederate troops and slaves under the command of Lt. Col. S. W. Presstman initiated work on a system of defensive earthworks on and around Kennesaw Mountain in May 1864. The works were substantial, indicating their importance to the Confederates' defensive strategy. The line extended for nearly six miles from a point east of Kennesaw Mountain around the west face of the mountain, across the Western & Atlantic Railroad line, to an area east of the Kolb Farm. The fortifications included a single infantry line of mounded earth referred to as a parapet, punctuated periodically by more substantial works protecting the artillery positions that overlooked key avenues of approach. The parapet was constructed from borrow material dug from either the front or the rear, or both. The resulting ditches enhanced the obstacle posed by the parapet when placed to the front, or offered additional depth and protection from direct fire when established to the rear. The earthen parapets at Kennesaw were reinforced with available stone and wood. The reinforcements, referred to as revetments, strengthened the earthworks and provided additional protection for the soldiers in the form of headlogs (Figure 20).

Rains in early June had caused the local streams to swell in size. The Confederates also established several protected entrenched positions behind these streams.

Weak areas of the main line were supported by secondary lines. At Cheatham Hill, for example, secondary lines were needed to reinforce a trouble

30. National Park Service, "Historical Base Map," Sheet No. 3, Topographical Base Map section.

spot at a salient referred to as the Dead Angle. This type of engineered form, which was identified in military manuals as problematic, was defined as an area in front of a salient into which defenders have trouble firing due to the combination of parapet positioning and the inability to deploy artillery in the needed direction. Any sector ahead of a line that could not be defended with fire power was extremely vulnerable unless defended by another part of the fortification. At Cheatham Hill, the Confederates addressed the weakness by strengthening the line to the rear.

Artillery positions were also established on the commanding crests of Kennesaw and Little Kennesaw mountains (Figure 21).

FIGURE 21. Confederates dragging guns up Kennesaw Mountain.

To enhance visibility and the ability to direct ordnance from their earthworks, the Confederates cleared any obstructions such as trees and structures within the field of fire. Cut trees, sometimes with their branches sharpened into points, were placed in front of the earthworks as an obstacle to attackers. These features, known as abatis and chevaux-de-frise, were often arranged in several parallel lines. The area in front of the earthworks otherwise offered an attacker little in the way of protective cover. Below the Confederate earthworks in many locations were open agricultural fields that made a direct assault on the Confederate lines difficult. Also fronting the main earthworks were rifle pits, excavated areas large enough to be used for protection by a soldier whose duty was to fire an early volley at incoming assailants and alert the main line of approaching danger. Cut trees also supplied revetments and headlogs to support the efficacy of the parapet as a protective structure, stabilized the rifle pits, and provided fuel for cooking and heating. Trees on the hillsides above the works offered additional cover and concealment for the Confederate troops.

Union Earthworks at Kennesaw Mountain

When the Union forces approached the Confederates positioned on Kennesaw Mountain, they dug their own system of trenches and fortifications for protection from Confederate fire, although they had substantially less time to design and construct their works than the Confederates.

The Union works formed a series of overlapping lines, rather than a single continuous line, that included several large artillery batteries. For the most part, the Union lines were positioned in low lying agricultural land along the western base of Kennesaw Mountain and parallel to the Confederate line to its west (Figure 22).[31] The Union line, like the Confederate line, included rifle pits for skirmishers in advance of the main parapet system. The use of artillery played an important role in the Battle of Kennesaw Mountain.

31. Blythe et al., 33.

FIGURE 22. View from a Union artillery position toward Little Kennesaw Mountain, at left, and Pigeon Hill, at right, circa 1864.

The role of earthworks in the events of June and July 1864 is expressed in the accounts of Federal officers involved, including this excerpt from the report of John A. Logan, Major-General and Commander of the 15th Army Corps:

> On the night of June 18 and 19, the enemy abandoned his line, and retired to a second line about two miles in the rear. His line in our immediate front was on the crest of Kennesaw Mountain proper, his skirmish line being at the foot of the mountain. On the 19th of June, I advanced my line to near the base of the mountain, and intrenched. On June 20th I remained in that position, with skirmishers and artillery engaged. From the 20th to the 25th, the position of my command remained unchanged, with severe skirmishing and artillery practice along my entire line. The enemy shelled my position from the summit of Kennesaw Mountain continually, doing but little damage.[32]

The report of Col. Oscar Malmborg, Chief Engineer of Operations, 55th Illinois Infantry, June 6–21, 1864, also provides descriptive information regarding the use of earthworks in the area:

> Captain: I have the honor to transmit the following report of the engineering operations of the 17th Corps from the 6th instant, when I, pursuant to orders, entered upon the duties as chief engineer officer of the corps up to the present state. On my return to the front in the

32. Gresham, *Archeological Survey*, 9, from the *Official Records of the War of the Rebellion*, 1880–1901: 38 (3) 97–98.

evening of the 11th, I found the corps in line of battle, facing southeast, and intrenching along the edge of woods, about one mile and a half from Big Shanty, the right resting on the main road to Marietta [Old U.S. Highway 41] and the left on another road leading in an easterly direction, both diverging from Big Shanty. A belt of mostly open land intervened between our and the rebel lines of from 1,000 to 2,000 yards across, and intersected longitudinally by the Noonday Creek. Immediately in our front, extending from right to left and traversed only at two points by ravines, extended a ridge of moderate height, offering several advantageous positions for batteries, which were erected and armed during that night, and by the 15th, the day of our successful demonstration against enemy, a second line of works, from 400 to 600 yards in advance of the first, was ready and occupied, besides rifle pits still farther to the front for the protection of our skirmishers. After our occupation of the enemy's principal works on the 19th, they were at once remodeled wherever necessary, or new ones built roads and bridges [*sic*] across the Noonday Creek, which the heavy rains had raised to as to widen it by hundreds of yards beyond the natural banks.

Every intrenching tool has been kept employed night and day; details from regiments have frequently relieved the hard-worked pioneer companies, all working well and cheerfully, encouraged by the presence, zeal, and attention of their officers from the division general down. With the limited supply of intrenching implements at our disposal, averaging less than six to a regiment, I beg to call your attention to the extraordinary amount of work accomplished. Estimate the aggregate number of linear feet of fieldworks of all kinds built by the corps since it took position in front of the enemy on the 11th instant at not less than 20,000 besides 2,000 feet of corduroy road, 150 feet of bridging, and six miles of road cut through the woods in rear of our first line. . . .[33]

33. Ibid., 558–560.

Military Action at Kennesaw Mountain

Sherman began his attack on the Confederate positions at Kennesaw Mountain on June 20 with a cavalry raid around the north end of the Confederate line along the railroad line, and a simultaneous attack on the south end of the line along Powder Springs Road. Johnston countered by shifting troops under the command of Lt. Gen. John Bell Hood to reinforce and extend the south end of the Confederate line.[34]

Soon thereafter, on the morning of June 22, the Union forces advanced eastward, following Powder Springs Road. They were immediately challenged by two divisions of Hood's forces in an engagement that came to be known as the Battle of Kolb's Farm. The Union troops quickly established fieldworks for cover against a Confederate counterattack. Although Sherman counted only 350 casualties to Hood's 1,000, he grew increasingly concerned about the viability of his plan to outflank the Confederate line to the south, and began to consider alternatives.[35] General Sherman had his headquarters at the Wallis House during the June 22 Battle of Kolb's Farm.

Part of Sherman's ensuing strategy was based on reconnaissance of the Confederate line, which indicated that the Confederate troops were likely strung thinly along the extensive system. Sherman determined that Johnston's army did not contain enough troops to man the entire line with strength, reporting on June 25, "I shall aim to make him [Johnston] stretch his line until he weakens it and then break through."[36]

Battles of June 27

The Battle of Kennesaw Mountain on June 27, 1864, was comprised of multiple military engagements that occurred concurrently at several locations, including Cheatham Hill, Pigeon Hill,

34. Blythe et al., 34.
35. Ibid., 36.
36. National Park Service, "Historical Base Map," Sheet No. 5-A, Federal Assault on Cheatham's Salient section.

and Kennesaw Mountain. The assault on Cheatham Hill was part of Sherman's intended synchronized, two-pronged, direct frontal attack on the Confederate line, an approach that he had avoided previously when facing Johnston's entrenched troops due to the danger to his men and little chance of success (Figure 23). The approach was based in part on Sherman's doubts about his chances of success, resulting from the events at Kolb Farm. At 8:00 a.m. sharp, Maj. Gen. John A. Logan's corps would attack the junction of Little Kennesaw and Pigeon Hill, while a larger force would attack Cheatham Hill, a mile to the south. Given the fact that the assaults were synchronized, it would be impossible for troops stationed in one area to aid in repulsing an assault on the other.

FIGURE 23. General Sherman and General Thomas during the assault at Kennesaw Mountain, June 27, 1864. From a sketch at the time.

Sherman had determined that the earthworks at Cheatham Hill were a weak point and presented an opportunity to break the Confederate line. The earthworks included a vulnerable bend nicknamed the Dead Angle, where the Union forces would attempt to concentrate their fire and attack. Unbeknownst to the Union forces, however, the Confederates had established unusually deep trenches along the contour of the ridge, concealed artillery positions on either side of the bend, and placed extensive abatis supplemented by chevaux-de-frise in front of their line.[37]

At Little Kennesaw Mountain and Pigeon Hill (Figure 24), Sherman found two areas of interest to him in planning an assault on the Confederate entrenchments: a salient south of the Dallas Highway and the southern end of Little Kennesaw Mountain. The landscape encountered by Sherman's troops was a study in opposites. The steeply-sloped hillsides were covered in dense woods, while the lower-lying areas were relatively level and open where crop fields were cultivated. Dallas Highway separated the two conditions. A wooded stream valley snaked through the lower-lying areas approximately half way between the Confederate and Union lines. The Confederate skirmish line lay east of the creek.[38]

FIGURE 24. Artist rendering of the June 27, 1864, Battle of Kennesaw Mountain.

The Confederate line located along the south end of Little Kennesaw Mountain and Pigeon Hill was commanded by French's Division of Loring's Corps, while the line south of Burnt Hickory Road was formed by Walker's Division of Hardee's Corps. Together, these divisions totaled 7,289 men.[39]

Three Union brigades—Walcutt, Smith, and Lightburn—with forces totaling 5,500 troops, were involved in the assault. Each brigade was ordered to charge specific Confederate positions. Walcutt's Brigade was to charge the gap between Little

37. Blythe et al., 40.
38. National Park Service, "Historical Base Map," Sheet 5-B.
39. Ibid.

Kennesaw Mountain and Pigeon Hill, while Smith's Brigade intended to take the Confederate positions on Pigeon Hill and Lightburn's Brigade would work to break the Confederate line south of Burnt Hickory Road (Figure 25).[40]

Walcutt initially made good progress, moving quickly to the dense woodlands of the mountain's base and capturing the Confederate pickets without being detected. Soon, however, they encountered heavy musket fire, and were forced to halt in the woods and construct fieldworks to protect themselves. Several men picked their way up the slopes of one of Little Kennesaw's spurs, hiding behind rocks and trees, until they were in a position to fire down on Pigeon Hill.[41]

Smith divided his line into two as part of the attack on Pigeon Hill. Initially protected by the cover of heavy woods north of the York House, they suddenly encountered Confederate pickets as they crossed a small stream. Escaped pickets reached the Confederate position on Pigeon Hill before Smith's lines, preparing them for what was to come. As Smith approached the waiting enemy, he was met with a discouraging site—a nearly unassailable Confederate position composed of a steeply-sloped hillside crowned with strong fortifications. Smith's division was immediately fired upon and forced to fall back to safety. Here, at the base of Pigeon Hill, they built a line of earthworks for their protection. Many who had approached the line and taken cover behind rocks or in crevices were unable to retreat until dark when they could move undetected before the muskets of the Confederates.[42]

While Smith was thwarted at Pigeon Hill, Lightburn approached the Confederate line across cleared fields and the wooded bottomlands associated with a stream corridor. Although they made good progress across the field and were able to reach and capture numerous pickets stationed in the wooded stream valley, the cleared area beyond was in the direct site of Confederate artillery positioned on Little Kennesaw Mountain. Unable to move forward, they were forced to remain in the woods and occupy the site of the former Confederate picket line until darkness would hide their retreat.[43]

Despite their well-laid plans, the Union forces were thwarted in their attempts to reach the Confederate earthworks at Kennesaw Mountain. In their attempts to do so they lost nearly 10 percent of their engaged forces, including thirty officers.[44]

Cheatham Hill

To the south, Sherman had amassed 9,000 federal troops in five brigades, who were poised to approach the Confederate earthworks on a knoll referred to today as Cheatham Hill for its defense by Cheatham's Division, through an area of open fields and forested land (Figure 25). The IV Corps was commanded by Maj. Gen. Oliver O. Howard, who was headquartered at the Wallis House. Harriston Hill adjacent to the house was used by the Union army as a signal station.

The Confederate earthworks were generally well constructed and included headlogs, defilades, and abatis, although the salient attacked by Davis's Division did not feature abatis or a front ditch. The Confederates also maintained a ten-gun battery on the ridge behind Cheatham Hill.

40. Ibid.
41. Ibid.
42. Ibid.
43. Ibid.
44. Ibid.

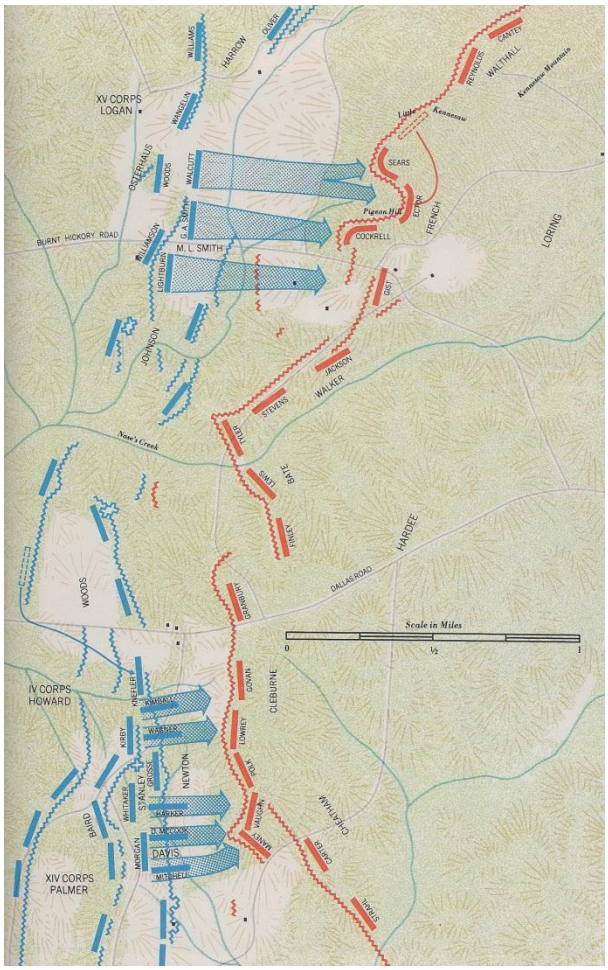


FIGURE 25. Diagrammatic analysis of the Battle of Kennesaw Mountain at Cheatham Hill, June 27, 1864.

The division commanded by Maj. Gen. John A. Newton, which included three brigades, was to attack the west-facing portion of the line, while two brigades led by General Mitchell would focus on the center of the Confederate line. Of his three brigades, Newton initially sent two, with Brig. Gen. Charles Harker on the right and Brig. Gen. George D. Wagner on the left. The men formed up in dense columns to increase their chances of a breakthrough of the Confederate line. However, in this formation, only the front line would be able to fire effectively, and, as a whole, they presented a substantial target for the Confederates. As soon as they emerged from the forest into open fields below the Confederates, the Federal forces were assailed by the heavy fire of both infantry and artillery positions along the line, which slowed their progress. Harker, the only commander to enter the field on horseback, was killed trying to rally his troops for a second attack.

A few men were able to break through the line of abatis and reach the base of the Confederate works. Newton subsequently ordered his third brigade, under the command of Brig. Gen. Nathan Kimball, to advance. Similarly unsuccessful, only a few of Kimball's men reached the Confederate works, where they were either killed or captured.[45]

At the same time, two brigades of the Union army under the command of General Davis attacked the center of the Confederate position on Cheatham Hill. The first brigade was commanded by Col. Daniel McCook, while the second was led by Col. John G. Mitchell. Between the Union forces and the center of the Confederate line lay a wheat field that offered little in the way of protective cover. As soon as they were visible to the Confederates, the Union troops were subject to intense fire similar to that experienced by Newton's division to the north. During the assault, the heavy gunfire set the nearby woods on fire, and Federals retreating to the protection of the treed areas were in danger of burning alive.[46]

McCook's Brigade charged directly toward the salient. Moving in double quick step, but exposed to heavy fire, McCook's men raced up the hillside. During the charge, Colonel McCook was mortally wounded as he led his column, falling a few steps from the Confederate works. Col. O. F. Harmon quickly assumed command, but less than five minutes later was also mortally wounded near the Confederate line. Unable to scale or breach the Confederate works, the remaining men of the brigade sought shelter within a depression under the crest of the hill. The Confederates, unable to fire upon the Union soldiers, pelted their position with stones. Given the raking Confederate fire, the men positioned in the depression were also unable to retreat. Instead, they chose to improve their position with hastily-constructed entrenchments, using tin cups and bayonets to facilitate their excavation work. By the end of the day, they had established relatively strong works and determined to hold them. From their position near

45. National Register nomination, Section 8, page 27.
46. National Park Service, "Historical Base Map," Sheet No. 5-1, Federal Assault on Cheatham's Salient.

the Confederate line, the Union soldiers initiated work on a mine which they hoped they could use to explode gunpowder and breach the earthwork at the Dead Angle.[47] Although this effort was not successful, the Union soldiers remained in the position in a stalemate with the Confederates, entrenched nearby for nearly a week.

On June 27 alone, the casualties suffered by Sherman's forces totaled 3,000, while Johnston's Army registered less than 1,000 casualties. Sherman, determined to avoid similar defeats, devised a new strategy to continue his forward motion toward Atlanta involving continued flanking movements. The small area gained during the battle by Maj. Gen. John M. Schofield at the south end of the line near the Kolb Farm, provided the opening needed for the Union cavalry to continue south toward the Chattahoochee River.

Developments of June 28 to July 2

In the days following the battle, Sherman determined to reinforce Schofield's sector of the line to probe the possibility of returning to his earlier flanking strategy. Unable to counterattack from his entrenchments, Johnston was forced to retreat to avoid being outflanked. On July 2, the Confederates withdrew from Kennesaw Mountain to a position around Smyrna Station four miles southeast of Marietta. On July 4, unhappy with the terrain, Johnston moved again, this time to the north bank of the Chattahoochee River. After Union cavalry were able to cross the river upstream of Johnston's main position, the Confederates were forced to retreat again, this time across the river to the outer defenses of Atlanta on July 9. After a series of battles in July and the bombardment of the city by Union artillery throughout August, Sherman decided to abandon his lines and move counterclockwise around the city, cutting the railroad connections to the south. On September 1, with all railroads in Union hands, the Confederates were forced to surrender the city.

With the fall of Atlanta, the way was open for Sherman's infamous march to the sea through Georgia, culminating in the capture of Savannah in December 1864. On April 9, 1865, Gen. Robert E. Lee surrendered to Gen. Ulysses S. Grant at Appomattox, Virginia, and the Civil War ended.

47. Blythe et al., 41.

Continued Agricultural Use, 1865–1930s

After the Civil War, local residents returned to their agrarian lifestyle and agricultural use of the former battlefield resumed, but without the labor force of slaves that had previously supported the regional economy. In the late nineteenth century, tenant farming became common in Cobb County, as in much of the South, and larger farms were typically divided up into lots of 72 or fewer acres. Food crops for local consumption were typically grown along with cotton as a cash crop. Cotton prices increased through the first decades of the twentieth century; however, much of Georgia's cotton crop was destroyed by a boll weevil infestation from 1919 to 1924. Followed by the fall in cotton prices brought on by the Great Depression, many farmers switched to other crops, cattle, or dairy farming; some fields were abandoned.[48] The Kolb family, who had fled to Madison, Georgia, in 1864 as the Union army approached their farm, did not return to their abandoned homestead in Cobb County until the 1880s.[49] After the war, the house changed hands several times, and a number of alterations were made, including the addition of weatherboarding over the log structure.[50]

Stands of pine grew up to replace the hardwoods removed from Kennesaw ridge by the Confederate soldiers in 1864, while the lower-lying terrain was intensely cultivated (Figure 26). Over time, as agricultural technology improved, farmers expanded the area under cultivation.

From 1860 to 1900, the population of Cobb County grew from more than 14,000 to more than 24,000, and the acreage of land in agricultural use increased by one-third. The increased density of population and intensity of farming led to the cultivation of many areas that had been forested at the time of the battle. Some Union earthworks which had been in forested areas in 1864 were obliterated when these areas became open fields. Additional access roads and farm buildings were built on the battlefield area. By the early twentieth century, farmers began to practice soil conservation measures including terracing their fields, which further affected surviving Civil War earthworks.

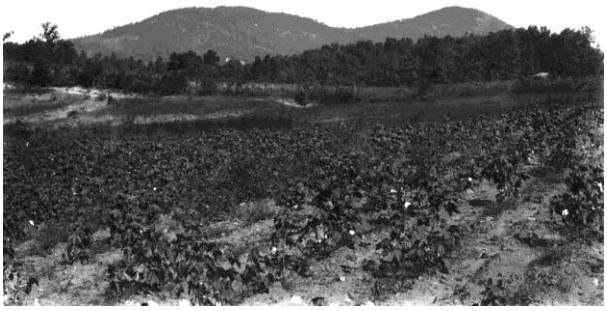


FIGURE 26. View across a cotton field along Dallas Highway toward Kennesaw Mountain, September 29, 1899.

FIGURE 27. Burnt Hickory Road, circa 1900.

48. McNeil and Hellmann, 22, citing Darlene R. Roth, *Architecture, Archaeology, and Landscape: Resources for Historic Preservation in Unincorporated Cobb County, Georgia* (Marietta: Cobb County Historic Preservation Commission, 1988), 41–42.
49. Charles S. Grossman, *Historic Structures Report, Part I, Architectural Data Section: The Kolb House* (Philadelphia, Pennsylvania: National Park Service, Eastern Office, Division of Design and Construction, January 1962), 5.
50. Capps, 22.

FIGURE 28. View from Little Kennesaw toward Lost Mountain, July 9, 1901.

Early Commemoration, 1887–1916

Commemoration of Civil War battles began during the war, with the creation of national cemeteries and monuments erected by the combatants to honor their fallen comrades. Immediately after the war, Union and Confederate veterans' organizations were established that continued these efforts. Locally, memorialization activities led to the establishment of the Confederate Cemetery in Marietta, which had been used for burials during the war. The cemetery was dedicated in 1866 to receive remains from battlefields throughout northern Georgia. A Confederate Monument in the cemetery was dedicated in 1908.[51] Meanwhile, the Marietta National Cemetery was established in 1866 and by 1870 had received 9,973 Union burials from north Georgia battlefields.[52]

By the 1880s, as the political issues and bitterness of the war faded, commemoration became more generalized, with a focus on heroism in battle and sacrifices common to both sides. Veterans pressured Congress to establish national military parks on the former battlefields, leading to the creation of the first military parks at Chickamauga and Chattanooga in 1890, followed by Antietam (1890), Shiloh (1894), Gettysburg (1895), and Vicksburg (1899).

At Kennesaw, veterans undertook private commemoration of the battlefield while petitioning Congress to establish a park. In 1887, Confederate and Union veterans held the first blue-gray reunion at Kennesaw Mountain.[53] In the 1890s, survivors of the brigade led by fallen Col. Dan McCook organized the Colonel Dan McCook Brigade Association, which held its first reunion in August 1900.[54]

Lansing J. Dawdy, a veteran of the 86th Illinois Regiment of the McCook Brigade, purchased a sixty-acre parcel at Cheatham Hill from local resident Virgil Channell in December 1899, including the location where McCook was killed. In 1900 Dawdy conveyed this parcel to Martin Kingman and John McGinnis, who were acting on behalf of the Kennesaw Mountain Battlefield

51. Blythe et al., 56.
52. Ibid., 57.
53. Ibid., 60, citing Paul H. Buck, *The Road to Reunion: 1865–1900* (Boston: Little, Brown, 1937), 258.
54. Ibid., 60, citing *Program: First Reunion of the Third Brigade, 2d Division, 14th Army Corps.*

Association. The Association, a nonprofit organization formed by a group of veterans and incorporated in Illinois in 1901, in turn deeded the parcel to the Colonel Dan McCook Brigade Association in August 1904.[55]

The Kennesaw Mountain Battlefield Association planned to raise funds from veterans with the intent of building a memorial at the battlefield. When fundraising from private sources proved insufficient, the group lobbied the State of Illinois for additional support. In 1913, the group received a $20,000 appropriation from the State of Illinois, and construction began on a monument at the Cheatham Hill parcel. The 25-foot-high monument with a 7-foot-tall bronze sculptural group was constructed of Georgia marble by McNeel Marble Company of Marietta at a cost of $25,000. James B. Dibelka was the architect, and J. Mario Korbel was the sculptor. The Illinois Monument was dedicated on June 27, 1914, the fiftieth anniversary of the battle (Figure 29).[56]

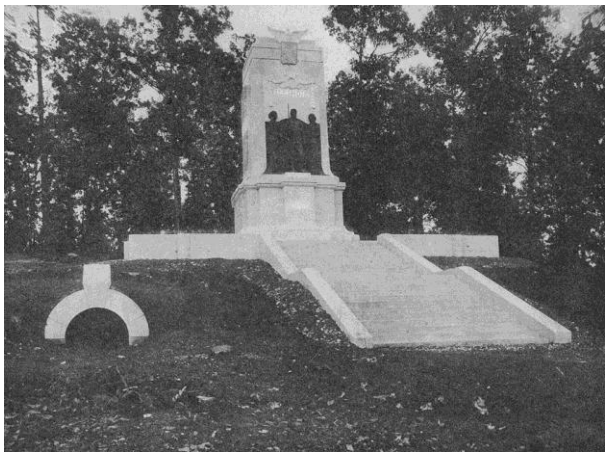


FIGURE 29. The Illinois Monument and the tunnel entrance arch shortly after its dedication.

At about the same time, other smaller markers were placed on the battlefield, including the McCook Brigade Marker, the Sergeant Coffey Marker, the Captain Fellows Marker, and the original Captain Neighbour Marker. Also, a stone arch was built next to the Illinois Monument where the tunnel dug by Union troops in their attempt to mine the Confederate earthworks at Cheatham Hill began (refer to Figure 29). Other than construction of these monuments, relatively little alteration occurred to the landscape of the Cheatham Hill parcel during the period of Kennesaw Memorial Battlefield Association ownership.

From its inception, the Kennesaw Memorial Battlefield Association intended to promote the establishment of a national park at Kennesaw Mountain. Its members soon recognized that it was in possession of insufficient funds to restore the battlefield. Hoping to find a suitable entity to manage the property, in 1916 they wrote to the Secretary of War, offering to transfer title to the 60-acre parcel at Cheatham Hill to the U.S. government. Because the Secretary of War could not accept the property without prior authorization by Congress, Rep. Joseph G. Cannon of Illinois was tasked with introducing a bill to facilitate transfer of the battlefield land.

55. Capps, *Kennesaw Mountain National Battlefield Park: An Administrative History* (Atlanta, Georgia: National Park Service, Southeast Region, 1994), 5.
56. Ibid., 5–6; Blythe et al. citing *Laws of the State of Illinois Enacted by the Forty-Eighth General Assembly* (Springfield, Illinois: Illinois State Journal Co., 1913), 58–59; *Chicago Daily Tribune* (June 28, 1914); *Journal of the Illinois Historical Society* 4 (January 1912), 531.

Kennesaw Mountain National Battlefield Park

National Battlefield Site Establishment and War Department Administration, 1917–1933

On February 8, 1917, Congress passed a bill authorizing the acceptance of land by the United States government from the Kennesaw Memorial Battlefield Association of Illinois, creating the Kennesaw Mountain National Battlefield Site.[57] The land was described as "lot numbered one hundred and sixteen and the east half of lot numbered one hundred and seven in the nineteenth district and section, in the county of Cobb and State of Georgia."[58] It would be another nine years before the U.S. government could secure clear title to the property for transfer from the Kennesaw Mountain Battlefield Association.

During this period, portions of the parcel that were in agricultural use remained in cultivation. In 1922, Reverend J. A. Jones was appointed as resident caretaker by the Kennesaw Memorial Battlefield Association. His responsibilities included maintenance of the monuments and their immediate surroundings. In lieu of payment, he was allowed to occupy the buildings on the site and to cultivate portions of the parcel that would not interfere with access to the monuments.[59]

Once clear title was finally assured and the War Department assumed ownership of the 60-acre Cheatham Hill parcel, additional legislation was passed on April 5, 1926, authorizing inspection of the battlefield to determine whether it met the criteria for becoming a national military park. A three-man commission, that included an officer of the Army Corps of Engineers and a veteran of each of the opposing armies, met in Atlanta on June 25 to initiate the inspection. During their visit, they compared Kennesaw with the nearby Atlanta Campaign battlefields of Lost Mountain, New Hope Church, and Peachtree Creek. All three commission members voted to pursue national military park designation for Kennesaw Mountain due to its scenic value, accessibility, and significance to the campaign. In addition to the 60-acre Cheatham Hill parcel, they recommended that a total of 1,050 acres be set aside, including Kennesaw and Little Kennesaw mountains, and the ridgeline between them.[60]

In addition to the commemorative efforts led by the Kennesaw Memorial Battlefield Association, the Kennesaw area began to attract the attention of developers in the 1920s. The Kennesaw Mountain Association, a private land development company, sold bonds, acquired 450 acres, and constructed a road to the top of Kennesaw Mountain during this time. The association soon encountered financial difficulties and a planned hotel was never built.[61] (In 1936 and 1937 the Kennesaw Mountain Association parcels were condemned for purposes of inclusion in the park, leading to several years of litigation.)

Proposed and existing development in the area contributed to a higher than anticipated price for acquisition of the key parcels; an appraisal by the Atlanta Real Estate Board indicated that the land might cost as much as $307,550. Parts of the lower reaches of Kennesaw Mountain had been laid out in building lots, with 130 of these having been provisionally sold for $350 to $550 each. Tracts adjoining U.S. Highway 41 were also considered developable and more expensive. Working through the Marietta Chamber of Commerce, the

57. *Kennesaw Mountain National Battlefield Park Long-Range Interpretive Plan.*
58. *An Act Authorizing the acceptance by the United States Government from the Kennesaw Memorial Association of Illinois of a proposed gift of land on the Kennesaw battle field in the State of Georgia,* approved February 8, 1917 (39 Stat.901).
59. Blythe et al., 61, citing George Florence, Adjutant General of Ohio, to Rev. J. A. Jones, June 1922, quoted in B. C. Yates, *Origin and Expansion* (1941), 9.
60. Ibid., 6–7, citing *Report of the Commission Created to Inspect the Kennesaw and Lost Mountain and other Battlefields in the State of Georgia, 1926,* War Department Records, 1892-1937, Record Group 79, Box 43; Report 117 to accompany H.R. 59, To Create a National Memorial Park, Kennesaw Mountain, Georgia.
61. In 1936 and 1937 the Kennesaw Mountain Association parcels were condemned for purposes of inclusion in the park, leading to several years of litigation. Capps, 9.

commission obtained options on some of the recommended lands to run for one year.[62] Despite the commission's findings and recommendations, the several bills introduced into Congress over the next nine years to establish a national military park at Kennesaw failed to gain sufficient support and did not pass.[63] Since the site was never designated a national military park, no additional land was acquired in the 1920s beyond the original 60 acres.

During the brief period of War Department administration from 1926 to 1933, relatively few changes occurred to the landscape of Cheatham Hill. At first, the superintendent of Marietta National Cemetery was made responsible for maintenance of the site, and which was overseen by the Atlanta Quartermaster Office of the Fourth Corps Area. Limited funds were appropriated, however, to improve or even maintain the parcel for the first five years of War Department administration.[64]

It was not until June 8, 1931, that the Acting Inspector General was able to visit the site. Alarmed at its condition, the Inspector General recommended that a caretaker be appointed to manage the site; that a survey be conducted and the boundaries marked and fenced; and that the Illinois Monument be cleaned and repaired to address damage from previous vandalism (Figure 30).[65] To accommodate these recommendations, a $500 appropriation was allocated to hire a part-time caretaker for the site in 1932, and to estimate the cost of surveying, fencing, and repairs. Another $500 was dedicated to repairing the monument.

FIGURE 30. The Illinois Monument, circa 1930s, from the northwest. Note linear pile of rocks used to mark the location of earthworks in the foreground.

The War Department also determined the need for a new approach road, fences, and a gate that would facilitate access to the site.[66] In response, the War Department built a three-quarter mile long entrance road in 1932, from John Ward Road south-southeast toward the vicinity of the Illinois Monument, traversing the open field that the Union soldiers had crossed when attacking the Confederate positions (refer to Figure 35 below). A fence was built along portions of the site boundary to mark the limits of government property. Also in 1932, Benjamin Jones, the son of Reverend Jones, was hired as caretaker; he was allowed to inhabit the buildings on the site and to cultivate "thirty acres of the lowlands" as payment for his services.[67]

At the time of the Inspector General's second inspection of the site in June 1933, he recommended additions and changes to the site, including completion of the boundary fencing, construction of a better road, clearing of underbrush around the monuments and trenches, and at least partial restoration of the earthworks.[68] These recommendations were not specifically carried out as the property, along with all of the

62. Ibid., 7.
63. Ibid., 7; National Park Service, *Long-Range Interpretive Plan,* Legislative Background section.
64. Capps, 7.
65. Ibid., 7, citing Report of Inspection by William S. Browning, Acting Inspector General, June 9, 1931, War Department Records, R.G. 79, Box 43.
66. Ibid., 7–8, citing Lt. Col. James M. Laubach, Quartermaster Corps to Quartermaster, November 11, 1931; George Dern, Secretary of War to Representative Malcolm Tarver, July 3, 1933; War Department Records, R.G. 79, Box 43.
67. Blythe, et al., citing Letter from Maj. W. J. Calvert, Quartermaster Corps, Assistant, to Benjamin F. Jones, April 13, 1932.
68. Capps, 8, citing Report of Inspection by Inspector General, June 5, 1933, War Department Records, R.G. 79, Box 43.

War Department's historic sites, was transferred to the administrative responsibility of the National Park Service effective August 10, 1933, in accordance with Executive Order 6166 dated June 10, 1933.

National Park Service Administration and the New Deal Era, 1933–1942

The National Park Service and the Civil Works Administration. The 60-acre battlefield parcel at Cheatham Hill, referred to as the Kennesaw Mountain National Battlefield Site, was transferred to the administration of the National Park Service (NPS) in 1933 as part of this larger reorganization of federal parks. One of the first actions taken by the National Park Service was to construct a new approach route from Dallas Highway to the Illinois Monument and Cheatham Hill parcel (refer to Figure 330 in the Analysis and Evaluation chapter). Acquisition of a 60-foot-wide right-of-way was proposed across property owned by the Channell family, to extend the half mile from Dallas Highway to the Cheatham Hill parcel.[69]

In January 1934, the Cheatham Hill parcel was inspected by forester A. Robert Thompson. Thompson found that the ridgeline was covered by sparse forest with no undergrowth. The open fields were partially cultivated but otherwise covered with broom sedge and Johnson grass, with small stands of loblolly pine. The bed of Ward Creek was heavily eroded.[70]

Another inspection occurred in March 1934, conducted by landscape architect Kenneth Simmons. Based on his report, NPS undertook a re-grading and erosion control project starting in April 1934. Thirty acres previously cultivated by the resident caretaker were plowed and seeded with cowpeas. Along the east branch of Noses Creek, 150 truckloads of rock were placed to build riprap walls for 420 linear feet as an erosion control measure. Honeysuckle was planted adjacent to the riprap wall. Due to erosion near the caretaker's house, a significant area was filled, graded, and re-sodded. Old agricultural terraces on hillsides were removed, and some new terracing to improve drainage was installed. Native plant species, such as chokeberry, ferns, white azalea, trillium, and euonymus, were collected and planted near the Illinois Monument. In April 1935, the 30 acres were re-plowed and permanently seeded with turf grass. The entire project was complete by June 1935.[71]

Much of this work was contracted through the Civil Works Administration (CWA), which focused on repairing former agricultural lands after acquisition by the National Park Service.[72] The CWA reported clearing fire hazards from the 60 acre parcel, the construction of thirty-seven stone erosion control dams, the filling of 6,000 square yards of heavily eroded areas, the construction of 620 yards of trails in the Cheatham Hill area, and the planting of trees such as pine, cedar, sweet shrubs, black haws, and sumac. The CWA also planted honeysuckle on the Confederate trenches near the Illinois Monument.[73]

A grave of an unidentified U.S. soldier was discovered by CWA laborers in 1934 while clearing vegetation. The origin of the marker for this grave is not currently known, but it was likely placed during the 1930s, based on its design. This site is the only known interment associated with the Battle of Kennesaw Mountain within the park, though others are suspected to exist.

69. Capps, 15, citing Associate Directory A. E. Demaray to Superintendent Randolph, October 23, 1933; Randolph to Demaray, November 1, 1933; NPS Central Classified Files, 1939–1949, R.G. 79, Box 2586.
70. Ibid., citing Report of A. Robert Thompson, Forester to Director, January 30, 1934, NPS Central Classified Files, 1939–1949, R.G. 79, Box 2586.
71. Charles W. Griscom, Associate Engineer, *Final Construction Report on Improvement of Grounds, Seeding, Fertilizing and Planting, Kennesaw Mountain National Battlefield Site, FP-403 Force Account,* March 24, 1936.
72. Blythe et al., 70.
73. Capps, 16, citing Report of Civil Works Administration Work, Oswald Camp to Randolph, April 25, 1934, NPS Central Classified Files, 1939–1949, R.G. 79, Box 2594. By the 1960s, honeysuckle was identified as an invasive species, and removal efforts began.

Richard B. Randolph, Superintendent of Chickamauga and Chattanooga National Military, who was charged with administering Kennesaw National Battlefield Park shortly after the NPS assumed control of the park, inspected the site in 1935. Following his inspection, Randolph announced that a program of improvement of the grounds had begun. In 1937, the Cheatham Hill parking lot, built in 1934 at a site south of the Illinois Monument, was relocated to a site north of the monument. A ranger building near the parking lot was also relocated and repaired at this time (Figure 31).

FIGURE 31. The initial ranger building at the Cheatham Hill parking lot, circa 1934.

Establishment of the National Battlefield Park and Land Acquisition. In 1935, the concept of establishing a national military park at Kennesaw became a reality when legislation officially established the site as Kennesaw Mountain National Battlefield Park. The legislated boundaries extended well beyond the original 60-acre parcel to include Big Kennesaw and Little Kennesaw mountains and other significant portions of the battlefield. Funds were appropriated for land acquisition, and development of the park began. Plans for the new park included winding trails and drives, additional commemorative monuments, and general beautification of the property.[74] The designated purpose of the national battlefield park was to:

> Provide for the ascertainment and marking of the route of the Union and Confederate armies from Chattanooga, Tennessee, through Georgia, and of principal battle lines, breastworks, fortifications, and other historical features along such route, and for the maintenance of such markers to such extent as deemed advisable and practicable.[75]

Land acquisition for the park began in 1936. The land acquisition process was controversial. Individual landowners held out for high values, and the government proceeded with condemnation suits. By January 1939, approximately 1,920 acres had been acquired, but the initial funding had been exhausted. National Park Service officials were concerned that key parcels still remained in private ownership, and that the acquired property fell far short of the 3,000 to 3,600 acres considered essential.[76] Congress appropriated additional funds in August 1939, and with the resulting purchases and condemnations, the park's size increased to 3,000 acres to approximate its current boundaries by July 1941, when land acquisition ended. Due to the limited amount of funding available, land purchases focused on ridgelines where intact Civil War earthworks survived and where land values were lowest; by avoiding the low-lying valleys local farm families would not be displaced.[77]

Civilian Conservation Corps. The Civilian Conservation Corps (CCC), initially known as the Emergency Conservation Work (ECW) program, was established on March 31, 1933, under the Federal Unemployment Relief Act. The goal of the CCC was to mobilize unemployed labor forces to perform work such as reforestation, land reclamation, and the building of roads and trails. The National Park System, as well as many state parks, were the beneficiaries of much of the CCC

74. Ibid., 8, citing *Cobb County Times*, June 27, 1935.

75. 16 USC sec. 430 from National Park Service, Team Draft *Long-Range Interpretive Plan*, Legislation section.

76. Capps, 12, citing Memorandum, B. C. Yates to Director, January 3, 1939; Tarver to Acting Director A. E. Demaray, January 10, 1939; Director Arno B. Cammerer to Tarver, January 31, 1939; NPS Central Files, R.G. 79, Box 81.

77. Ibid., 13, citing Assistant Interior Secretary E. K. Burlew to Harold D. Smith, Director of the Bureau of the Budget, November 11, 1939; NPS Central Files, R.G. 79, Box 81.

work. By October 1933, the National Park Service operated 102 camps in national parks.[78]

In 1938, a CCC camp was established at Kennesaw Mountain National Battlefield Park. The circular 60-acre camp site, called Camp T. M. Brumby, was established east of Kennesaw Mountain just south of U.S. Highway 41 (Figure 32). It consisted of twenty-two wooden structures placed on concrete and brick foundation piers. Many of the structures were complete by April.[79] The CCC workers arrived at Kennesaw Mountain on June 3, 1938.[80]

FIGURE 32. The CCC camp at Kennesaw.

Continuing the efforts begun by the CWA, the CCC enrollees worked to control erosion and revegetate former agricultural land. However, the soil conservation and revegetation efforts of the CCC were not directed by any plan to restore the 1864 landscape, and much of the park began to revert to successional woodland during this period.[81] Near Cheatham Hill, 25,000 trees were planted by the CCC (Figure 34), while other tree planting efforts occurred in other areas of the park.[82] The surviving Civil War earthworks at Cheatham Hill, which had been stripped of vegetation during War Department administration, were protected by grass and ground cover plantings.[83]

Roads and trails were graded throughout the park, and ditches were improved and planted with grass. Trails established at Cheatham Hill by the CWA were expanded by the CCC to reach Big and Little Kennesaw mountains, as more property was acquired by the park.

In 1939, the CCC began to renovate the Hyde House, a late nineteenth-century two-story wood-frame former residence within the park, for use as a temporary visitor center, museum, and park headquarters (Figure 33). Some former farmhouses in the park were renovated for use as park employee housing, while other structures post-dating the Civil War were demolished, including agricultural buildings and stone field terracing.[84]

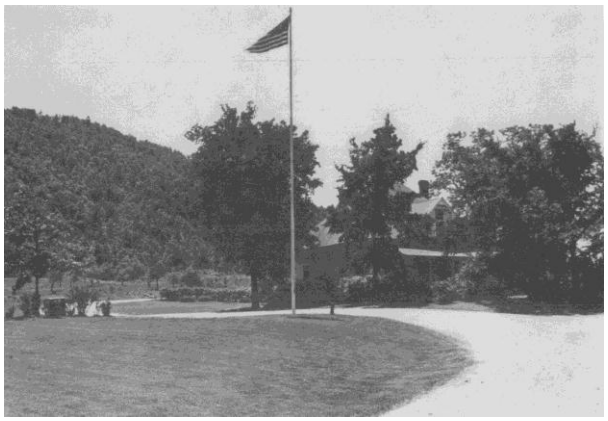


FIGURE 33. The Hyde House, used as the park headquarters between 1939 and 1964, circa 1939.

In October 1939, the CCC opened a quarry on Kennesaw Mountain to provide material for road grading projects. The first CCC road project, conducted in March 1940, was the construction of the entrance road from Dallas Highway to the 60-acre Cheatham Hill parcel. The road design, prepared by National Park Service in February 1939, featured a curvilinear route that passed behind the Confederate earthworks to a terminus near Mebane's Redoubt (Figure 35).

78. Blythe et al., 65–69.
79. Capps, 17, citing *Cobb County Times,* "Work Progresses on CCC Camp," April 21, 1938; *Cobb County Times,* "110 CCC Boys Arrive at Marietta Camp," June 2, 1938; Acting Regional Director H. R. Roberts to Director, September 23, 1938, NPS Central Classified Files, 1939–1949, R.G. 79, Box 2595.
80. Blythe et al., 71.
81. Ibid., 76.
82. Ibid., 72.
83. Ibid., 71–72.
84. Ibid., 74; Capps, 17.

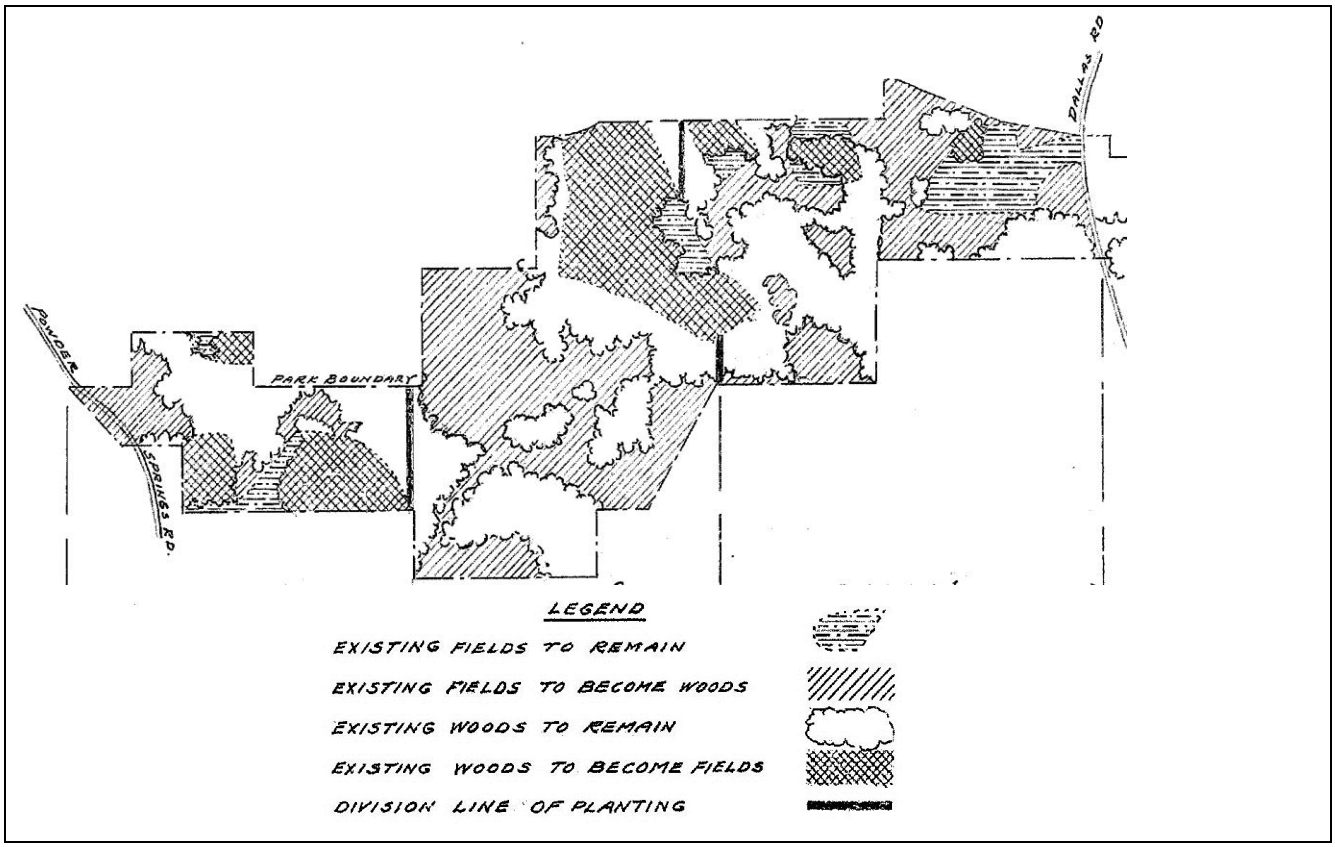


FIGURE 34. Areas designated for planting by the CCC in the park. North is to the right in this plan, which covers the southern portion of the park including Cheatham Hill. NPS drawing 352-8007, August 26, 1939.

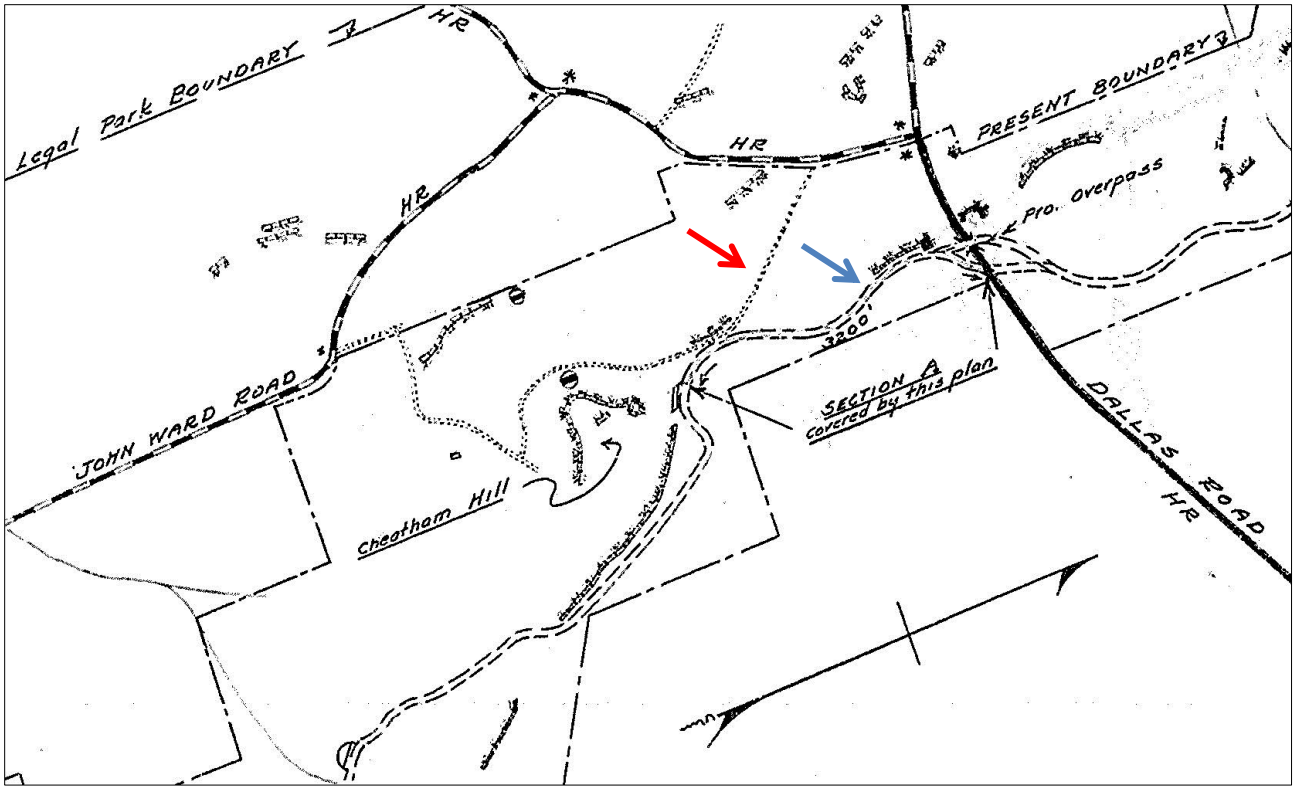


FIGURE 35. Detail of a park road plan, showing old (red arrow) and new (blue arrow) access roads to Cheatham Hill. NPS drawing 352-8004, February 11, 1939.

The gravel-surfaced road terminated at a 160 by 100 foot parking lot. Engineering features included culverts to convey storm water beneath the road from ditches established on the uphill side. Stone headwalls marked the locations of the culverts. The road was opened for use in March 1941, and was paved by a crew from Great Smoky Mountains National Park in June of the same year.[85]

In 1940, development of the park utility complex began just south of Stilesboro Road at the foot of Kennesaw Mountain. To supply water for the park facilities, a 20,000 gallon storage tank was built on the north slope of Kennesaw Mountain.[86]

In October 1940, the CCC began construction on three maintenance buildings north of the designated park headquarters area; these structures, including the brick Equipment Storage Building and Motor Repair Shop and a metal oil house, were completed in August 1941 (Figure 36). The CCC also constructed eight brick park entrance signs with cast iron plaques at the intersection of the park boundary with public roads in 1941.[87]

FIGURE 36. Construction of the utility buildings, 1941.

CCC labor was also used to re-slope and plant grass in the ditches and on the shoulders of (Old) U.S. Highway 41, Stilesboro, Burnt Hickory, and Dallas Highway roads.[88]

The road built in the 1920s on Kennesaw Mountain for the planned hotel was also improved. Starting in 1939, NPS began to consider how the road could be sufficiently improved to be opened to the public. In January 1941, the Regional Engineer visited the site and recommended widening of the drainage ditches, installation of cross-drains and rock fill, stabilization of mountain slopes, and construction of a guard wall. He also recommended that the new road terminate 100 feet below the crest, rather than at the existing location 60 feet below the summit, to better accommodate a parking area and turnaround. Work on the road began in 1941, although the park continued to debate how it would function. Some suggested using a bus system to convey visitors to the top. The CCC quarry was proposed for use as a bus garage and a shelter, picnic area, and comfort station site. After the United States entered World War II in December 1941, the CCC program was terminated, the park lost its labor force, the road was left incomplete, and none of the proposed improvements in the quarry area were developed. Over the course of the next eight years, the National Park Service continued to maintain the road as possible, grading and cleaning out the ditches, clearing culverts, and removing large rocks. The road continued to be used by hikers and as a fire road but was not open to public vehicles.[89]

In 1939, a master plan was developed by the National Park Service to guide park development.

85. Blythe et al., 73–74; Capps, 18, citing *Marietta Journal,* "Kennesaw Park Road Work Begins," March 11, 1940; Monthly Reports, March 1940, June 1941, NPS Central Classified Files, 1939–1949, R.G. 79, Box 2588.
86. Capps, 17.
87. Blythe et al., 76.
88. Capps, 18, citing B. C. Yates, *History of Kennesaw Mountain National Battlefield Park, February 1941–February 1948* (National Park Service, 1948), 2–3; Yates to Director, October 22, 1940; Monthly Reports June–August 1939, NPS Central Classified Files, 1939–1949, R.G. 79, Box 2588.
89. Ibid., 19, citing Monthly Reports, November 1943, May 1944, November 1946, January 1947, NPS Central Classified Files, 1939–1949, R.G. 79, Box 2588; Newton Drury to Representative James C. Davis, March 15, 1948, NPS Central Classified Files, 1939–1949, R.G. 79, Box 2594.

The master plan suggested construction of a closed loop road for tours of the park, including overpasses where the tour road crossed county roads, and identified areas of existing forest cover to be cleared and open fields to be planted, in order to reestablish the pattern of fields and forest that existed in 1864. The master plan recommended that open fields in the vicinity of buildings and developed areas be sodded with mown grass, while larger fields providing interpretive vistas were suggested for agricultural leases. The master plan also recommended that fortifications be planted to limit erosion. However, removal of agricultural terraces that postdated the battle was recommended to avoid confusion with the historic earthworks.[90] The master plan recommended a location for a future permanent visitor center to be "of the antebellum type so as to enhance the atmosphere of the period which is portrayed at the park."[91] However, much of the proposed work was never implemented.

The master plan included a map showing existing ground cover at the time (1940), which showed more open fields than exist at present. For example, at the Cheatham Hill parcel, the open field below the Illinois Monument extended northward and connected to other open fields along John Ward Road.

With the entry of the United States into World War II, CCC work came to a halt. The CCC camp at Kennesaw Mountain was closed in March 1942 as Congress began to phase out funding for the program. In 1960, the abandoned CCC camp buildings were demolished.

90. "General Development Plan, Part of the Master Plan, Kennesaw Mountain National Battlefield Park, Sheet No. 7, January 1941 Edition." Narrative accompanying the plan sheet, reproduced in the Mission 66 master plan.
91. Ibid., Sheet No. 9.

The Mission 66 Era and Recent Developments, 1945 to present

World War II and a lack of funding for national parks in the immediate postwar years delayed completion of the projects begun during the CCC years at Kennesaw. Finally in the winter of 1950–1951, using county funds and a federal grant, Cobb County workers completed the road to the top of Kennesaw Mountain and created a fifteen car parking lot at the summit (Figure 37).[92] The road was opened to the public at this time. Compared to earlier master planning documents, the alignment of the road was modified slightly when the detailed plans for the 1950 work were prepared.[93] No other major planning or construction efforts are known to have occurred in the park during this time.

FIGURE 37. The Kennesaw Mountain road, 1951.

92. Capps, 20, citing *Cobb County Times*, "Road to Top of Kennesaw Mountain to be Opened This Winter," August 24, 1950; *Marietta Journal,* "Seek U.S. Aid for Road Up Kennesaw," August 24, 1950; *Cobb County Times,* "Chamber of Commerce Demands Immediate Work on Road to Kennesaw Mountain," December 7, 1950; *Cobb County Times,* "County Begins Construction on Road to Kennesaw Mountain," January 18, 1951.
93. NPS drawing 352-5310, "Plans for Proposed Big Kennesaw Mountain Road," dated August 31, 1950.

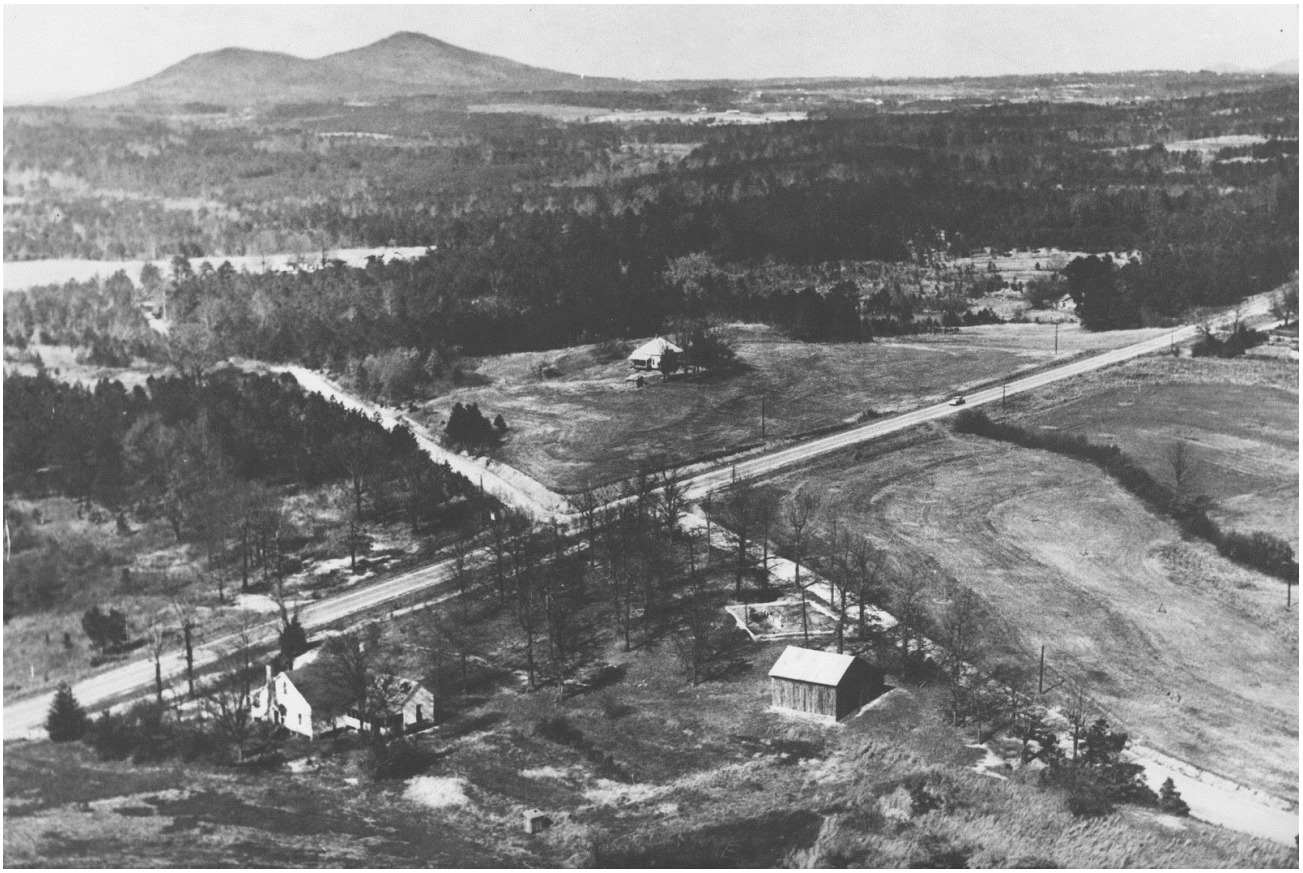


FIGURE 38. Undated aerial view, circa 1940s–1950s. The Kolb House is in the foreground at left. Big and Little Kennesaw are visible in the distance.

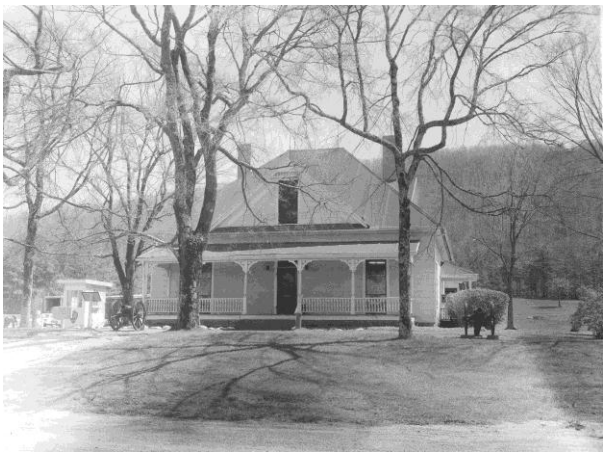


FIGURE 39. The Hyde House, April 1959. Note cannon placed in front of the house and an adjacent fee collection booth.

Mission 66. Under the Mission 66 program, development of park facilities and restoration of historic resources resumed at Kennesaw. The Mission 66 work at the park was guided by a new master plan prepared in 1961.[94] The Mission 66 master plan noted that the most significant resource of the park was "the historic ground itself" and that "the well preserved earthworks, the forest typical of North Georgia and the fields restored to the boundaries of the Sixties all enable the visitor to understand and appreciate" the battle.[95] The master plan recommended acquiring, through purchase or exchange, the inholding parcels where low-lying agricultural land had not originally been purchased; connecting the park road system directly to U.S. Highway 41 to improve visitor access; the clearance of vistas to depict the fields of fire from the earthworks, as existed in 1864; restoration of the exterior of the Kolb House; construction of a new visitor center and two employee residences; and improvements to roads and trails.

94. *Master Plan for Kennesaw Mountain National Battlefield Park, Mission 66 Edition* (National Park Service, October 1961).
95. Ibid.

In 1963, the circa 1830s Peter Valentine Kolb House was restored to its June 1864 exterior appearance, to coincide with the time when it served as Union Maj. Gen. Joseph Hooker's headquarters (Figure 40 and Figure 41). The work was guided by a Historic Structure Report prepared by the National Park Service that drew on interviews conducted by Superintendent Bowling C. Yates, Jr., with surviving family members during the 1940s.[96] The interior was adaptively reused as park employee housing. As part of the project, the original interior log partition walls and ceiling joists were left in place but were furred out and covered with gypsum board; partition walls to create a bathroom and closet space were also added. While fireplace openings were boarded up on the interior, intact original interior doors and window sash were retained and repaired, supplemented as needed with new replica doors and windows.[97]

FIGURE 40. The Kolb House as it appeared when acquired by National Park Service, 1941.

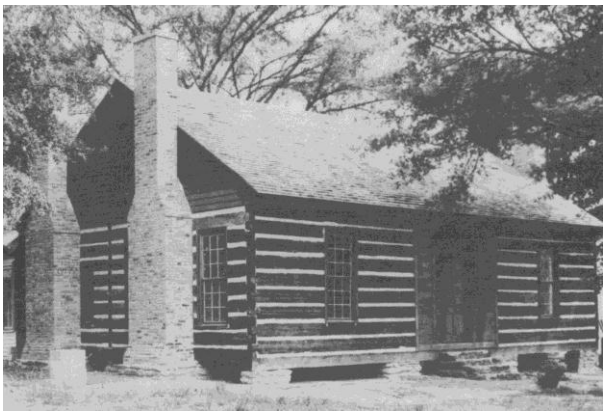


FIGURE 41. The Kolb House after its restoration, 1963.

The Mission 66 era also saw improvements to the roads in the park. Cobb County paved Ridenour and John Ward roads in February 1963, eliminating the last dirt roads crossing through the park. In July 1963, the road to the summit of Kennesaw Mountain and the Cheatham Hill road were resurfaced with asphalt and gravel. New boundary and entrance signs were placed beside the newly paved roads. [98]

Construction of a permanent visitor center began in July 1963 and was completed and occupied by park staff on May 8, 1964 (Figure 42 and Figure 43).[99] The design for the building was developed by Francis P. Smith and Henry H. Smith Architects of Atlanta, Georgia, with working drawings prepared by the National Park Service Eastern Office of Design and Construction.[100] The brick building was comprised of four hexagonal components in plan topped by shallow gable roofs. The largest component contained the lobby and an auditorium. An exhibition space was situated to the east of the lobby, with park offices and restrooms located to the west. A slate-paved terrace enclosed on three sides by the visitor center included three small planting beds. During the project, the park also installed a new sewage system and drain field. In 1965, the area around the visitor center was planted with shade trees and ornamental shrubs. Tree species included

96. Capps, 22.
97. NPS drawing 352-3005, dated February 2, 1963, marked "Working Drawing."
98. Capps, 24, citing Monthly Reports, February 1963, July 1963, November 1963, February 1964.
99. Richard H. Boyer, Superintendent, "Completion Report for Construction of Visitor Center and Utilities," November 2, 1964.
100. NPS drawing 352-3010B, dated May 9, 1963, marked "Working Drawings."

sourwood (*Oxydendrum arboreum*), white oak (*Quercus alba*), scarlet oak (*Q. coccinea*), white pine (*Pinus strobus*), loblolly pine (*P. tæda*), flowering dogwood (*Cornus florida*), and crape myrtle (*Lagerstroemia indica*). Ornamental species included apple blossom/coral bell (*Rhododendron obtusum*), creeping cotoneaster (*Cotoneaster adpressa*), little leaf jap holly (*Ilex crenata* var. *microphylla*), dwarf yaupon holly (*I. vomitoria* var. *Nana*), mountain laurel (*Kalmia latifolia*), mountain pieris (*Pieris floribunda*), globe mugho pine (*Pinus mugo* var. *mughus compacta*), laland pyracantha (*Pyracantha coccinea* var. *Lalandi*), catawba rhododendron (*R. catawbiense*), and narrow-leafed plantain lily (*Hosta lancifolia* var. *Minor*).[101]

FIGURE 42. The visitor center under construction, 1964.

FIGURE 43. The newly completed visitor center at Kennesaw Mountain National Battlefield Park, circa 1965. Note the older parking area in the foreground, which was removed in 1966 when a new parking area was created west of the building.

101. NPS drawing 352-3015C, dated March 8, 1965, marked "As-Constructed," October 6, 1965.

With the completion of the new visitor center, the Hyde House, which had served as a visitor center since the 1930s, was demolished in June 1964.[102]

In 1966, the previous access roads and parking area near the visitor center were removed and replaced with new parking and access to the west of the building, and pedestrian paths including brick and concrete entrance steps and retaining walls were built.[103] The new parking area opened in August 1966.[104] As part of the construction of the parking lot, numerous shade and ornamental trees were planted in the area surrounding the parking lot, including white oak, southern red oak (*Quercus falcata*), American holly (*Ilex opaca*), flowering dogwood, eastern redbud (*Cercis canadensis*), white pine, black tupelo (*Nyssa sylvatica*), and red maple (*Acer rubrum*). Dwarf yaupon holly was planted as an ornamental hedge where the sidewalk to the visitor center met the parking lot. A gate was placed across the road leading to the summit of Kennesaw Mountain at this time.[105] The work was completed by October 1966.[106]

Near the visitor center, two staff residences were built, completed in March 1965.[107] The residences were based on a standard design prepared by the National Park Service Eastern Office of Design & Construction.[108] Adjacent to the residences, newly planted trees included flowering dogwood and eastern redbud, while ornamental shrubs included catawba rhododendron, mountain laurel, mountain pieris, yaupon, and dwarf yaupon, as well as English ivy (*Hedera helix*) as a ground cover.[109] An oil house was constructed near the staff residences in 1966.[110] At about the same time, proposals were made to plant similar ornamental

102. Capps, 61.
103. NPS drawing set 352-3022C, marked "As Built Drawing," August 1966.
104. Capps, 62.
105. NPS drawing 352-3036A, dated July 1966, marked "As-Constructed Drawing," August 6, 1967.
106. Capps, 23.
107. Ibid., 23.
108. NPS drawing EODC-3016D, "Employee's Residence: Various Parks," October 1963.
109. NPS drawing 352-3021, marked "Working Drawing," dated September 10, 1965.
110. Capps, 23.

species adjacent around the Kolb House within the post-and-rail fencing; it is not known if these proposals were ever implemented.[111]

In June 1964, the Georgia Centennial Hall of Fame Committee completed a granite overlook at the top of Kennesaw Mountain dedicated to the memory of fourteen Confederate generals from Georgia. The parking lot at the summit of the mountain was also expanded to accommodate thirty-three cars. At the same time, a 0.20 mile trail from the parking lot at the end of the drive to the summit of Kennesaw Mountain was paved. Unfortunately, rushed construction and poor workmanship led to rapid deterioration of the structure and portions of the overlook were closed by 1966 due to safety concerns.[112] In late 1966, the National Park Service prepared plans for a new overlook featuring stone retaining walls, benches, and interpretive signage and audio; however, this plan was apparently never implemented.[113]

Around the time of the Civil War centennial, the State of Georgia erected a monument to the Georgia soldiers killed in the battle alongside the road from the visitor center to the summit. The Georgia Memorial was dedicated on August 16, 1963. The next year, the State of Texas placed a monument in the Cheatham Hill area of the park.[114]

Trails were also developed in the park during the Mission 66 era between 1965 and 1968, including trails from the new visitor center to the top of Kennesaw Mountain, and from Kennesaw Mountain to Little Kennesaw Mountain. Construction of these trails involved removal of trees and undergrowth, grading, and erosion control. As part of this work, the 20-mile Boy Scout hiking trail, originally marked in 1963, was re-routed to avoid sharing automobile roads for 10 miles of its length. The trails received new footbridges in 1972.[115]

Further Improvements and Repairs, 1970–2012. After 1970, the emphasis of park planning shifted to maintenance and upgrading of existing park facilities, rather than new development. The road to the summit of Kennesaw Mountain was resurfaced in 1972, and the remaining primary park roads and parking areas were resurfaced in 1976. The resurfacing included some filling of eroded shoulders and re-seeding with grass.[116]

Traffic quickly became a problem on Kennesaw Mountain Road. By 1974, an average of 1,000 cars traveled the road on a busy Sunday. As the number of cars exceeded the thirty-three available parking spaces at the top, people began to park along the road, further restricting traffic. Numerous accidents were reported, and park police spent many hours addressing traffic concerns on the weekends. In an attempt to solve some of these problems, the park decided to control access to the mountain by establishing a bus service. Private automobile use was restricted on the weekends and visitors were offered the bus service instead. This eliminated the congestion and parking problems, and the increased presence of park personnel also served to diminish looting and littering.[117]

In 1974, the maintenance buildings were expanded when an L-shaped addition was constructed connecting the two 1941 buildings.

In 1978, the non-historic Gilbert House, which sat across the street from the intersection of Stilesboro Road and Mosey Rock Road, in the park was demolished, and the site was graded and seeded with grass. In 1979, the roof of the visitor center was replaced.

111. NPS drawing 352-3020A, marked "Working Drawing," dated January 1, 1965.
112. Ibid., 23, 24.
113. NPS drawing 352-3038, marked "Working Drawing," dated November 1966.
114. Blythe et al., 80; Capps, 24.
115. Capps, 24, citing Monthly Reports, April 1964, April 1965, May 1966, November 1966, March 1967; Annual Report, 1972; *Marietta Daily Journal,* "Scouts Map 20 Mile Trail at Park," June 9, 1963.
116. Ibid., 24–25.
117. Ibid., 51.

In 1981, the overlook at the top of Kennesaw Mountain was restored and fully reopened to the public. In 1982, earthworks at Kennesaw Mountain, Pigeon Hill, and Cheatham Hill were fertilized and re-seeded with grass. Other work in the 1970s and 1980s involved marking the park boundary; erection of historic-style wood fencing; installation of new interpretive signage; and the placement of a cannon on the battlefield.[118] Vista clearance was performed at the top of Kennesaw Mountain, including removal of low brush at areas near the parking area and along the trail. Also, three to four areas were cleared along the mountain drive along the route to the parking area. These areas included the curve of the road in the saddle between the peaks of Big and Little Kennesaw as well as along the road in its approach on the eastern slope of the mountain. By the 1970s, it was noted that natural tree re-growth on the historic earthworks had become problematic and that tree removal followed by installation of sod to protect the earthworks should be planned. It was also noted that visitor activities contributed to erosion of some of the earthworks.[119]

In 1985, the Neighbour Marker was replaced with a replica of the original marker, which had disappeared prior to the 1980s.

Although the setting of the park was largely rural when it was established, pressure on the park from suburban development in Cobb County began to increase in the 1970s and 1980s. Subdivision of some of the 800 acres on private parcels located adjacent to the park began in the mid-1970s, mostly for use for residential development. These new developments sometimes led to issues of boundary encroachment and aesthetic incompatibility. Land prices of $5,000 to $15,000 per acre made acquisition by the National Park Service prohibitively expensive.[120] The park attempted to work with local officials to ensure that the zoning of adjacent property was compatible with the historic scene of the park and intensive commercial development was avoided.

Cobb County widened Powder Springs Road to four lanes in 1984, which required minor easements on National Park Service land for shoulders and drainage swales.[121] Subsequently, in 1985, the Georgia Department of Transportation (GDOT) proposed to widen Dallas Highway through the park to four lanes. Concerned about the impact of these projects on the historic resources in the park, the National Park Service began a years-long discussion of the project with the GDOT, leading to numerous re-designs.[122] The road remains two lanes wide within the park to this day.

In 1991, the eagle atop the Illinois Monument was replaced, due to lightning damage sustained in 1984. The eagle was repaired by the Georgia Marble Company which had constructed the monument in 1914.

In 1993, the public roadways in the park from Stilesboro Road to the summit of Kennesaw Mountain, including visitor parking areas, were seal coated with asphalt.[123]

In 1997–1999, the visitor center was renovated and expanded, nearly doubling the size of the building. The new portion of the building, clad in brick and stucco similar to that on the original visitor center, contained public restrooms, a high-ceilinged entrance hall and lobby that overlooked Stilesboro Road, a reception desk, and a bookstore. The exhibit and interpretive space was also expanded. The original auditorium remained intact but received new acoustical wall covering, while the original lobby space was renovated and became mechanical space. In the original office portion of the building, the interior partitions were removed, and the internal layout was reconfigured. Concrete sidewalks, the entrance plaza, and decorative plantings adjacent to the building were removed, and small-scale features such as signage, a flagpole, and Civil War-era cannon were relocated. A new concrete sidewalk edged by wooden split-rail

118. Ibid., 25, 64.
119. *Historic Resource Management Plan for Kennesaw Mountain National Battlefield Park* (National Park Service, 1977), II:3, II:7.
120. *Natural Resource Management Plan: Kennesaw Mountain National Battlefield Park* (National Park Service, December 1976),11.
121. Capps, 54–55.
122. Ibid., 55–56.
123. NPS drawing 352-80013 dated March 7, 1993.

fencing was built along the parking access road from the visitor center to Stilesboro Road. In the parking lot, portions of the paving were removed to create a transverse pedestrian path and planting areas. New curvilinear concrete sidewalks and an exterior terrace were constructed. New trees and decorative plantings added adjacent to the visitor center included one witchhazel (*Hamamelis virginiana*), three black tupelo, six Florida flame azaleas (*Rhododendron austrinum*), three annabelle hydrangea (*Hydrangea arborescens* var. *Annabelle*), eighty dwarf fothergilla (*Fothergilla gardenii*), eighteen leucothoe (*Leucothoe axillaris*), thirty-eight mountain fire pieris (*Pieris japonica* var. *Mountain Fire*), and seventeen dwarf inkberry (*Ilex glabra* var. *Shamrock*). Creeping wintergreen (*Gaultheria procumbens*) was planted as a ground cover near the exterior terrace, with other disturbed areas infilled with turf grass. The new plantings were concentrated between the visitor center and the parking area, and along the north side of the addition; existing trees and other plantings south and east of the visitor center were left in place.[124]

In 2001, the park roadways were renovated, including new asphalt paving, localized areas of new concrete curbs and gutters, and drainage improvements. The work included the public roads and parking areas at the visitor center and the summit of Kennesaw Mountain as well as the Cheatham Hill drive and parking area.[125]

The Wallis House and the adjacent Harriston Hill were threatened in 2003 by a proposed forty-three-unit residential subdivision. The house remained in the hands of family descendants at the time but they were found to be interested in selling the property. As part of a strategy devised to protect the parcel for its historic significance, the Cobb Land Trust negotiated with the developer and worked with the Cobb County Board of Commissioners to acquire a 1.3 acre parcel, while the county subsequently purchased an adjacent 6 acres with green space funds designated by the State of Georgia. Together, the parcels included the Wallis House and Harriston Hill. Developer Robert Harris Homes has since developed the adjacent area. However, the developer constructed a ten-space parking lot on the Cobb Land Trust property to facilitate access to dedicated green space and the Wallis Farm subdivision entrance. A sidewalk is planned to connect the parking area with the Wallis House property once it is incorporated into Kennesaw Mountain National Battlefield Park.[126] Cobb County plans to retain ownership of the property until the U. S. Congress authorizes the National Park Service to accept the property as part of the park.[127] Congress must first approve a boundary expansion to include the structure, which does not abut park lands currently in federal ownership.

Beginning in 2009, several automatic gates were installed throughout the park. The gates, which are composed of stone piers and powder-coated aluminum gates, are situated at several parking lots and park entrances, including the visitor center parking lot, the overflow parking lot, the entrance at Cheatham Hill Drive and the parking lot at Cheatham Hill Road.

In 2011, a parking area along Cheatham Hill Road was expanded to allow parking for seventy-two vehicles.[128] The Burnt Hickory parking lot was expanded to include seventy-two parking stalls in February 2012. Also in 2012, native hardwoods were planted in Peel Field to allow the landscape to grow back to its natural state.

124. NPS drawing 352-80016, "Kennesaw Mountain National Battlefield Park Visitor's Center: Renovation and Expansion," by architects Surber Barber Choate & Hertlein, dated June 13, 1997, marked "Issued for Construction."
125. NPS drawing 352-41903A dated June 25, 2001, marked "As-built."
126. The Cobb Land Trust, "Wallis Farm," http://www.cobblandtrust.org/html/wallis.htm (accessed September 28, 2011).
127. Cobb Landmarks and Historical Society, "Wallis House; Burnt Hickory Road, Marietta," http://www.cobblandmarks.com/wallis.php (accessed September 28, 2011). Cobb Landmarks and Cobb County's Historic Preservation Commission partnered with Georgia State University's Heritage Preservation Program, whose graduate students provided a conditions assessment report on the property including recommendations for short term maintenance.
128. NPS Drawing, "Plans for Proposed Cheatham Hill Road Parking Area Improvements," dated December 6, 2010.

Kennesaw National Battlefield Park Chronology	
1864	May 7: Union forces under Sherman moved out from Chattanooga, opening the Atlanta campaign.
1864	May–June: In a series of battles, the Union forces pushed the Confederates south to a line 30 miles northwest of Atlanta.
1864	May–June: Confederate Lt. Col. S. W. Presstman laid out the defensive lines around Kennesaw Mountain.
1864	June 18–19: Confederate forces fell back to the prepared line around Kennesaw Mountain.
1864	June 22: Battle of Kolb's Farm.
1864	June 27: Battle of Kennesaw Mountain.
1864	July 2: Outflanked by Sherman's Union forces, Confederates withdrew from Kennesaw Mountain lines to Smyrna Station, four miles southeast of Marietta.
1864	July 9: Confederates withdrew to outer defenses of Atlanta.
1864	September 1: Confederates abandoned Atlanta.
1865	After the Civil War, agricultural use of the battlefield resumed.
1887	Veterans hold blue-gray reunion held at Kennesaw Mountain.
1899	Lansing J. Dawdy, a veteran of the 86th Illinois Regiment, purchases a 60-acre parcel at Cheatham Hill.
1914	Illinois Monument dedicated at Cheatham Hill. Also at about this time, a masonry arch was built marking the entrance to the Union Tunnel and the McCook Brigade Marker, Coffey Marker, and Fellows Marker were erected.
1917	Public Law 39 Stat. 901: Congress authorized the 60-acre Cheatham Hill parcel for designation as a national battlefield.
1920s	Kennesaw Mountain Association, a private development company, built a road to the top of Kennesaw Mountain to the site of a proposed hotel.
1926	Public Law 44 Stat. 588: Federal commission surveyed Civil War battlefields of northern Georgia, including Kennesaw Mountain.
1928	Kennesaw Memorial Battlefield Association conveys 60-acre Cheatham Hill parcel to the War Department.
1933	Executive Orders 6166 and 6228: Administration of the Cheatham Hill parcel by the National Park Service began.
1935	Public Law 49 Stat. 423: Congress established Kennesaw Mountain National Battlefield Park.
1935–1938	Civil Works Administration (CWA) and Public Works Administration (PWA) funded stabilization work at the new park, primarily at the Cheatham Hill parcel, including channeling of streams and planting of ground cover on former agricultural lands was conducted.
1937–1941	Public Law 53 Stat. 1274: In late 1930s and early 1940s, federal government acquired additional property for park.
1938–1942	Civilian Conservation Corps (CCC) camp at Kennesaw Mountain. CCC workers constructed roads, erected eight park entrance signs, demolished buildings, planted trees, and guided tours within the park.
1939	CCC established a quarry on Kennesaw Mountain.
1940–1941	October 1940–August 1941: Two maintenance buildings built by CCC at Kennesaw Mountain: the Motor Repair Shop and Equipment Storage Garage.

1950	NPS completed road to the top of Kennesaw Mountain.
1960	July: CCC camp buildings demolished.
1963	Kolb House restored to its 1864 exterior appearance.
1963	Georgia Monument dedicated.
1964	May 6: New visitor center opened.
1964	The former visitor center, the Hyde House, was demolished.
1964	June: NPS completed overlook at the top of Kennesaw Mountain.
1964	Texas Monument dedicated.
1965	Two employee residences and a concrete block oilhouse completed near Visitor Center.
1965–1968	Trails constructed from the new visitor center to Kennesaw Mountain and from Kennesaw Mountain to Little Kennesaw Mountain.
1966	Portions of the overlook at the summit of Kennesaw Mountain closed for safety reasons.
1972	The road to the summit of Kennesaw Mountain was resurfaced.
1974	The maintenance buildings were expanded.
1981	The overlook at Kennesaw Mountain was restored and reopened to the public.
1991	The eagle atop the Illinois Monument was replaced due to lightning damage sustained in a 1984 storm.
1997–1999	The Visitor Center was renovated and expanded.
2001	The park roadways were repaired and repaved.
2009	Several automatic gates were installed throughout the park.
2011	A parking area along Cheatham Hill Road was expanded.

Existing Conditions

Introduction

This chapter describes through narrative text, contemporary photographs, and labeled base mapping the current conditions of the landscape associated with Kennesaw Mountain National Battlefield Park. The chapter is composed of five sections. The first section—Environmental Context and Setting—sets the park within a regional and local context that takes into consideration the larger systems that surround and encompass it. The second section—Cultural Context and Setting—describes regional elements such as major road corridors, planning and zoning districts, demographics, and local attractions that provide a cultural framework for the park. The third section—Overall Landscape Systems and Features—describes the Kennesaw Mountain National Battlefield Park as a whole. The fourth section—Landscape Character Areas—depicts the land bays that have been used to organize the site and its resources for the purposes of this report. The fifth and final section—Existing Conditions by Character Area—depicts the extant landscape features located within each character area.

Feature descriptions are organized into a series of landscape characteristic categories. Landscape characteristics include tangible and intangible aspects of a site that collectively convey its historic character and aid in the understanding of its cultural importance. They range from large-scale patterns and relationships to site details and materials. The following categories of landscape characteristics are used in the documentation of Kennesaw Mountain National Battlefield Park:

- **Natural systems and features** are the environmental resources and qualities that have influenced the development and physical form of a landscape. These include the underlying landform and topography, soils, and water resources, as well as attendant native plant communities.
- **Responses to natural resources** describe cultural responses to natural features, such as the siting and clustering of buildings and structures, the use of native materials, and other connections between the built and natural environments.
- **Patterns of spatial organization** reflect the three-dimensional organization of physical forms and visual associations in a landscape, including the articulation of ground, vertical, and overhead planes that define and create spaces.
- **Land uses and activities** illustrate the principal activities in a landscape that form, shape, and organize it as a result of human interaction.
- **Topographic modifications** include any alterations to the elevations of the land surface for accessing potable water, grading roads, siting buildings, draining storm water, or other purposes.
- **Circulation** represents the spaces, features, and applied material finishes that constitute the systems of movement in a landscape.
- **Cultural vegetation** includes the deciduous and evergreen trees, shrubs, vines, ground covers, and herbaceous plants that have been introduced in a landscape by cultural activities.

- **Buildings** are elements constructed primarily for sheltering any form of human activity in a landscape; **structures** are elements constructed for functional purposes other than sheltering human activities.

- **Views** are generally defined as being an expansive and panoramic prospect, whether naturally occurring or designed; **vistas** are deliberate and are often meant to orient the gaze to a linear feature or particular focal point.

- **Small-scale features** are the elements providing detail and diversity for both functional needs and aesthetic concerns in a landscape.

- **Archeological resources** are the traces, or deposited artifacts in a landscape, evidenced by the presence of either surface or subsurface features.[129]

Appendix A includes a full inventory of the landscape resources documented in this chapter.

129. Derived from Robert R. Page, Cathy A. Gilbert, and Susan A. Dolan, *A Guide to Cultural Landscape Reports; Contents, Processes, and Techniques* (Washington, D.C.: Department of the Interior, 1998), 53.

Environmental Context and Setting

Kennesaw Mountain National Battlefield Park lies within northwest Georgia on the Atlanta plateau portion of the Piedmont physiographic province, an area of rolling hills and rocky outcrops located between the southernmost reaches of the Appalachian Mountains and the Atlantic Coastal Plain (Figure 44). The park in fact sits adjacent to the southern terminus of both the Piedmont Plateau and the Blue Ridge Mountain range. The park follows a crescent-shaped ridge northwest of Marietta that serves as the hydrographic divide between the Etowah and Chattahoochee rivers (Figure 45).

The Chattahoochee River flows south into Alabama and Florida from headwaters that arise in the Blue Ridge Mountains of northeast Georgia. It is a tributary of the Apalachicola River that empties into Apalachicola Bay in the Gulf of Mexico. Noses and John Ward creeks both eventually empty into the Chattahoochee River.

There are also springs located throughout the region, as suggested by the name of Powder Springs Road.

Vegetation is characteristic of the eastern deciduous hardwood forest that extends over much of the Piedmont in the Southeastern United States (Figure 46). Kennesaw Mountain National Battlefield Park falls within the Piedmont transition zone between the South Georgia pinelands and the Appalachian plateau hardwood forests. Specific vegetative composition bears a direct relationship to a complex matrix of soil conditions, drainage patterns, precipitation, solar orientation, wind patterns, the existing seed pool, and past land use. Vegetation in the region is heavily modified by past cultural use and generally reflects culturally derived communities of farm fields, crop fields, fallow land undergoing secondary succession, and second- and third-growth woodlands representative of the eastern hardwood deciduous forest.

The park's protected acreage and variety of habitat types supports a range of wildlife. Visitors often catch glimpses of white-tailed deer, beaver, foxes, and several species of birds, including wild turkey, herons, and blackbirds. Tree sparrows, field sparrows, white-throated sparrows, song sparrows, and eastern bluebirds are frequently observed in the park as well. The large undeveloped and protected open space afforded by the park, coupled with the terrain, contributes to the importance of Kennesaw Mountain as a major stopover location for several species of migrating songbirds during the fall and spring.

The park's most prominent physical characteristic is the north-to-south ridge composed of Kennesaw and Little Kennesaw mountains, on and around which the Battle of Kennesaw Mountain unfolded. The ridges rise dramatically over the surrounding relatively level topography, which is characterized by rural agricultural properties and residences, historic road corridors, successional woodlands on abandoned farm and timber land, and cropland and hay fields. Kennesaw Mountain, at an elevation of 1,808 feet above mean sea level (AMSL), is the highest point within the park and the region. It stands 700 feet above the elevation of the visitor center. Little Kennesaw Mountain stands just below, with its summit reaching 1,610 feet AMSL. Surrounding the ridge are rocky hills and a relatively level plateau etched by perennial and intermittent streams forming medium-density dendritic drainage patterns.

The prominent ridgeline that includes the Kennesaw Mountain ridge is composed of an intrusion of igneous granite hornblende that protruded through the surrounding strata of metamorphic and sedimentary rocks—primarily biotite gneiss and muscovite schist—during the formation of the Appalachian Mountains (Figure 47). Other types of rock associated with the area include slate, quartzite, and feldspar.

Weathering of this varied geology results in a wide range of soil types.[130] The soil is derived from stone materials that contain potassium, magnesium, iron, and aluminum; the silicon present increases the porosity of the soil and improves movement of water and air. In addition, clay soil is present, in which movement of air and moisture is retarded.[131]

The park soils are affiliated with several soil associations (Figure 48). The higher elevations contain the steep, stony soils of the Pacolet-Musella-Louisburg association. These soils generally occur on mountain slopes that rise approximately 100 to 600 feet above the adjacent terrain.[132] Because the soil is generally stony with a shallow depth to bedrock, it has limited potential for cultivation. Soil structure ranges from red clay to sandy clay loam and stony loam. The less steeply-sloped areas below the Kennesaw Mountain ridgeline are characterized by the Gwinnett-Hiwassee-Musella association. Soils comprising this association occur on level to moderate slopes and range from loams to clay loams, sometimes including a gravelly or stony surface layer. The soils are sometimes adapted for cultivation and other farm uses.

Other level plateaus located east, west, and south of Kennesaw Mountain are underlain by either the Appling-Cecil-Madison association or the Madison-Gwinnett-Cecil association. Soils affiliated with these associations are generally deep to moderately deep and located on gentle slopes of broad ridgetops. These associations are the best suited to cultivation within the county. Many areas have undergone severe erosion that limits their current suitability for agriculture, however.[133]

130. Robert Hellmann, *Kennesaw Mountain National Battlefield Park Archeological Overview and Assessment* (Tallahassee, Florida: National Park Service, 2003), 14.
131. Grover J. Thomas, Jr., *Soil Survey of Cobb County, Georgia* (Washington, D.C.: U.S. Government Printing Office, December 1973), 7.
132. Ibid.
133. Thomas Gresham, Principal Investigator, *An Archeological Survey of the Proposed Kennesaw Mountain Multi-Use Trail, Cobb County, Georgia* (Athens, Georgia: Southeastern Archeological Services, Inc., October 2, 2001), 4.

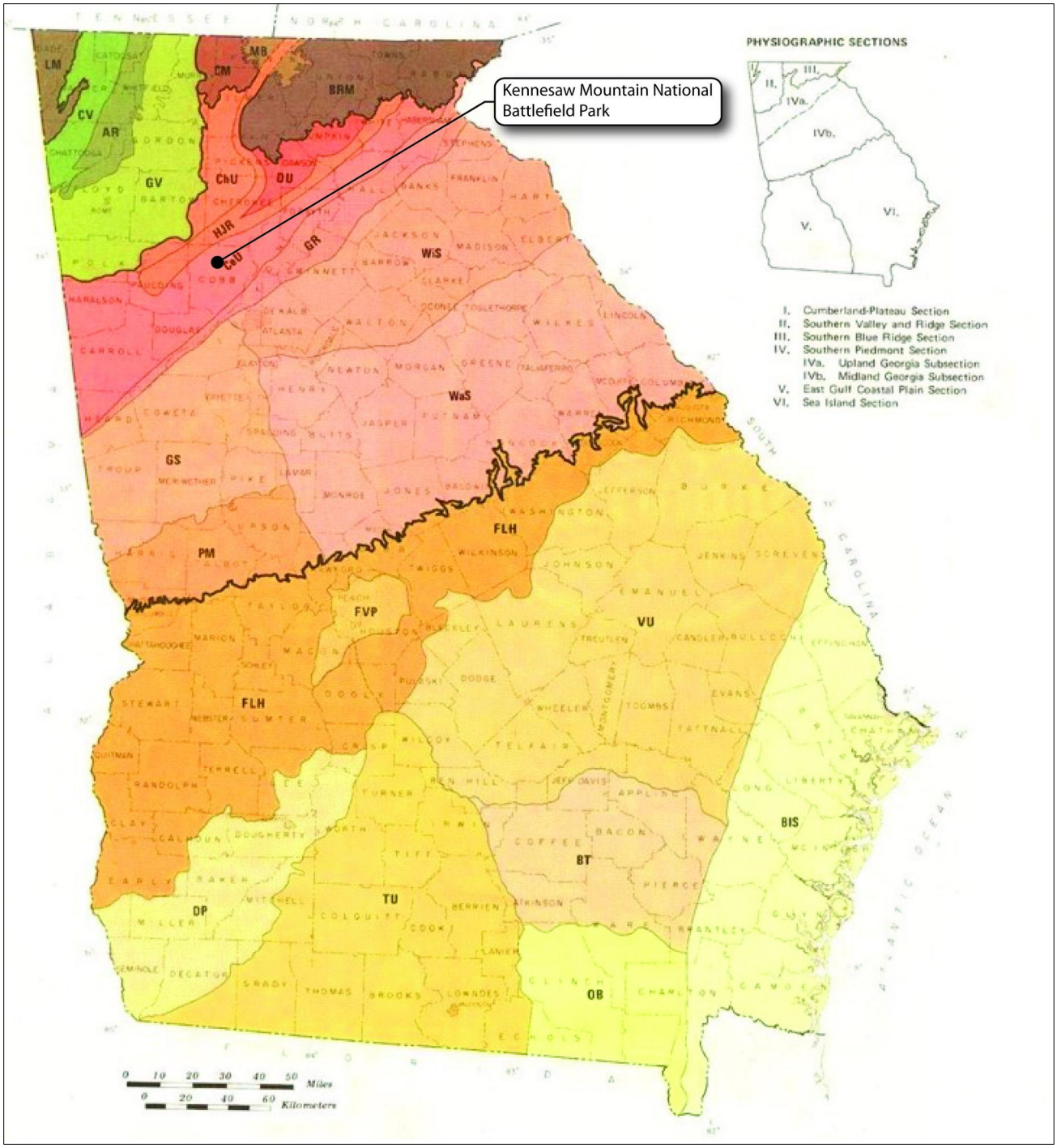


FIGURE 44. Georgia physiography.

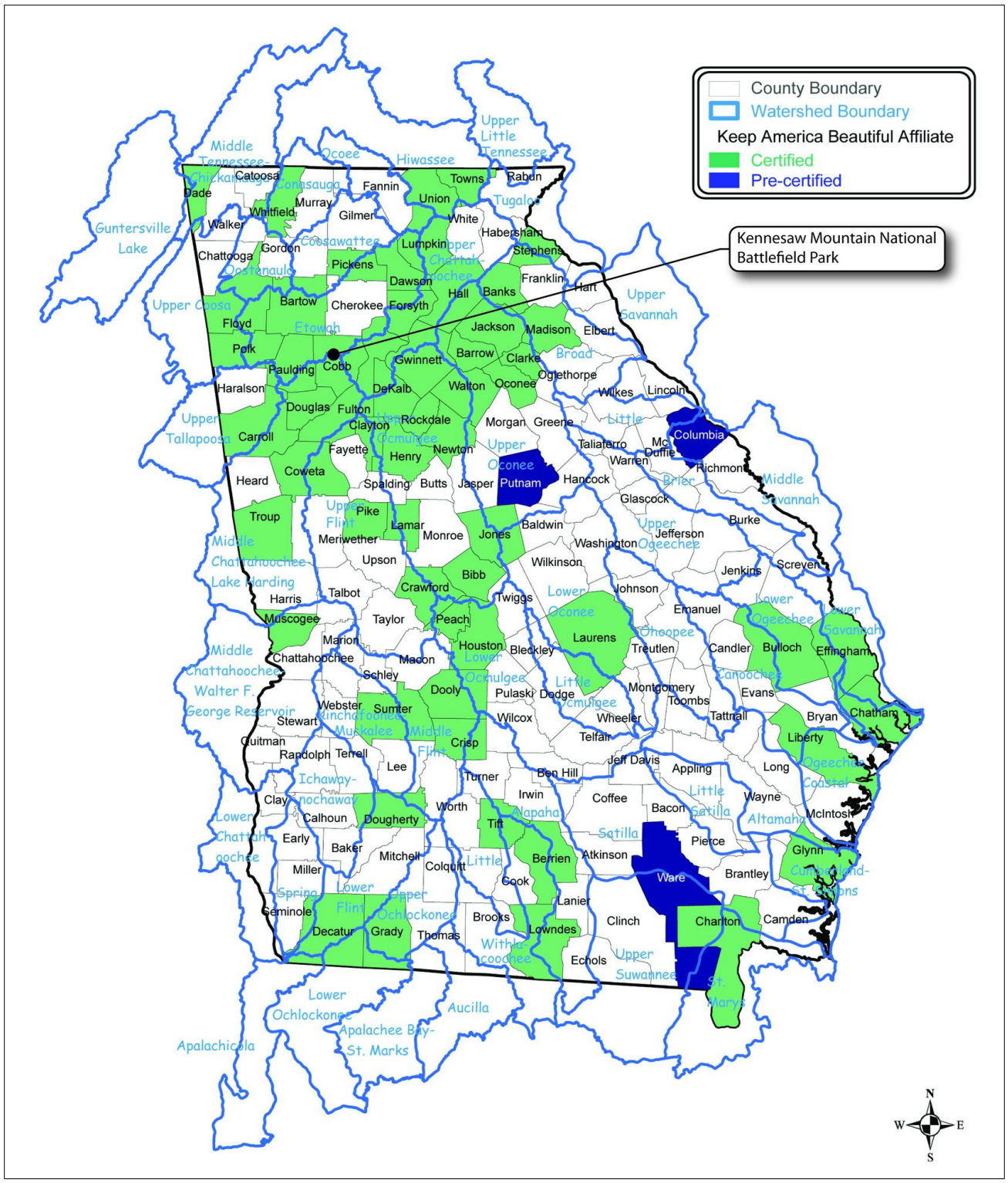


FIGURE 45. Georgia watersheds.

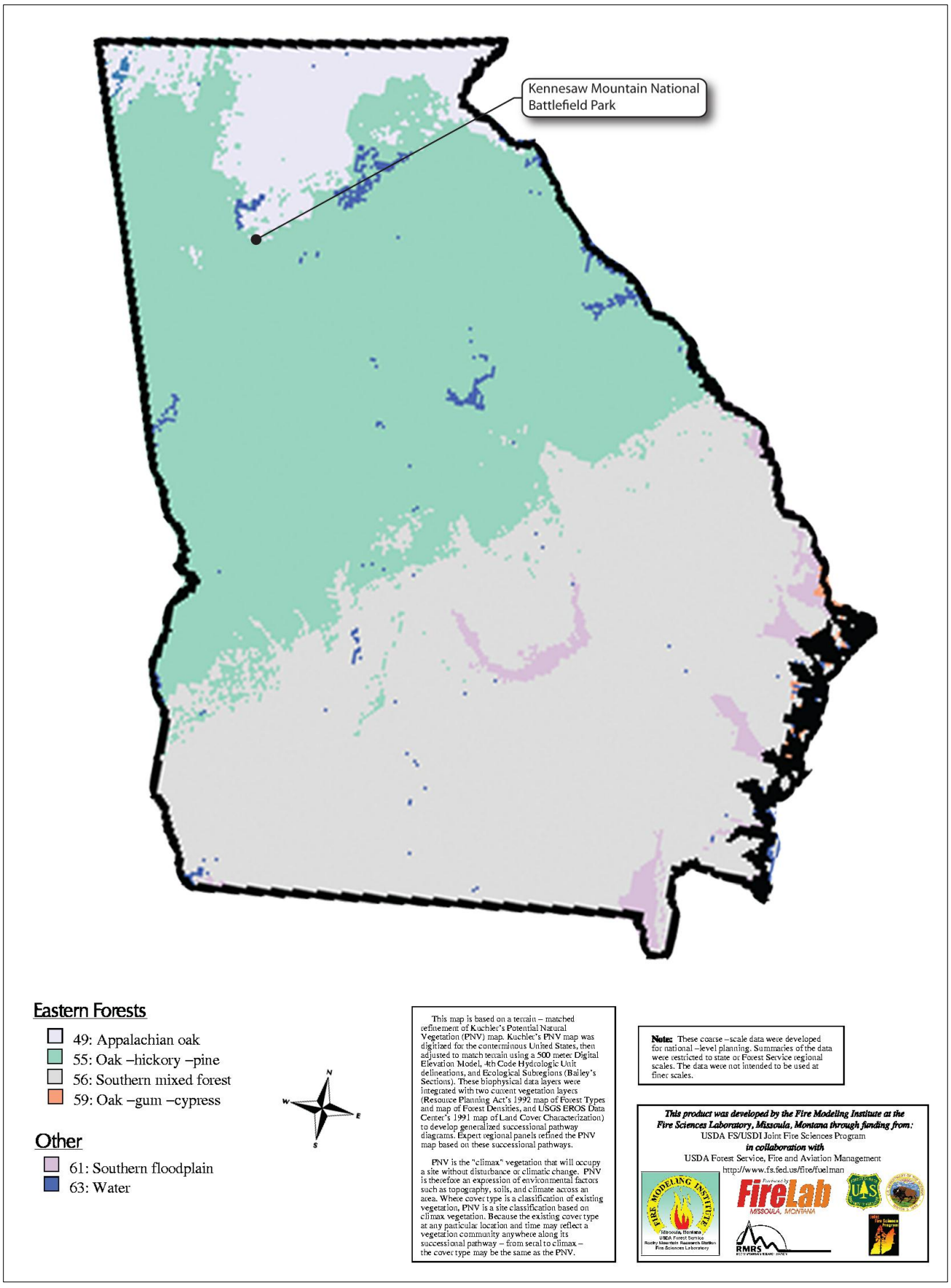


FIGURE 46. Georgia vegetation groups.

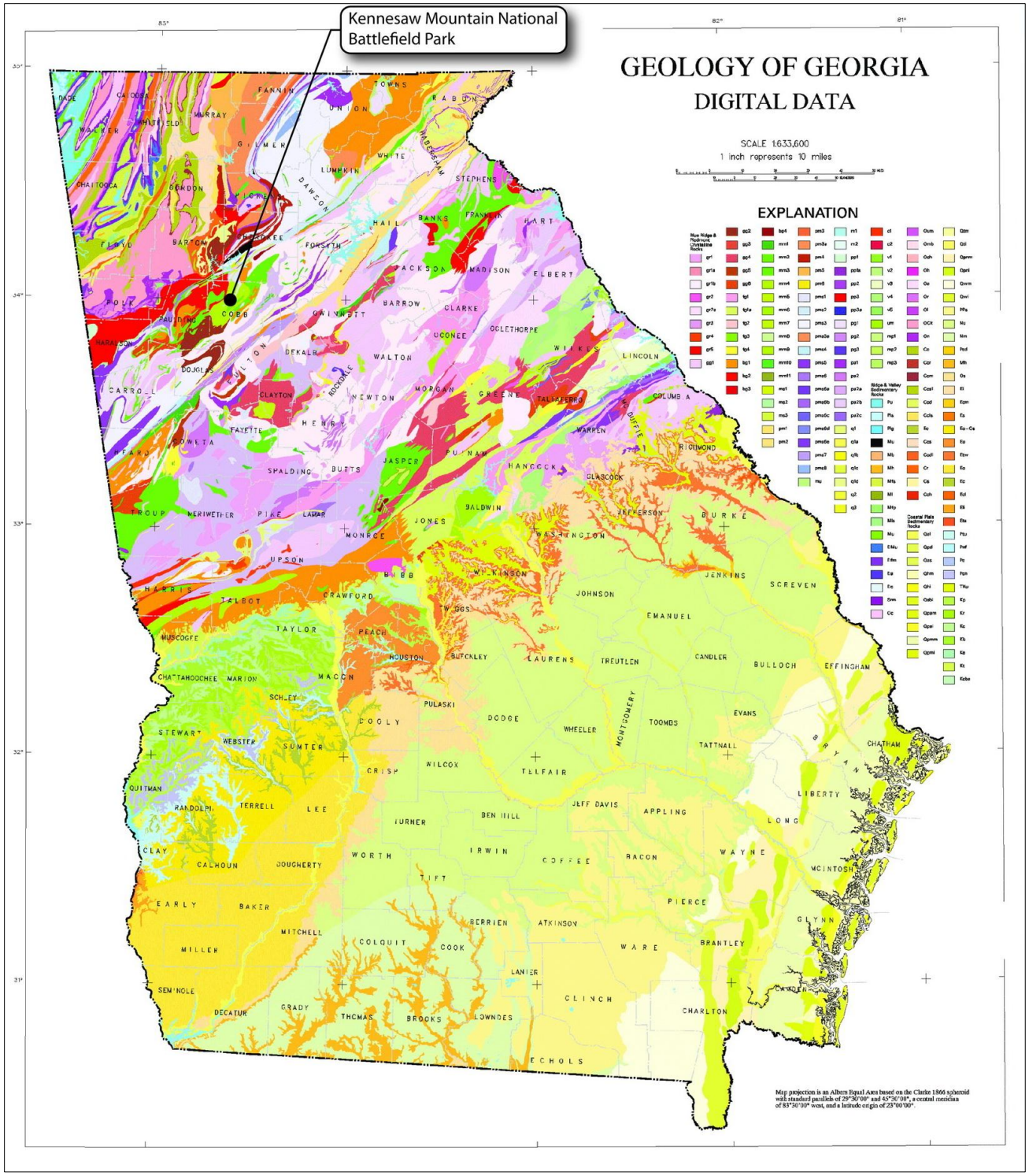


FIGURE 47. Geology of Georgia.

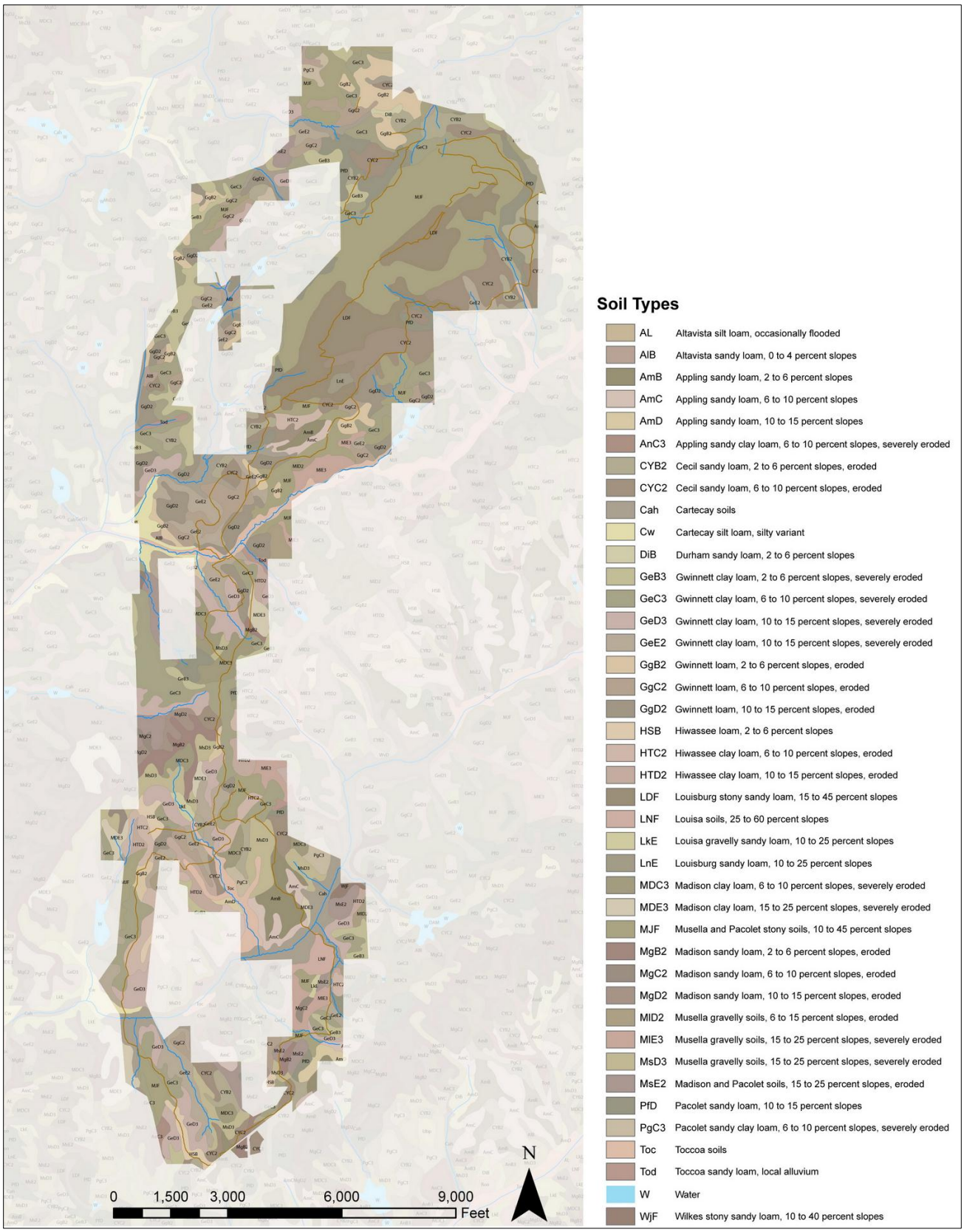


FIGURE 48. Soil types map of the park.

Stream corridors are edged by the Gwinnett-Pacolet-Musella association or the Madison-Gwinnett-Cecil association, while the lowland drainage areas themselves occur within the Cartey-Toccoa association. This association occurs on level floodplains and is composed of soils formed in alluvium. The better drained soils are suitable for cultivation. Constructed drainage systems allow for cultivation in the otherwise periodically wet or flooded soils. Portions of this soil are used for pasture.[134]

Due to the fertility of area soils, agriculture served as the primary local land use between settlement in the early nineteenth and mid-twentieth centuries when the park was enlarged. Some privately-held land in and around the park continues to be used for agriculture.

The climate of Georgia's Piedmont is classified as humid subtropical. The park generally experiences a temperate, four-season climate with mild winters, hot, humid summers, and relatively short spring and fall seasons. Average annual rainfall is 50.2 inches. While precipitation is steady throughout the year, rainfall is heaviest in the spring; the wettest month is March with an average of 5.51 inches. Fall is the driest period in the region; rainfall averages 2.46 inches in October.[135]

Cultural Context and Setting

Refer to Figure 2, Location Map, in the Introduction chapter.

Kennesaw Mountain National Battlefield Park is located in Cobb County, Georgia, approximately 3 miles west of the county seat of Marietta and 23 miles northwest of the state capital of Atlanta.

Cobb County is considered part of the Atlanta metropolitan area and is thickly settled; as of the 2010 census, Cobb County's population was approximately 688,078.

The county seat of Marietta was first platted in 1833 and recognized as a town in 1834. The 1833 Oakton Residence is the oldest continuously occupied house in the town. It was used by Maj. Gen. William W. Loring as his headquarters during the Battle of Kennesaw Mountain. Marietta served as the first base of operations for the Western & Atlantic Railroad in the nineteenth century. Visitors to the region can learn about regional history and offerings at the Marietta Welcome Center and Marietta History Museum, which is housed in an antebellum house and features several permanent Civil War history displays. In November 1864, the town was set ablaze by Gen. Hugh Kilpatrick in one of the first such destructive efforts conducted during Union Gen. William Tecumseh Sherman's March to the Sea Atlanta to Savannah Campaign. Today, Marietta is a thriving community of approximately 56,500 residents, as recorded in the 2010 census.

Also located within proximity of the park is the city of Kennesaw, Georgia. Founded in 1887, Kennesaw is named for the mountain. Located northwest of the park, Kennesaw was first settled as a community referred to as Big Shanty circa 1824, and became home to railroad construction workers. In addition to the 1864 Battles of Kolb Farm and Kennesaw Mountain, the city of Kennesaw witnessed a military raid that occurred on April 12, 1862. Nicknamed the "Great Locomotive Chase," the raid occurred when volunteers associated with the Union Army commandeered a train that they piloted along the Western & Atlantic Railroad line north towards Chattanooga with the intent of damaging the rail line and disrupting Confederate transportation operations. Confederate forces pursued the Union volunteers using other locomotives, and the raiders were eventually captured. The population as of the 2010 census was recorded at nearly 30,000 residents. The Southern Museum of Civil War and Locomotive History is located in the commercial district of the city along Main Street (Old U.S. Highway 41) and the Western & Atlantic Railroad tracks. The museum exhibits the

134. Ibid, 2–3.
135. National Park Service, *Natural Resource Management Plan, Kennesaw Mountain National Battlefield Park* (Marietta, Georgia, Kennesaw Mountain National Battlefield Park, December 1976), 12.

locomotive that was used in the 1862 raid. The park is generally surrounded by suburban developments of single family residences and businesses, most of which have been constructed since the late 1960s as the Atlanta metropolitan area expanded northward. As a result, the park is becoming increasingly popular as a local recreational facility for hiking, jogging, and other outdoor activities. Approximately 1.4 million visitors enjoy the park's natural and historical resources each year.[136] The area is relatively accessible due to the numerous nearby primary arterials, state highways, and Interstate 75, which connects the major cities of Chattanooga, Tennessee, and Atlanta, Georgia, and passes within a mile of the park.

Kennesaw Mountain National Battlefield Park is part of the National Park System administered by the National Park Service. The nearest related unit of the National Park System—Chickamauga and Chattanooga National Military Park— is located approximately 92 miles to the northwest along the Georgia/Tennessee border which also protects and interprets the events of a Civil War battle.. Also located in northern Georgia are the Appalachian National Scenic Trail and the Cherokee Trail of Tears National Historic Trail. The Chattahoochee River National Recreation Area, which follows the corridor of the water body northeastward is located fifteen miles to the south. The Martin Luther King, Jr., National Historic Site is located within the city of Atlanta, approximately 24 miles to the southeast. Other parks within the state include Ocmulgee National Monument, Fort Pulaski National Monument, Fort Federica National Monument, Andersonville National Historic Site, Jimmy Carter National Historic Site, and Cumberland Island National Seashore.

In addition to the Marietta Museum of History, there are several other historic sites related to the Atlanta Campaign that are open and interpreted to the public. These include:

- **Pickett's Mill Battlefield State Historic Site,** a 765-acre state-owned historic park is located west of Kennesaw Mountain National Battlefield Park in Dallas, Georgia, that protects the site of the May 27, 1864, Battle of Pickett's Mill. The State Parks web site describes this historic site as "one of the best preserved Civil War battlefields in the nation," where the Confederate victory delayed the Union advance on Atlanta by one week.[137] The wet weather, dense vegetation, and constant presence of fires led those who fought in this and other battles in the area to refer to the region as the "Hell Hole."

- **Resaca Battlefield State Historic Site** is a 512-acre parcel associated with the May 13–15, 1864, Battle of Resaca. This site is in the process of being developed as a state park. Resaca is located approximately 55 miles northwest of Kennesaw Mountain National Battlefield Park.

- **Gilgal Church battlefield park,** which is 20-acres in size, is protected, but not currently interpreted by the Atlanta History Center. The church was destroyed during the June 14, 1864, Battle of Gilgal Church. The site is located approximately 3 miles west of Kennesaw.

- **Battle of Cassville Historic Park** is a small, state-administered park located in Barstow County that commemorates the May 18, 1864, clash between forces commanded by Confederate General Joseph E. Johnston and Union Lieutenant General John McAllister Schofield. Cassville is located approximately 27 miles northwest of Kennesaw.

- **Johnston's River Line, Cobb and Smyrna Counties,** includes portions of the earthworks known as the Johnston's River Line located along the Chattahoochee River. The earthworks are protected within a 100-acre

136. National Park Service, *Kennesaw Mountain National Battlefield Park Long-Range Interpretive Plan,* Introduction. (National Park Service, December 2010).

137. Georgia Department of Natural Resources, "Pickett's Mill Battlefield Historic Site" online at www.gastateparks.org/net/go/parks.aspx?LocationID=36&s=0.0.1.5 (accessed July 4, 2010).

parcel owned and protected by Cobb and Smyrna counties containing dozens of yards of infantry trench, one Shoupade, and a seven-gun fort that anchored the southwestern end of the line. . The River Line earthworks were constructed in June and early July 1864. The Confederate segment contained unique fortifications called Shoupades, after their designer, Brig. Gen. Francis Shoup, Chief of Artillery for the Army of Tennessee. Eight Shoupades are on privately owned parcels. The Federal earthworks, constructed opposite the Confederate line, were occupied for a week until Federal crossings of the Chattahoochee River farther north led to Confederate withdrawal from the area.

- **Tanyard Branch Park** is a small urban park that includes several large markers that commemorate the action associated with the July 20, 1864, Battle of Peachtree Creek.

- **Mozley Park** is another small urban park that commemorates battle events associated with the Atlanta Campaign. The July 28, 1864, Battle of Ezra Church occurred on and near this park land and is interpreted through a series of markers.

The Atlanta History Center and Red Top Mountain State Park on Lake Allatoona are also of interest to visitors seeking a comprehensive tour of the region and an understanding of its Civil War history. Both offer interpretation of the Atlanta Campaign.

Overall Landscape Systems and Features

Kennesaw Mountain National Battlefield Park protects the site of the June 1864 Civil War Battles of Kolb Farm and Kennesaw Mountain (Figure 49). The park features several key natural features as well as a visitor center, maintenance facilities, interpretive trail system, commemorative monuments, overlooks, and signage. Eleven miles of earthworks constructed between May and June 1864 by both Union and Confederate forces have been documented within the park (Figure 50). Significant segments of the Confederate defensive line that stretched 10 miles between Lost Mountain and Brushy Mountain, and which was defended prior to the Kennesaw Mountain line, survive outside the park. Protection strategies for these earthworks were suggested in a 1998 study prepared by EDAW.[138]

Today, the primary land uses of the park include commemoration, interpretation, and recreation. Commemoration is reflected in the monuments and markers that have been erected to honor historic events and individuals associated with the Civil War Battle of Kennesaw Mountain. Interpretation occurs as part of the visitor center programming, as well as in association with signage provided along park road corridors and trails. Because of the extent of development within the region, the park has become an important local recreational resource, used for walking, running, hiking, and nature study. Other land uses associated with the park relate to management of resources and administration, and include maintenance, agriculture, park administration, and utilities.

Maintenance activities are generally housed in the maintenance facility, while park administration is concentrated nearby in the two residences now used as offices. Lease agreements with local farmers perpetuate agricultural land uses within the park.

138. See EDAW, *Kennesaw Mountain National Battlefield Lost Mountain to Brushy Mountain Earthworks Preservation Plan* (Kennesaw, Georgia: National Park Service, January 1998).

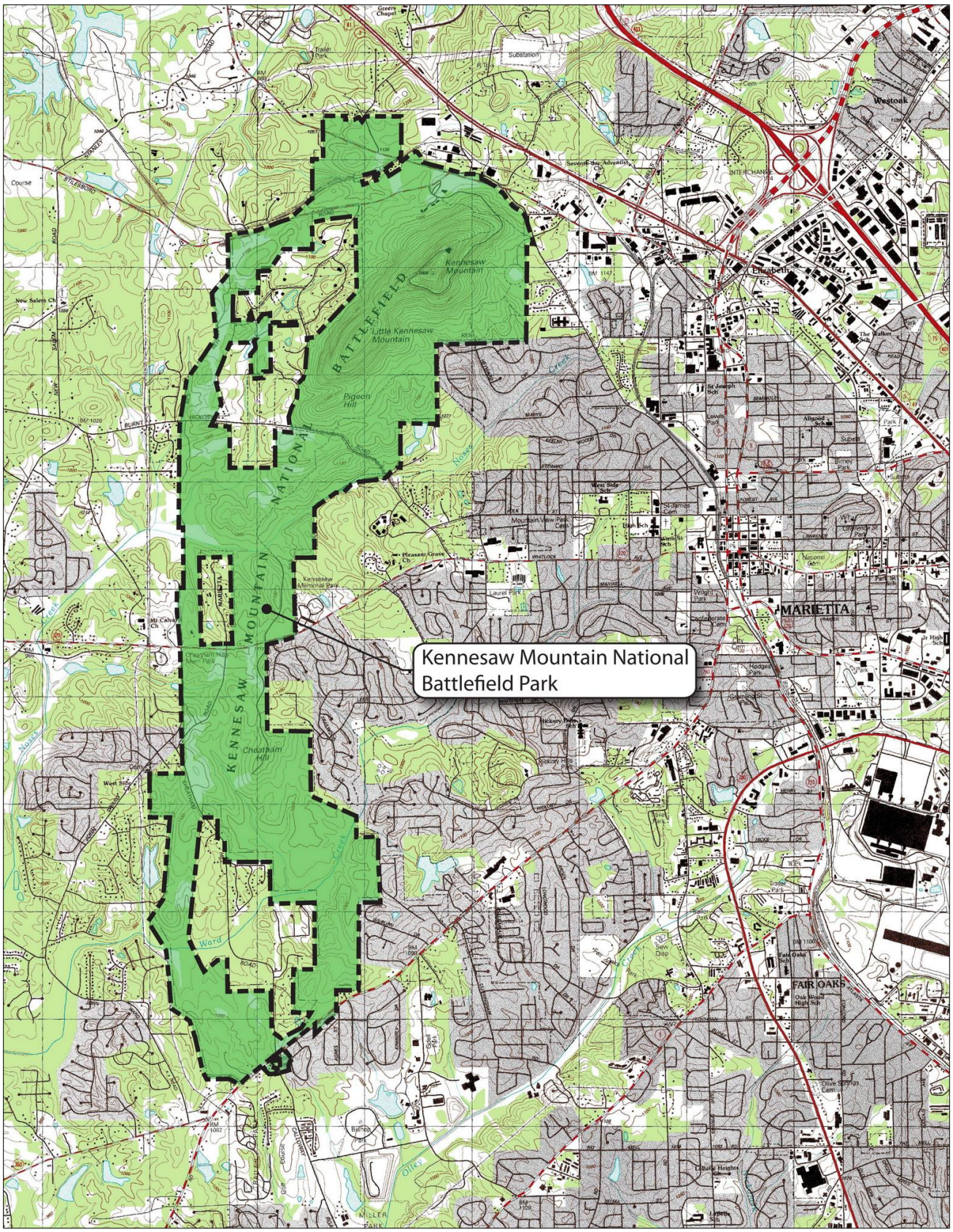
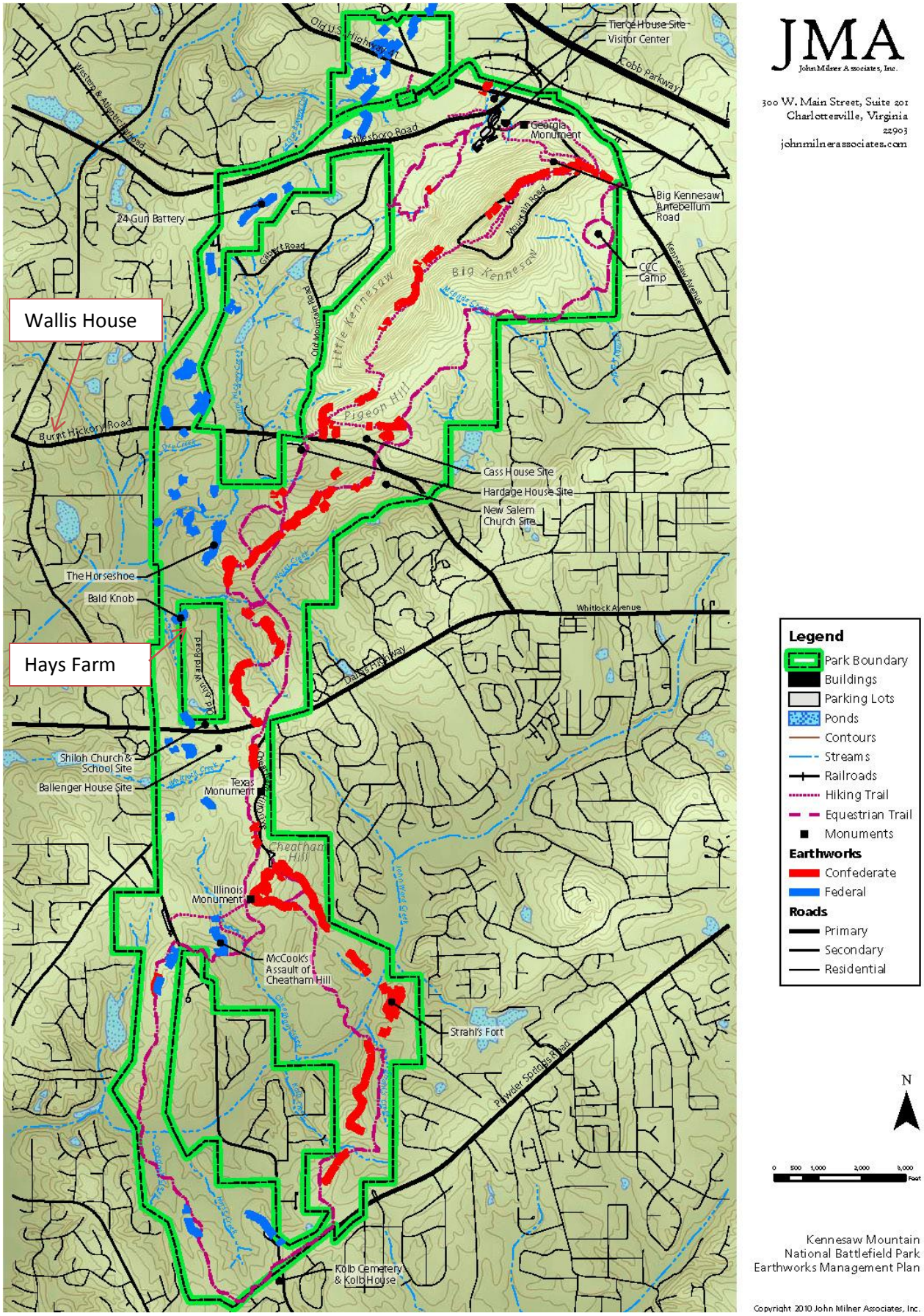


FIGURE 49. USGS map annotated to show Kennesaw Mountain National Battlefield Park.



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Kennesaw Mountain
National Battlefield Park
Earthworks Management Plan

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FIGURE 50. Map of the park showing existing earthworks.

Generally rectangular in form, the park is primarily oriented north to south, and forms an elongated irregular rectangle more five miles long and extending across an area that spans nearly 2 miles. The park's orientation follows the Kennesaw Mountain ridgeline and the high ground occupied by Confederate forces in June 1864 that was the object of attack by Union forces as they sought to advance toward Atlanta. Within the authorized boundary, the federal government currently administers 2,923 acres. An additional 0.61 acres are administered by the state of Georgia and 1.40 acres by Cobb County as road rights-of-way. Within the authorized boundary but outside the administered boundary there are also three densely settled areas of private ownership located in the northern, central, and southern parts of the park. These areas contain large single-family homes constructed since the 1970s.

Four roadways cross the park from east to west, generally dividing it into three primary land bays. These roadways—Old U.S. Highway 41, Burnt Hickory Road, Dallas Highway, and Powder Springs Road—are heavily traveled, high-speed corridors. The Western & Atlantic Railroad line also crosses the northern section of the park.

The northern section of the park features the core of visitor services, interpretive orientation programming, and park administration. Stilesboro and Burnt Hickory roads frame this, the most highly used portion of the park, which contains Kennesaw and Little Kennesaw mountains, Pigeon Hill, the visitor center, the Kennesaw Mountain overlook, a large parking area, open fields, and the road to the summit of Kennesaw Mountain. The Mountaintop Trail leads from the visitor center to the summit of Kennesaw Mountain. It provides a connection to the Burnt Hickory Loop Trail, which leads between Kennesaw Mountain, Pigeon Hill, and Burnt Hickory Road. Two local roads also pass through the northern section of the park: Old Mountain and Gilbert roads. Historic roads traces are also present within this section of the park that have associations with the Civil War Battle of Kennesaw Mountain. This area of the park also contains the remains of a Civilian Conservation Corps (CCC) camp established in the 1930s that provided enrollee labor for park maintenance and restoration projects. Evidence of the former camp site includes building foundations, a road trace, and a circular open lawn edged by tree plantings. To the west of the current park boundary, located along Burnt Hickory Road near the Barrett Parkway, is the Wallis House, an antebellum homestead employed as a Union headquarters during the battle. It is possible that the house and associated outbuildings will be added to the park if Congress approves an expansion of the authorized boundary.

The middle section of the park is bounded to the north by Burnt Hickory Road and to the south by Dallas Highway. This part of the park contains wooded trails that follow lines of protected original Civil War earthworks. The Cheatham Hill Connector Trail leads from Burnt Hickory Road near Pigeon Hill, through the middle section of the park, to Cheatham Hill. This portion of the park is less heavily used than other sections due to its isolation and lack of key features.

The southern section of the park is edged to the north by Dallas Highway and to the south by Powder Springs Road. It contains Cheatham Hill, which includes a peaceful wooded entry drive, a wooded parking area, and a complicated network of earthworks marked by several commemorative markers and monuments. Walking trails extend between Cheatham Hill and the Kolb Farm at the park's southern end. Old John Ward Road, a gravel maintenance road, connects Dallas and New John Ward roads within this portion of the park.

Located south of Powder Springs Road, the Kolb Farm features a nineteenth-century dwelling that closely edges the busy intersection of Powder Springs and Callaway roads. Earthworks are known to have been associated with the property. It was the focus of the June 22, 1864, Battle of Kolb Farm that preceded the Battle of Kennesaw Mountain.

In addition to the structuring elements of the linear north-south trending Kennesaw Mountain ridge and the roads that cut across the landscape from east to west, the spatial organization of the

park is also characterized by vegetation patterns. The majority of the park is currently wooded. Tree cover generally limits long views across the landscape, except for high points, and conveys an intimate backcountry character to much of the park. The small clearings that appear at intervals along the road and trail corridors provide visual interest for park visitors. Many of these are intended to recreate homestead and field patterns present at the time of the battle, while others provide recreational opportunities for visitors.

The visitor center area is relatively open, providing a sense of orientation and focus for visitors. The landscape along the park's boundaries has generally been developed as residential subdivisions and conveys a manicured suburban character that stands in contrast with the wooded reservation of the park.

Kennesaw and Little Kennesaw mountains are the most recognizable topographic elements of Kennesaw Mountain National Battlefield Park. Together these peaks present a unique landform that can be spotted from many locations within the region. These landforms help orient views from Lookout Mountain to the north and west, Oglethorpe Mountain to the northeast, and Stone Mountain due east. Pigeon Hill and Cheatham Hill create a north-south line of smaller hills to the south of Little Kennesaw Mountain. The park also includes more level terrain at the base of these ridge and mountain summits.

The park's elevated ridge line serves as the watershed between the Chattahoochee and Etowah rivers. Two streams, which are classified as wetlands under the Cowardin et al. 1979 system, pass through the park. These include John Ward Noses creeks. They are served by several named tributaries Less than 10 percent of the park's area is classified as wetlands. Noses and John Ward creeks, which cross the park's central and southern sections respectively, flow southwest toward the Chattahoochee River. The park's low points, which occur at 945 feet above mean sea level (AMSL) are associated with both Ward and Noses creeks.

Overall, park vegetation includes mixed-age stands of successional deciduous hardwood and pine woodlands, hay fields, mown grass lawns, native and exotic ornamentals, and invasive alien plants that have escaped from cultivation and are colonizing native plant communities. While the majority of the park is maintained in hardwood forest, approximately 350 acres are maintained in open fields through mowing and haying. There are also remnants of former peach tree orchards within the park.

Open fields of note occur below the Illinois Monument, near the intersection of Old Mountain and Burnt Hickory roads, along Stilesboro Road, and along Cheatham Hill Drive. The park has identified a need to clear trees from other historically open area and expand the area maintained in fields in support of battle interpretation. and

Forest communities associated with the park's hills and ridges are composed of second-growth eastern deciduous oak-hickory hardwoods, with a component of loblolly pine and shortleaf pine (*Pinus echinata*). The pines are scattered within the deciduous hardwood forests, but are also found growing in plantations, some of which were planted by the CWA in 1934. Pines sometimes occur as forest dominants in areas that have been logged, have experienced fire, or have been relatively recently released to succession. Pine stands have been negatively affected, and are susceptible to additional damage, by the Southern pine bark beetle (*Dendroctonus frontalis Zimmermann*). The resulting dead and dying pine timber is a potential fire hazard.

Many woodland areas exhibit a layered community of canopy and understory trees, shrubs, and herbaceous species. Oaks and hickories are the predominant canopy species within the area. Understory species found within the mixed pine stands include post oak (*Quercus stellata*), red oak (*Q. rubra*), sweetgum (*Liquidambar styraciflua*), and black tupelo. Higher elevations of the park, which often include thin soils and granite outcroppings, are dominated by dry-mesic to xeric oak-hickory communities. The slopes and summits of Kennesaw and Little

Kennesaw Mountains, Pigeon Hill, and Cheatham Hill are heavily forested with stands of chestnut (*Q. prinus*), blackjack oak (*Q. marilandica*) scarlet oak, and several hickory species. *(Carya tomentosa, C. glabra, C. ovate).*The lower slopes and broad level plateau terrain are characterized by mesic hardwood forest representative of the oak-hickory-pine community. Naturally-occurring species include white oak, tulip poplar (*Liriodendron tulipifera*), sweetgum, maples (*Acer* spp.), beech (*Fagus grandifolia*), and black walnut (*Juglans nigra*). The bases of Kennesaw and Little Kennesaw mountains, which include soils that are less suitable to agriculture than the surrounding plains, are dominated by post oak, blackjack oak, black oak (*Q. velutina*), and scarlet oak; several hickory species (*Carya tomentosa, C. glabra, C. ovata*); persimmon (*Diospyros virginiana*); and shortleaf pine. It is believed that these areas were managed as woodlots prior to War Department acquisition of Cheatham Hill in 1926.[139] The CWA and CCC are known to have conducted erosion control and revegetation efforts in the 1930s and early 1940s that have influenced the character of vegetation on the lower slopes of the mountains as well as in the lower lying areas.

Stream valleys contain mesic to hydric species. Stream corridors, ravines, and floodplains are generally characterized by mesic to hydric species such as river birch (*Betula nigra*), black willow (*Salix nigra*), sycamore (*Platanus occidentalis*), sweetgum, water oak (*Quercus nigra*), white oak, elms (*Ulmus* spp.), red maple, and tulip poplar.[140]

Much of the terrain associated with Kennesaw and Little Kennesaw mountains is said to have been burned annually prior to 1938. Since park establishment, fire suppression has affected the composition of the park's woodlands by promoting fire sensitive and shade tolerant species over species that benefit from ground and stand-replacing fires, mineralized soil, and high light conditions. Fire suppression has also allowed for deposition of thick layers of detritus on the forest floor.[141]

Prior to nineteenth- and twentieth-century land clearing, native vegetation consisted primarily of mixed pine/hardwood forest in upland areas. Dominant canopy trees included several oaks and hickories, as well as tulip poplar, pine, and American chestnut (*Castanea dentata*). Today, American chestnut is entirely absent from the park landscape due to the importation of the chestnut blight fungus (*Cryphonectria parasitica*) in the early twentieth century, which killed most mature specimens in the eastern United States and devastated Appalachian forests. Cultural activities during the prehistoric and early settlement periods also affected the composition of regional forests. Hardwood stands were often cleared in fertile level terrain areas to allow for agricultural cultivation. The majority of the park's landscape has been cleared of trees at least once since Euro-American settlement. Pine stands tended to occupy post-agricultural land. In addition, non-native species have been introduced to the landscape since the nineteenth century resulting in profound changes to native plant communities.

Several invasive alien plant species currently colonize large land areas and interfere with native vegetation community composition within the park. These include privet (*Ligustrum sinense, L. vulgare, L. japonicum*), Japanese honeysuckle (*Lonicera japonica*), kudzu (*Pueraria lobata)*, tree-of-heaven (*Ailanthus altissima*), mimosa (*Albizia julibrissin*), nandina (*Nandina domestica*), autumn olive (*Elaeagnus umbellate, E. angustifolia, E. pungens*), wisteria *(Wisteria sinensis)*, princess tree (*Paulownia tomentosa*), chinaberry (*Melia azedarach*), and garlic mustard (*Alliaria petiolata*).

139. National Park Service, "Master Plan Development Outline, Kennesaw Mountain National Battlefield Park, Georgia"" May 1952, 4 of 5.

140. Vegetation inventory information was not available for use in this study. Plant lists are based on field observation and review of available secondary source documents, and are intended to convey a general understanding of plant communities associated with the park. Review of the National Park Service, "Resource Brief: Summary of Stream Flow Conditions, 2010" for Kennesaw Mountain National Battlefield Park supported some of the information provided herein.

141. Ibid., Summary.

Japanese honeysuckle, planted by the CWA in 1934 on Cheatham Hill, is now a problematic invasive species; efforts are being made to eradicate it and allow native understory species to re-colonize affected areas. The Kennesaw Mountain Trail Club helps to control invasive plants along the park's trails. The park also works to control invasive species, using herbicides such as Round-up and Garlon.

Four plant species classified as rare within the region have been identified within the park. The soils and the altitude associated with Kennesaw and Little Kennesaw mountains combine to form "plant habitats on and around the rocky outcrops, perhaps the best developed on Little Kennesaw Mountain, [that] are fragile and subject to the vagaries of seasonal weather patterns, erosion, and trampling."[142] Three rare plants species have been identified in association with these habitats: openground whitlow grass (*Draba aprica*), which occurs only on a single outcrop slope on the west side of Little Kennesaw Mountain; green rockcress (*Arabis missouriensis*), which is often found along trail edges in rocky areas; and Tennessee mountain-mint (*Pycnanthemum curvipes*), found along the roadside near the top of Kennesaw Mountain. A fourth rare plant species—common prickly-ash (*Zanthoxylum americanum*)—is found along the main walking trail near the top of Kennesaw Mountain.[143]

The extent of woodland cover limits views both into and from the battlefield. The primary exception is the dramatic vista afforded from the Kennesaw Mountain overlook. Views that were otherwise part of the battlefield in 1864 are often now compromised by trees that have grown in the viewshed, obscuring the field of fire that existed between the Union and Confederate earthworks, except where the park has worked to clear and maintain open fields. Other changes to the historic viewshed include the expansion of residential and commercial development around the park and in the community of Marietta, which is visible from the Kennesaw Mountain overlook.

Tree cover has helped to protect the park's most important historic resource, its systems of Civil War earthworks, from erosion. The earthworks constitute the most tangible physical vestige of the Civil War battles that occurred within the park to control Kennesaw Mountain, key terrain protecting access to the Western & Atlantic Railroad and Atlanta beyond. The majority of the park's earthworks are Confederate in origin and located on the high ground associated with Kennesaw Mountain and associated high points to its southwest. Union earthworks also survive and are protected in the park. These are primarily located along the western base of Kennesaw Mountain in the lower-lying areas. It is likely that much of the Union line has been lost to post-Civil War agriculture.

Most of these earthworks were constructed as linear berms called parapets, designed to protect infantry and artillery positions from enemy fire. The parapets were generally built from mounded soil excavated from ditches to the front, rear, or both sides. Parapets were organized into linear forms as well as more complex geometric structures or systems designed to command the surrounding terrain using artillery. The largest and most engineered structures faced the anticipated avenues of approach by an enemy. The parapet systems were also fronted by rifle pits or pickets. Rifle and artillery platforms were established behind the parapets to facilitate firing. Artillery played an important part in the Battle of Kennesaw Mountain. Several earthworks used as battery positions remain in evidence within the park.

Notable groupings of Confederate earthworks extend along the upper western slopes of Kennesaw and Little Kennesaw mountains and Pigeon Hill and atop the eastern slope of Cheatham Hill, and include the complex known as Strahl's Fort, as well as a segment between Burnt Hickory Road and the Dallas Highway. Union earthworks of note include the casemated battery, Twenty-Four-Gun Battery, Second Federal battery, Army of the Tennessee line, Fourth Corps line, Thomas Headquarters works, Davis's

142. Dr. P. E. Bostick, *Plant Species and Monitoring Plan for Four Rare Plant Species at Kennesaw Mountain National Battlefield Park* (Marietta, Georgia: Kennesaw State College, Department of Biology/Physics, May 5, 1994), 1.
143. Ibid.

Division line, and Twentieth Corps or Hooker's Corps site.

In 1941, the earthworks were described in a park master plan as follows: "The fieldworks in the vicinity of Kennesaw Mountain are in an excellent state of preservation and show in detail approach by gradual intrenchments, flanking movements, and areas where frontal assaults were made on intrenched positions."[144] The master plan also noted, however, that in a few locations "due to erosion . . . fortifications are being gradually filled with earth and over a period of years would be obliterated. In other cases, the fortifications which were crowned with stone have begun to show erosion and the stone has fallen in some places."[145] This assessment remains accurate today, although additional sites have since been affected by visitor access, tree fall, and windthrow. Despite these threats, the majority of the extant earthworks are in good condition and stable due to forest cover that shields the parapet and ditch systems from rain and storm events and provides a layer of leaf litter or duff over the soil. The more intact earthworks feature a well-defined parapet wall and clearly visible ditch.

In limited areas, the integrity of the earthworks has been compromised by soil erosion due to weather or visitor impacts. For example, on Kennesaw Mountain, trails pass between the earthworks to provide access for visitors. Erosion has occurred where visitors have left the trail to scramble up the parapet slopes and walk along their crest. This type of problem is most evident in the areas of heavy visitor use.

All of the park's earthworks are potential archeological resources that are likely to yield important information about Civil War-era occupation of Kennesaw Mountain in May and June 1864 and the military events associated with the Battle of Kennesaw Mountain on June 27, 1864.

144. "Historical Base Map, Part of the Master Plan, Kennesaw Mountain National Battlefield Park, Marietta, Georgia" sheet no. 4 (January 1941 edition), 2.
145. Ibid.

Several archeological investigations have been conducted within Kennesaw Mountain National Battlefield Park. The first occurred in 1939. These have revealed evidence of several eras of cultural occupation and use of the landscape extending from prehistoric eras through the Civil War, and into the twentieth century. The *Kennesaw Mountain National Battlefield Park: Archeological Overview and Assessment*, by Robert Hellman of the National Park Service Southeast Archeological Center (2003), summarizes the archeological investigations that have been conducted within the park.

Some of the sites described in nineteenth-century accounts of the battlefield that have been investigated include the New Salem Church site, the Shiloh Church and School site, the Hardage House site, the Cass House site, the Ballenger House site, the Tierce House site, a number of rock fences, several hundred rock mounds, and numerous prehistoric sites.

A number of stone markers have been erected since the Civil War to commemorate particular events or participants associated with the Battle of Kennesaw Mountain in 1864. The Illinois Monument and several smaller battlefield markers were erected at Cheatham Hill, in 1914. The smaller tablets commemorate Captain Neighbour, Captain Fellows, Sergeant Coffee, the McCook Brigade, and the grave of an unknown soldier, discovered in the 1930s by CCC workers.

Two additional commemorative markers were added to the park in 1964. The Texas monument was erected along Cheatham Hill Drive to honor Texas troops who fought at Kennesaw. The Georgia Monument was placed at the foot of Kennesaw Mountain along Kennesaw Mountain Drive. The location of the Georgia Monument does not correspond to the location where Georgia troops fought during the battle, and the park has considered moving this monument to a more appropriate location near Burnt Hickory Road.

Each of the public roads that leads through the park features a park identity sign constructed by the CCC in 1941. Interior park roads such as

Cheatham Hill Drive and the recreation area parking lots are marked by gate that allow the National Park Service to close areas of the park at night. Other small-scale features within the park include several types of boundary or safety fencing, site furnishings, signage, and lighting. A variety of site furnishings are present within the park, ranging from kiosks to benches, picnic tables, grills, trash cans, drinking fountains, pedestrian bridges, planters, and other visitor amenities. Signage includes directional, wayfinding, regulatory, and interpretive signs mostly dating to the late twentieth century.

Landscape Character Areas

For the purposes of organizing the information provided below relating to the park's existing landscape conditions, the study area has been divided into a series of discrete character areas (Figure 51). Character areas are generally land bays that are unified by common land uses, topographic conditions, vegetative composition, and/or historic associations. The four character areas that comprise the park as determined for this report include:

Visitor Core. The Visitor Core Character Area includes the Kennesaw Mountain National Battlefield Park Visitor Center and the adjacent maintenance and administrative complexes, as well as Kennesaw Mountain Drive and the parking area, overlook, and paved trail to the summit where many visitors take advantage of interpretive program opportunities.

Earthworks and Trails. The Earthworks and Trails Character Area is composed of two noncontiguous parcels. The first parcel is located north of Dallas Highway and extends to the northernmost edge of the park along its western side. The second parcel includes the land south of Cheatham Hill and north of Powder Springs Road. The character area is defined by mature woodlands, hiking trails, and linear systems of Civil War earthworks. The majority of the character area is wooded but there are also several cleared fields located within the character area.

Cheatham Hill. The Cheatham Hill Character Area is located in the southern half of the park, south of Dallas Highway. The area was the first reservation established to commemorate the Civil War Battle of Kennesaw Mountain. Located within the character area are several monuments, a series of earthworks and open fields, an access drive, parking area, and several pedestrian trails.

Kolb House. The Kolb House Character Area is located south of Powder Springs Road and is bisected by Callaway Road. The area includes the Kolb House to the west of Callaway Road, which constitutes the only surviving antebellum dwelling located within the park today, and a forested parcel to the east of the road. A family cemetery lies adjacent to a parking area that affords visitors the opportunity of learning more about the property. The cemetery is not administered by the park.

Descriptions of the landscape resources present within the park are conveyed below by character area, organized in accordance with the landscape characteristics discussed in the chapter introduction above. The Wallis House is included in the descriptions, although not currently under NPS ownership.

Feature Condition Assessments

Each of the features discussed below has been assessed as to its condition. These assessments were made using the categories suggested by the *Guide to Cultural Landscape Reports*: Good, Fair, Poor, and Unknown. These categories are defined as follows:

Good: indicates the cultural landscape shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The cultural landscape's historical and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

Fair: indicates the cultural landscape shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within three to five years to prevent further harm to its historical and/or natural values. The cumulative effect of the deterioration of many of the significant characteristics and features of the cultural landscape, if left to continue without the appropriate corrective action, will cause the landscape to degrade to a poor condition.

Poor: indicates the cultural landscape shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural areas.

Unknown: indicates that not enough information is available to make an evaluation.[146]

The condition ratings were annotated as possible to include specific condition-related observations made in the field that help to justify the ratings. Most features are in good condition, unless identified otherwise in the narrative. The assessments are also conveyed in Appendix A.

146. Robert R. Page, Cathy A. Gilbert, and Susan A. Dolan, *A Guide to Cultural Landscape Reports; Contents, Processes, and Techniques* (Washington, D.C.: Department of the Interior, 1998), 67.

0' 1100' 2200' 4400'

SCALE 1" = 2200'

Old U.S. 41 Highway

Visitor Core Detail
see Figure 53

Visitor Core
see Figure 52

Earthworks & Trails
(1 of 3)
see Figure 172

Burnt Hickory Road

Powder Springs Road

Whitlock Avenue

Cheatham Hill Detail
see Figure 228

Earthworks & Trails
(2 of 3)
see Figure 173

Earthworks & Trails
(3 of 3)
see Figure 174

Kolb House
see Figure 282

Cheatham Hill
see Figure 227

Earthworks & Trails
(1 of 3)
see Figure 172

Stilesboro Road

Burnt Hickory Road

Dallas Highway

Earthworks & Trails
(3 of 3)
see Figure 174

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Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Source:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Figure 51.
Character Areas

LEGEND
- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

0' 300' 600' 1200'
SCALE 1" = 600'

Gate
3-panel kiosk
Recreation Area 2
Overflow parking lot (279 spaces)
Tierce House site
Western & Atlantic Railroad
Old U.S. 41 Highway
Visitor center and parking (86 spaces)
see Figure 53 for detail
Brick entrance sign
Recreation Area 1
Split-rail fence (4 rails)
Stilesboro Road
Georgia Monument
Park administration (Park Headquarters & Law Enforcement)
Iron gate
Pedestrian crossing
Maintenance complex
Gravel road access to CCC camp area
Visitor Center Loop Trail
Regulatory signs
Overlook parking (33 spaces)
Granite curbing
Overlook structure (view to Atlanta)
Mountaintop Trail
Stone stairs with iron railing
Trail regulations sign
Pedestrian crossing
Wayfinding sign (to visitor center, Pigeon Hill, and Burnt Hickory Road)
Concrete stairs (10-12 steps down to trail, with iron railing)
Burnt Hickory Loop Trail
Three cannon
Fences protect historic earthworks
Kennesaw Mountain Drive
Concrete steps with iron railing
Trash receptacle
Wood sign post to visitor center
Interpretive sign (Atlanta, Prize of War)
Big Kennesaw
Kennesaw Avenue
CCC camp road trace
Stone bridge
CCC camp
Emergency communications tower and service struture
Asphalt-paved path lined with stone benches
Hard-packed earth surfaced trail
Cannon
Paved pull-off
Bench
Interpretive sign (Cannon on Little Kennesaw)
Brumby Creek
Burnt Hickory Loop Trail

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Cultural Landscape Report
for
Kennesaw Mountain National Battlefield Park

Source:
Kennesaw Mountain National Battlefield Park GIS files, 2007.

Figure 52.
Existing Conditions:
Visitor Core
Character Area

Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

LEGEND
- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

Old 41 Highway
Asphalt path along road
Gravel pull-off parking
Split-rail fence (4 rails)
End of concrete sidewalk (leads to overflow parking)
Direction to overflow parking
Visitor center Park headquarters sign
Closed sign
Picnic table
Concrete utility box
Bench and bike rack
Parking (86 spaces)
Asphalt path along road
Snake fencing
Cannon
Series of crosswalks
Old 41 Highway
Stone pillars and gate
Bench
Flagpole
Interpretive sign
Cannon
Open meadow
Cannon
Visitor center
Chainlink fence (for HVAC)
Wood bridge to Picnic Area
Picnic Area
Stilesboro Road
Wood bridge to amphitheater
Amphitheater (11 benches)
Kennesaw Mountain Drive
Georgia Monument
Kiosk
Drinking fountain
2 panel sign with 3 posts
Trash receptacle
Culvert with brick headwalls
Bench with slate terrace
Visitor Center Loop
Visitor Center Creek West Branch
Park Rangers/Law Enforcement
Picnic tables (2)
Picnic tables (6)
Park Headquarters
Gravel parking
Maintenance complex
0' 100' 200' 400'
SCALE 1" = 200'

Source:
Kennesaw Mountain National Battlefield Park GIS files, 2007.

Figure 53.
Existing Conditions:
Visitor Core
Character Area Detail

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Existing Conditions Documentation by Landscape Character Area

Visitor Core Character Area

Refer to Figure 52 and Figure 53, plans of existing conditions at the Visitor Core Character Area.

The Visitor Core Character Area is located in the northern section of Kennesaw Mountain National Battlefield Park. The character area is defined by the park boundary to the north, east, west, and southwest. Its southeastern boundary crosses the Burnt Hickory Loop Trail between Kennesaw Mountain and Little Kennesaw Mountain. The Visitor Core Character Area contains Old U.S. Highway 41, which is the major access road to the visitor center from the north. The character area forms the heart of visitor services and orientation for the park. The character area features the visitor center and adjacent administration facilities (Park Headquarters and Park Rangers/Law Enforcement buildings) and the maintenance complex and associated parking. It also features a designated picnic area, a small amphitheater and the trailhead for the Visitor Center Loop Trail. The major natural feature of the character area is Kennesaw Mountain. Kennesaw Mountain Drive provides vehicular access to the Kennesaw Mountain overlook and the mountain summit, and associated interpretive features from the highest elevation in the park. Hiking trails include a trail from the visitor center to the summit of Kennesaw Mountain, the Mountaintop trail along the summit of Big Kennesaw mountain, the Visitor Center Loop Trail, and the Burnt Hickory Loop Trail that encompasses the CCC camp at the eastern base of Kennesaw Mountain. Numerous Confederate earthworks are located and interpreted along the Mountaintop Trail that follows the summit of Kennesaw Mountain and link Kennesaw and Little Kennesaw mountains. All resources associated with the character area are described below. They are all assessed in good condition unless otherwise noted.

Natural Systems and Features

The most important natural feature of the Visitor Core Character Area is the landform of Kennesaw Mountain. Kennesaw Mountain has three rocky peaks, named from north to south, Kennesaw Mountain, Little Kennesaw Mountain, and Pigeon Hill. It is a prominent landmark that is visible from Old U.S. Highway 41 and the visitor center complex of the park (Figure 54). Kennesaw Mountain is the highest point in the metropolitan Atlanta area. The topography of Kennesaw Mountain and the hills to the south were crucial to the course of events during the Battle of Kennesaw Mountain in 1864.

Several streams are located within the character area, including Brumby Creek to the south of the CCC camp and Visitor Center Creek West Branch located northwest of the maintenance area (Figure 55).

A spring is located near the former twentieth-century schoolhouse site between the rail line and Stilesboro Road. The spring was not located during field investigations. Little is currently known about the spring, or its value as a wetland.

FIGURE 54. Kennesaw Mountain viewed from Old U.S. Highway 41.

FIGURE 55. Brumby Creek, south of the CCC Camp.

Responses to Natural Resources

Responses to natural resources associated with the Visitor Core Character Area include the remnant Confederate earthworks constructed to strengthen the elevated position occupied atop Kennesaw Mountain. This position illustrates the role of high ground as key terrain to the military commanders seeking to control movement of Union forces along avenues of approach to the city of Atlanta. More recent responses to natural features include the construction of road corridors and the trail to the summit of Kennesaw Mountain for commanding views, opportunities for interpretation, and access to key military terrain. Additional responses to natural resources include park efforts in restoring and conserving soil and water resources and protecting earthworks beginning in the 1930s with stream channel stabilization and continuing with vegetation management programs. Other responses to natural resources within this character area include the establishment of a quarry on the east side of Kennesaw Mountain by 1939 to extract gravel and stone for CCC-era construction. The quarry is overgrown but remains visible to the northeast of the former CCC camp site. Also exhibited within the character area is the use of culverts and bridges to convey trails, paths, and roads across streams and drainages (Figure 56). Most notably is the stone bridge at the CCC camp. There are also two brick culverts that convey storm water beneath the road leading from the visitor center to the administration buildings and the maintenance complex (Figure 57), and other corrugated pipe culverts under the visitor center area road system (Figure 58). Two small wooden bridges cross minor unnamed streams near the picnic area.

FIGURE 56. Small wooden bridge crossing unnamed stream near the picnic area.

FIGURE 57. Brick culvert near the Park Headquarters.

FIGURE 58. Corrugated pipe culvert near the visitor center.

Patterns of Spatial Organization

Spatial organization within the Visitor Core Character Area is characterized by the hilly terrain of Kennesaw Mountain, the two major transportation corridors that cross the character area from east to west, the spatial patterns created by the contrast of heavy forest growth and adjacent open fields, and the configurations associated with the visitor center complex that includes a terrace, parking area, plantings, and views of open fields, the residences that stand side by side on a small rise overlooking the visitor center area with a shared driveway, and the maintenance area that is arranged to form a rectangle of buildings around the perimeter of a central open yard.

The Visitor Core Character Area includes the visitor center and associated structures that sit at the base of Kennesaw Mountain. The open field between the road and visitor center affords views to the visitor center complex edged to the rear by the elevated form of Kennesaw Mountain rising behind it (Figure 59). The open setting of the visitor center allows visitors to become oriented to park features from Old U.S. Highway 41 and Stilesboro Road.

Heavy forest cover and woodland growth dominate much of the rest of the character area. The woodland vegetation edges the trails closely, forming narrow travel corridors. Kennesaw Mountain Drive is also surrounded by woodland growth until it reaches the Kennesaw Mountain overlook and associated parking area where views open up to the broader landscape (Figure 60, Figure 61, and Figure 62). The Confederate earthworks at the summit of Kennesaw Mountain also help to create a sense of enclosed space along the Mountaintop Trail.

A large circular open meadow (once a parade ground) forms the central organizing feature of the CCC camp at the base of Kennesaw Mountain. A gravel road surrounds the open space, and woodland vegetation edges the road. The building foundations of the CCC camp are visible within the woodland vegetation at the edge of the open space.

FIGURE 59. The open field in front of the visitor center is edged by the wooded form of Kennesaw Mountain.

FIGURE 60. Woodland cover frames the Mountaintop Trail, but opens periodically, allowing for expansive views.

FIGURE 61. Many of the park trails are closely edged by woodland vegetation to either side.

FIGURE 62. The overlook is maintained clear of vegetation to allow for long views from Kennesaw Mountain.

FIGURE 63. Confederate earthworks atop Kennesaw Mountain were built in 1864.

Topographic Modifications

Topographic modifications within the Visitor Core Character Area include grading to accommodate roads, trails, and buildings, excavation of stone from a quarry at the base of Kennesaw Mountain by the CCC, agricultural terracing of lands along the lower slopes of Kennesaw Mountain, as well as the Confederate earthworks constructed along the Kennesaw Mountain ridge.

Earthworks. Topographic modifications include Civil War earthworks used for artillery emplacements located along the upper west slope and high ground of Kennesaw Mountain (Figure 63) and linear parapets along the lower slopes between the visitor center and the mountaintop constructed with associated borrow ditches on one or both sides. These earthen systems were generally designed to stand between 4 and 12 feet in height and between 4 and 16 feet in width (Figure 64). Union earthworks also survive and are located along the western base of Kennesaw Mountain.

FIGURE 64. The Mountaintop Trail is paved with asphalt in places. The trail closely edges some of the historic earthworks.

Roads and Structures. More recent topographic modifications evident in this character area are associated with park development. They include grading to establish the access road to the visitor center and the visitor center facility and parking (Figure 65 and Figure 66); Kennesaw Mountain Drive; Kennesaw Mountain overlook (Figure 67); the brick residence structures now housing Park Headquarters and Ranger administrative offices (Figure 68); the picnic/amphitheater area; and the maintenance complex (Figure 69). Land holdings adjacent to park boundaries have been modified by grading and filling to accommodate large residential developments.

FIGURE 65. Grading was used to create a level area around the visitor center.

FIGURE 66. Grading was also used to establish a commodious parking area and sidewalk leading to the visitor center.

FIGURE 67. Stairs provide access to the Kennesaw Mountain overlook. The complex was carefully graded to create a level viewing area.

FIGURE 68. Grading also supported development of the level area associated with the brick administration buildings.

FIGURE 69. The maintenance complex was sited atop a level graded area.

Land Uses and Activities

The primary land uses associated with the Visitor Core Character Area are interpretive/museum associated with the Kennesaw Mountain National Battlefield Park visitor center (Figure 70); administrative offices located in the brick structures southwest of the visitor center; maintenance within the maintenance yard complex; transportation associated with the primary roads that pass through the area; utility associated with the park's water, sewer, and communications systems; visitor services, including restroom facilities and drinking fountains; and recreational associated with a designated picnic area (Figure 71) and the pedestrian trails that begin in this area, including the Visitor Center Loop Trail and the Mountaintop Trail (Figure 72). Commercial uses occur with the visitor center gift shop, which sells books, maps and assorted souvenir items. and

Commemorative and interpretive uses are associated with the trails and overlook, the Georgia Monument, and the surviving earthworks at the summit of Kennesaw Mountain. Interpretive signage is also provided in association with the former CCC camp at the base of Kennesaw Mountain.

FIGURE 70. The visitor center incorporates interpretive/museum/education, visitor services, and commercial land uses.

FIGURE 71. Recreational and visitor service uses are associated with the picnic area.

FIGURE 72. An interpretive sign at the Kennesaw Mountain overlook.

Circulation

Roads and Parking. Public primary vehicular circulation routes within the Visitor Core Character Area include Old U.S. Highway 41, and Stilesboro Road. Park roads include Kennesaw Mountain Drive and the internal park access roads leading to the visitor center, the administrative facilities, and the maintenance complex.

Old U.S. Highway 41 crosses the northern portion of the character area. It replaced the earlier Marietta-Cassville Road, a trace of which survives north of the visitor center today across Stilesboro Road. Old U.S. Highway 41 was established through the area in the 1930s. It is a heavily traveled two-lane asphalt-paved state road corridor. It includes a bridge crossing of the rail line.

Access to the park is afforded from Stilesboro Road southeast of its intersection with Old U.S. Highway 41. Stilesboro Road is a two-lane asphalt-paved state road than runs 1.5 miles within the park in an east-west direction. The entrance road to the park at the visitor center and associated park facilities that also leads to Kennesaw Mountain Drive extends south from Stilesboro Road. The entrance to the park is marked by a gate and signage at the intersection with Stilesboro Road (Figure 73 through Figure 75).

FIGURE 73. The entrance road to the park near the visitor center.

FIGURE 74. Access into the park is restricted by a gate.

FIGURE 75. The entrance road is marked by a sign at the intersection with Stilesboro Road.

After passing through the parking area, the access road curves around the visitor center and forms Kennesaw Mountain Drive. The drive winds up Kennesaw Mountain and terminates at a parking lot below the Kennesaw Mountain overlook. The parking area accommodates thirty-three cars. Formerly known as the Georgia Hall of Fame Committee Memorial Overlook, the viewing platform was constructed in 1964 at the terminus of the road. Due to high volumes of traffic on the road, the park restricts private auto use on the weekends and offers shuttle bus service between the visitor center and the overlook (Figure 76 through Figure 78).

FIGURE 76. Kennesaw Mountain Drive terminates at a parking lot at the base of the overlook.

FIGURE 77. Kennesaw Mountain Drive.

FIGURE 78. Pedestrian crossing along Kennesaw Mountain Drive.

The parking area within the Visitor Core Character Area is located at the visitor center (Figure 79). The parking lot includes a one-way asphalt-paved loop road, edged by a concrete curb and gutter system that accommodates 80 cars. The center of the parking area is a turf island. Kennesaw Mountain Drive is accessible from this parking area, as is the asphalt-paved spur road that provides access to the administration and maintenance facilities for the park (Figure 80). Culverts with brick headwalls direct drainage beneath this spur road (Figure 81).

FIGURE 79. The primary parking lot at the visitor center.

FIGURE 80. The spur road to the maintenance facility.

FIGURE 81. Culverts carry storm water beneath the spur road leading to the administration and maintenance facilities.

An additional overflow parking lot is located northwest of the visitor center with access from Old U.S. Highway 41 near the Western & Atlantic Railroad tracks. This lot is paved in asphalt with concrete curbs and accommodates 279 cars. Access is limited at night by an automatic entrance

gate, equipped with solar panels, mounted on a limestone pier with attached metal arms. This gate is similar to those located at the visitor center, Cheatham Hill, and the parking lot on Cheatham Hill Drive (Figure 82 through Figure 85). This parking lot serves the field referred to as Recreation Area 1.

There is also pull-off parking within the character area along the north edge of Old U.S. Highway 41. This parking area extends west from the intersection of Old U.S. Highway 41 and Stilesboro Road to the railroad bridge (Figure 86).

FIGURE 84. The access road to the parking lot.

FIGURE 82. Overflow parking lot northwest of the visitor center.

FIGURE 85. Entry to the parking lot is controlled with an automatic entrance gate.

FIGURE 83. The overflow parking lot is accessed from Old U.S. Highway 41.

FIGURE 86. Additional pull-off parking is available along the north side of Old U.S. Highway 41.

Road Traces. Several historic road traces exist within the Visitor Core Character Area. The Old Antebellum Road currently exists as a trace that parallels Kennesaw Mountain Drive, the Kennesaw Battlefield Association/CCC Road, and the hiking trail that extends from the visitor center to the summit of Kennesaw Mountain. The Marietta-Cassville Road is located directly across Stilesboro Road from the park visitor center. This segment of the sunken historic trace was a major thoroughfare along which several dwellings were located. A military trace road is still visible on the northern ridgeline of Kennesaw Mountain but is badly eroded and overgrown. The CCC camp road enters the park from Kennesaw Avenue and circles around the former CCC complex. It is gravel-paved and now serves as a trail head for the Burnt Hickory Loop Trail.

Rail Line. The Western & Atlantic Railroad parallels the northwest border of the Visitor Core Character Area. The railroad right of way does not fall within the park. The railroad pre-dates establishment of the park, and was present at the time of the battle. It is visible from the bridge on U.S. Highway 41 and the overflow parking area. (Figure 87).

FIGURE 87. The Western & Atlantic Railroad line, viewed from the commuter and park overflow parking lot.

Pedestrian Circulation and Trails. Within the Visitor Core Character Area there are numerous sidewalks, steps, and small pathways associated with the visitor center and visitor parking area, the designated picnic area, and the commuter and park overflow parking area along Old U.S. Highway 41. Access to the visitor center from the parking area is provided by sidewalks and flights of steps that lead to a stone terrace at the entrance to the building. Other sidewalks lead to the main building entrance from the parking area. A short gravel path leads from the parking lot to the picnic area, with a narrow wood plank bridge crossing a minor stream tributary. Concrete sidewalks also provide access to the front of the administration buildings from the shared parking area between them. The sidewalks are lined with stones that separate planted and mulched foundation areas from the turf in front of the buildings (Figure 88 through Figure 92).

FIGURE 88. Concrete sidewalk edging the visitor center parking lot.

FIGURE 89. An asphalt sidewalk leads to a wood plank bridge crossing of a minor stream.

FIGURE 90. Concrete sidewalks near the visitor center in the Visitor Core Character Area.

FIGURE 91. Concrete sidewalk with adjacent plantings in the Visitor Core area.

FIGURE 92. Concrete sidewalk adjacent to the visitor center.

A concrete sidewalk parallels the south edge of Old U.S. Highway 41 between the commuter and park overflow parking area and the park entrance at Stilesboro Road (Figure 93). This sidewalk is edged by split -rail fencing (Figure 94). Access to the park entrance at this intersection is difficult for pedestrians. The paved sidewalk ends at the intersection. To reach the park, visitors created a social path from the intersection south along the northwest edge of Stilesboro Road to a sign grouping opposite the park entrance (Figure 95). In 2012, the park established new fencing and walks to replace this social trail.

FIGURE 93. Concrete sidewalk running parallel to Old U.S. Highway 41.

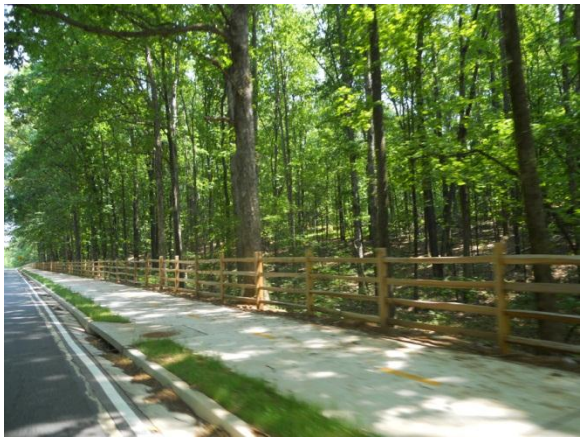

FIGURE 94. The sidewalk along Old U.S. Highway 41 is edged by a split rail fence.

FIGURE 95. A social trail has been created near the intersection of Old U.S. Highway 41 and Stilesboro Road by visitors.

Trails in the Visitor Core Character Area include the Visitor Center Loop Trail, the Mountaintop Trail, and the Burnt Hickory Loop Trail. The Visitor Center Loop Trail is accessed from the designated picnic area and small amphitheater west of the visitor center. The trail loop winds through woodlands southwest of the visitor center at the base of Kennesaw Mountain. The Mountaintop Trail leads from the visitor center to the parking lot at Kennesaw Mountain overlook and the summit of Kennesaw Mountain (Figure 96 and Figure 97). This mile-long route is a steep, 10- to 15-foot-wide hard-packed earth trail that winds up the eastern face of Kennesaw Mountain. A stone and concrete stair leads from the trail to the parking lot at the overlook (refer to Figure 76). The section of the trail from the overlook structure to the crest of the mountain is paved with asphalt (Figure 98). The section of trail between the summit and Kennesaw Mountain Drive is hard-packed earth. Some sections of the trail were part of the road used by the Kennesaw Battlefield Association and the CCC to access the mountain. The trail provides views of earthworks and access to several artillery emplacements at the summit. From atop Kennesaw Mountain, visitors enjoy long views of the surrounding countryside.

FIGURE 96. The Mountaintop Trail, at the overlook parking lot.

FIGURE 97. Earthworks adjacent to an asphalt portion of the Mountaintop Trail.

FIGURE 98. A portion of the Mountaintop Trail paved in asphalt, with metal handrails.

The Burnt Hickory Loop Trail, which connects the Kennesaw Mountain summit with Burnt Hickory Road, follows the ridgeline to Little Kennesaw Mountain and Pigeon Hill before following a steep and strenuous course down to Burnt Hickory Road. The majority of the trail is hard-packed earth although portions of the trail near Kennesaw Mountain Drive are gravel. Small stone-lined washout basins are located along the more northern portions of this trail to maintain its surface during rain events. A concrete stair provides access to the trail from Kennesaw Mountain Drive. A stone stair is located along the trail north of the summit of Little Kennesaw (Figure 99 and Figure 100).

FIGURE 99. A stone stair along the Burnt Hickory Loop Trail, at Burnt Hickory Drive.

FIGURE 100. A concrete stair provides access to the Burnt Hickory Loop Trail from Kennesaw Mountain Drive.

Vegetation

Within the Visitor Core Character Area, the slopes and summit of Kennesaw Mountain are heavily wooded with stands of second growth hardwood forest including dominant species such as chestnut oak, blackjack oak, scarlet oak, shortleaf pine, and loblolly pine. These species are representative of those found in the Piedmont transition zone between the South Georgia pineland and the upland Appalachian hardwoods. Open lawns and fields are also present in this character area including the lawns and field surrounding the visitor center and the open lawn at the center of the CCC camp site (Figure 101).

CCC enrollees planted a number of trees and shrubs between 1938 and 1942, some of which are still extant. The camp was organized within a circular drive. At the center of the circle is a ring of five mature eastern red cedar trees *(Juniperus virginiana)* that remain from the original plantings. At the base of one of the cedars is a clump of prickly pear cactus *(Opuntia* sp.), a species not common in north Georgia. As prickly pears are quite long-lived, it may be that this plant has survived in place since the 1930s. Several large white oaks that edge the field may also be original to the camp's development.

In addition to the cedars, colonies of autumn olive, a shrub introduced from East Asia in the 1830s, are scattered throughout the woods surrounding the camp site. This large evergreen shrub is known for its invasive qualities in the southeastern United States and is spread by birds that eat its small red berries. Wisteria *(Wisteria sinensis)* is also found in abundance around the CCC camp. The vine is known for its invasive qualities in the southeastern United States and has colonized large areas of the former CCC camp.

FIGURE 101. The open field at the center of the CCC camp site.

Other non-native species have been planted in association with the visitor center. The visitor center environs are heavily planted with ornamentals including native and exotic trees, shrubs, and perennials. Non-native trees and shrubs include nandina, arborvitae (*Thuja occidentalis*), dwarf juniper (*Juniperus procumbens 'Nana'*), privet, holly (*Ilex* spp.), and a number of different herbaceous perennials (Figure 102 through Figure 104). Native, deciduous azaleas (*Rhododendron spp.*) are located in the visitor center picnic area. These shrubs are tended by local park volunteers who remove the more invasive Japanese honeysuckle from their branches. The visitor center area is dotted with large oaks and some evergreens that may be from the Civil War era (Figure 105). These specimen trees include white oak and red oak.

FIGURE 102. Non-native vegetation planted near the visitor center.

FIGURE 103. Non-native ornamental shrubs near the visitor center.

FIGURE 104. Ornamental vegetation near the visitor center.

FIGURE 105. A large oak tree adjacent to the visitor center terrace.

FIGURE 106. The Kennesaw Mountain National Battlefield Visitor Center.

Building and Structures

Buildings within the Visitor Core Character Area located at the base of Kennesaw Mountain include the visitor center; two small brick residences now used for administrative offices, including Park Headquarters and Park Rangers/Law Enforcement; and a cluster of maintenance buildings and structures.

The current Kennesaw Mountain National Battlefield Park Visitor Center opened in 1964 and was renovated and expanded in 1999 (Figure 106 and refer to Figure 65). The steel frame structure with its brick cladding marked by ornamental horizontal bands of inset brick has a contemporary appearance that references the Mission 66 era of park design. The building rests on a raised terrace set into the hillside at the base of Kennesaw Mountain. The approach to the main entrance, which faces west, is paved with colored concrete in a geometric pattern and edged on one side by a field stone seat wall. The entrance terrace extends around the building to its north side where a broad stairway provides seating for outdoor programs on the lawn beyond.

Two buildings were constructed as park staff residences in 1965 (Figure 107 and Figure 108). These buildings mirror one another. Each is rectangular in plan with a small garage attachment at one end. Each structure is approximately 1,600 square feet in size and includes a living and dining room, kitchen, three bedrooms, bathrooms, a utility room, carport, and storage area. They share an access drive and parking area. The residences are clad with red brick, have gable roofs covered with asphalt shingles, and wood double hung and fixed windows. One residence is now used for Park Headquarters and the other for Park Administration.

FIGURE 107. The Park Rangers/Law Enforcement building, formerly a staff residence.

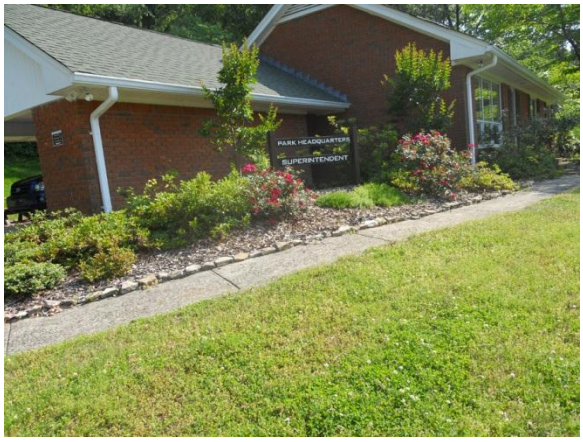

FIGURE 108. Park Headquarters building, formerly a staff residence.

Southwest of the visitor center is a small, U-shaped complex of buildings and structures that house maintenance offices, shops, equipment and utilities (Figure 109). The complex was laid out by the CCC in 1941. The original Colonial Revival-style red brick garage facility buildings were constructed by the CCC in the same year. In 1974, small additions were made to the buildings, and other shelters and utility equipment were added along the northwest side of the maintenance yard. These newer structures include an open wood-framed machine shelter with a sheet metal roof; a small concrete block storage building with a gabled roof covered with asphalt shingles; and a free-standing metal storage locker. The complex has, however, maintained the original three-sided spatial arrangement of buildings and structures surrounding a paved work yard.

FIGURE 109. Maintenance complex surrounding the paved work yard.

Structures. The types of structures associated with the Visitor Core Character Area include earthworks, monuments, bridges, culverts, an overlook, CCC-era foundations, and a contemporary emergency communications tower and related small building.

The surviving Confederate earthworks within this character area include:

Confederate rifle pits. Located along the northwestern base of Kennesaw Mountain near Old U.S. Highway 41 is a series of Confederate rifle pits characterized by shallow depressions. These are generally in good condition.[147] They are most likely associated with the 1st and 26th Alabama volunteers regiments, stationed at the base of Kennesaw Mountain during the battle.[148]

Confederate trench lines. Trench lines, in fair condition, are located along the slopes and crest of Kennesaw Mountain and are visible from Kennesaw Mountain Drive in some places. The crest of the mountain is known to have been held by Maj. Gen. Edward C. Walthal's Division, which was part of Maj. Gen. William Loring's Corps of the Army of Mississippi.[149]

Federal trench line no. 6. Located between the confluence of Old U.S. Highway 41 and Stilesboro Road is a trench line in poor condition.[150] This area was occupied either by the 66th Illinois or elements of Sanderson's 1st Brigade.[151]

147. Anne F. Rogers, *Archaeological Survey of Kennesaw Mountain National Battlefield Park* (Athens, Georgia; University of Georgia Department of Anthropology, 1977. Manuscript on file), 29.
148. Hellman, *Archeological Overview and Assessment* 120.
149. Ibid., 120, citing Rogers, 29.
150. Ibid., 120, citing Rogers, 29
151. Ibid., 120.

The Kennesaw Mountain overlook is a concrete and masonry structure first constructed in 1964 by the Georgia Hall of Fame Committee and donated to the National Park Service to provide a vista from which visitors can see a wide expanse of the countryside in which the Battle of Kennesaw took place. The structure was rebuilt in 1981 by the NPS (Figure 110). The overlook presents a view of historic downtown Marietta and further east to Stone Mountain, the site of another important Civil War battle.

FIGURE 110. The stone and concrete overlook at Kennesaw Mountain.

Adjacent to the overlook is the emergency communications tower and service building used by Cobb County and the park. These structures were constructed after the September 11, 2001 terrorist attacks on the World Trade Center and Pentagon in order to provide a more secure location for the transmission towers. These structures are maintained by a sub-contractor for the county government. Although the communications tower is visible in most views of the mountain, the one-story service building is notched into the side slope and is relatively unobtrusive (Figure 111).

FIGURE 111. The service building adjacent to the emergency communications tower and service building on the east slope of Kennesaw Mountain.

As noted previously, the remains of the former CCC camp are located at the base of the hill to the northeast of the Kennesaw Mountain overlook. A number of foundations are present, including the floor and walls of a cast-in-place concrete basement that once supported the canteen building, as well as cast-in-place concrete foundations that supported the kitchen and bath house. A brick masonry grill structure remains, relatively intact, along the circular road around the site (Figure 112 through Figure 114).

FIGURE 112. Concrete foundation in the CCC camp site.

FIGURE 113. A concrete foundation in the CCC camp site.

FIGURE 114. A brick masonry grill structure in the CCC camp site.

The camp also contains a small stone brick bridge that crosses over a drainageway on the south side of the circular CCC camp road (Figure 115 and Figure 116). The narrowest part of the bridge is approximately 7 feet wide. This dimension includes the stone walls, which are each 16 inches wide. The bridge is approximately 24 feet long. It is very overgrown. Little documentation exists regarding the bridge, but it is assumed to have been constructed by the CCC.

FIGURE 115. Stone masonry bridge south of the CCC camp site.

FIGURE 116. Stone wall of the masonry bridge south of the CCC camp site.

Views and Vistas

Within the Visitor Core Character Area one important view occurs looking north from the visitor center across the open meadow that edges Old U.S. Highway 41 near the visitor center (Figure 117). The visitor center is also visible from Old U.S. Highway 41 near its intersection of the highway with Stilesboro Road.

The most dramatic views and vistas within the character area occur at the Kennesaw Mountain overlook and from the Kennesaw Mountain summit. Designed vistas include those from the Kennesaw Mountain overlook, where a wide promenade at the parking level presents a view toward downtown Marietta and Stone Mountain beyond to the east (Figure 118). From the summit of Kennesaw Mountain, the vegetation opens up and visitors can view the Piedmont landscape

beyond the mountain from its rocky crest (refer to Figure 62).

The circular open meadow, which was the parade ground associated with the CCC camp, offers a view into this space from the entrance road (Figure 119). Other former fields that are now wooded are located north of the CCC camp, between Old U.S. Highway 41 and Stilesboro Road and north of Old U.S. Highway 41 within this character area. These woodlands limit views that were associated with the battlefield landscape.

FIGURE 117. The visitor center is visible across the open meadow from Old U.S. Highway 41.

FIGURE 118. The view from the overlook structure atop Kennesaw Mountain.

FIGURE 119. View into the CCC camp site from the entrance road.

Small-scale Features

Small-scale features within the Visitor Core Character Area include signs, commemorative markers, site furnishings, fences and gates, lighting, interpretive elements, and utilities.

Signs. There are a variety of signs within the Visitor Core Character Area, including way-finding, interpretive, historical markers, brick monument signs, road regulation, park regulation, information, and identification (Figure 120 through Figure 125 and refer to Figure 63, Figure 72, and Figure 96).

Park identity signs are brick monuments that mark the boundaries along public roads. Eight of these monument signs were constructed by the CCC in 1941. Each sign has a wide brick base constructed in a running bond pattern. The base supports a brick sign panel, also constructed in running bond. The panel is supported on each end by a brick pier, constructed in stacked bond with rustic quoining. The panel supports a cast iron sign that reads "National Park Service, Kennesaw Mountain National Battlefield Park, United States Department of the Interior." One of these signs is located on Old U.S. Highway 41, where the road intersects the eastern boundary of the park.

Within the Visitor Core Character Area, there are numerous NPS directional, wayfinding, and regulatory signs made of brown-painted metal with white lettering. These signs indicate allowed activities, park schedules, notices ranging from wildlife information to neighborhood meetings,

directions, and warnings about staying off earthworks and cannon. State regulatory signs edge the roads, including speed limit and stop signs. There is a three-panel orientation kiosk located in the overflow parking area located west of the visitor center on Old U.S. Highway 41. The sign provides information and directions for visitors.

FIGURE 120. Brown-painted metal sign with white lettering near the visitor center designates parking for buses and campers. The larger sign provides icons for a picnic area and trail.

FIGURE 121. Directional sign adjacent to a trail.

FIGURE 122. Metal sign identifying the Pigeon Hill Trail.

FIGURE 123. Three-panel kiosk in the overflow parking lot.

FIGURE 124. Metal sign noting park regulations.

FIGURE 125. Metal sign instructing visitors to stay on paths.

There are also a large number of interpretive signs located within the character area. These low profile signs are constructed of fiberglass panels supported by black-painted metal framing (Figure 126 through Figure 128). Interpretation is also provided on smaller signs with angled faces attached to wooden posts. These interpretive signs are located at the CCC camp site (Figure 129). A bronze interpretive/commemorative sign installed on a masonry support sits atop the top of the Kennesaw overlook (Figure 130). There are also cell phone audio tour signs in front of the visitor center and the base of the staircase at Kennesaw overlook (Figure 131).

FIGURE 126. Low profile interpretive sign near the visitor center.

FIGURE 127. Low profile interpretive sign, "Cannon on Little Kennesaw."

FIGURE 128. Low profile interpretive sign and adjacent bench.

FIGURE 129. Small angled sign interpreting features of the CCC camp site.

FIGURE 130. Bronze interpretive panel at the Kennesaw Mountain overlook.

FIGURE 131. Cell phone audio tour sign at the base of the stair leading to the overlook. A similar sign is located near the visitor center.

Commemorative markers. The Georgia Monument (LCS ID 090144; HS-11), located at the foot of Kennesaw Mountain along Kennesaw Mountain Drive (Figure 132) was erected in 1964. The monument was donated by the State of Georgia to honor its soldiers. Composed of a granite shaft that stands 16 feet high and is 4 by 4 feet square, with a two-part granite base that rests on a concrete substructure, the monument is similar on the front and back. It includes a fluted top, the seal of the State of Georgia, and an inscription: "Georgia Confederate Soldiers; We Sleep Here in Obedience to Law; When Duty Called, We Came, When Country Called, We Died."

FIGURE 132. The Georgia Monument at the foot of Kennesaw Mountain.

Site Furnishings. A variety of benches, trash and recycling receptacles, picnic tables, and grills are found throughout Kennesaw Mountain National Battlefield Park. The Visitor Core Character Area contains many examples of site furnishings.

Several different styles of seating and benches are found throughout the character area. Seating provided on the visitor center patio consists of single backless benches constructed of recycled plastic. The visitor center site also has wooden benches of various types. One type is backless, constructed of 2x4s with round wood posts buried in the ground (Figure 133). One of the backless benches is set on a flagstone terrace (Figure 134). Two other similar benches do not have the flagstone settings. Another wooden bench located along the access road to the visitor center is constructed of wood slats with a seat and back (Figure 135). There are two recycled plastic slat trash receptacles located at the entrance to the visitor center building (Figure 136).

FIGURE 133. Backless wood bench located in the visitor center parking lot island.

FIGURE 134. Backless wood bench set on a flagstone terrace along the path to the visitor center.

FIGURE 135. Wood slat bench with back near the visitor center.

FIGURE 136. Bench and trash receptacles adjacent to the visitor center entrance.

There are stone benches at the Kennesaw Mountain overlook and a variety of benches along the trail at the summit of Kennesaw Mountain. These include stone, log, and wood plank bench styles (Figure 137 through Figure 139). There is a recycled plastic bench with a back at the wayside for the Little Kennesaw Trail along Kennesaw Mountain Drive (Figure 140). The bench in the CCC area has no back and is constructed of recycled plastic (Figure 141).

FIGURE 137. Stone bench along the summit trail atop Kennesaw Mountain.

FIGURE 138. Concrete benches associated with the Kennesaw Mountain overlook.

FIGURE 139. Wood slat bench with back in the overlook parking lot.

FIGURE 140. Recycled plastic bench along Kennesaw Mountain Drive.

FIGURE 141. Recycled plastic bench in the CCC camp site.

The picnic area at the visitor center contains picnic tables constructed of recycled plastic (Figure 142). This type of picnic table is also located behind the administration buildings. Universally accessible tables are provided in both locations. There are small metal grills mounted on single posts dispersed throughout the picnic area (Figure 143). The picnic area also contains four animal-proof recycling/trash cans mounted on concrete bases (Figure 144).

Metal tube-supported picnic tables are located at the administration buildings and the maintenance complex (Figure 145). The maintenance yard complex also contains metal dumpsters and recycled plastic benches.

FIGURE 142. Universally accessible picnic table near the administration buildings.

FIGURE 143. Upright metal grill in the picnic area.

FIGURE 144. Animal-proof trash receptacles near the picnic area.

FIGURE 145. Picnic table supported by metal tubing behind the administration buildings.

Two small wooden bridges span a creek bed to provide access to the picnic area parking lot (refer to Figure 56 and Figure 89). One is located west of the parking lot. The other connects the picnic area with the amphitheater. The amphitheater contains recycled plastic backless benches and a small wooden stage or platform used for educational programs or demonstrations (Figure 146 and Figure 147).

FIGURE 146. Recycled plastic slat benches in the amphitheater.

FIGURE 147. Wooden stage and benches in the amphitheater.

Decorative stacked stones define planting beds at the visitor center and at the administrative buildings (Figure 148). Steel edging is also used to define planting beds around the visitor center and prevent mulch from washing onto the sidewalks (Figure 149). Large native stone boulders have been placed along the Kennesaw Mountain Drive to keep cars from driving over the edge (Figure 150).

FIGURE 148. Decorative stone edging defining planting beds at the visitor center.

FIGURE 149. Steel edging along a visitor center sidewalk prevents mulch from washing onto the sidewalk.

FIGURE 150. Native stone boulders along Kennesaw Mountain Drive.

Also located in this character area is a metal flagpole sited along the main walkway to the visitor center entrance (Figure 151). A metal bicycle rack is also located in the parking lot island along with a single wooden backless bench constructed of 2x4s with round wood posts buried in the ground (Figure 133). A drinking fountain is located to the south of the visitor center adjacent to the connector trail leading to the Mountaintop Trail and Kennesaw Mountain Drive.

FIGURE 151. Metal flagpole at the visitor center.

Fences. Snake fencing is used throughout the park to mark boundaries and entrances. Within the Visitor Core character area, it is found at the entrance to the visitor center and adjacent to the large open meadow to the north of the visitor center along Old U.S. Highway 41 and Stilesboro Road (refer to Figure 59). Snake fencing is also used along stretches of the visitor center access road (Figure 152 and Figure 153). This type of fencing also encircles the earthworks on the summit of Kennesaw Mountain (Figure 154). Finally, snake fencing is used along the trail system as a barrier or to define interpretive sites along the trail to the summit of Kennesaw Mountain (Figure 155 and Figure 156).

As noted previously, split-rail fencing edges the sidewalk leading between the commuter and park overflow parking area and the intersection of Stilesboro and Old U.S. Highway 41.

FIGURE 152. Snake fencing along the visitor center access road.

FIGURE 153. Snake fencing adjacent to the stone gate at the entrance to the visitor center.

FIGURE 154. Snake fencing protecting earthworks on Kennesaw Mountain.

FIGURE 155. Snake fencing defines interpretive sites such as the cannon sited atop Kennesaw Mountain.

FIGURE 156. Snake fencing is also used to protect many of the historic earthworks.

The Kennesaw Mountain overlook is edged by tubular steel railings (Figure 157 and Figure 158). The rails aid the visitor while climbing the stairs to access the overlook and the fence forms a protective barrier around the overlook platform. Steel tube hand rails painted brown are used in association with steps in the vicinity of the visitor center and along trails.

FIGURE 157. Tubular railings around the Kennesaw Mountain overlook.

FIGURE 158. Tubular railings edge the overlook.

Chain link fencing is used to enclose the overflow parking lot, behind the visitor center to protect HVAC utilities, and to contain the maintenance yard (Figure 159 through Figure 161).

FIGURE 159. Chain link fencing surrounds HVAC equipment located at the visitor center building.

FIGURE 160. Chain link fence encloses the maintenance yard.

FIGURE 161. Chain link fencing encloses the overflow parking lot.

Gates. The entrances to the visitor center and the overflow parking lot are marked by sandstone piers with attached powder coated aluminum gates (Figure 162 through Figure 164 and refer to Figure 85). The gates are automatic and have been constructed at several entrances in the park since 2009. Similar gates are found at the entrance at Cheatham Hill Drive and the entrance and exit to the parking lot on Cheatham Hill Road. The piers are 4 feet 8 inches tall with a 2 inch cap. Each pier rests on a 3 by 3 foot concrete pad. Each gate arm is 11 feet 9 inches in length.

FIGURE 162. Powder coated aluminum gate at the visitor center entrance.

FIGURE 163. Stone pier and gate hinge.

FIGURE 164. Gate at the entrance to the overflow parking lot.

Brown-painted metal bar gates mounted on concrete-filled metal posts are used extensively in this character area and throughout the park (Figure 165 and Figure 166). The posts supporting the gates are usually marked with a white painted number for identification. Informational signs are often mounted on the gate or nearby that convey park schedules or other instructional or regulatory information. These gates serve as barriers to vehicles and are locked after hours. One such gate preventing vehicles from accessing the gravel service road from the parking lot is located at the Kennesaw Mountain overlook.

FIGURE 165. Brown-painted metal gate blocking access to a gravel service road.

FIGURE 166. Brown-painted metal gate at the overlook.

Lighting. Within this character area lighting is provided in the visitor center parking lot and along some of the visitor center sidewalks. The lighting includes poles with shoebox fixtures painted brown and low level lighting along the paths provided by 6-inch-tall bollard lights set in planting beds (Figure 167 and Figure 168). The visitor center is the only place in the park with lighting.

FIGURE 167. Pole-mounted lights in the visitor center parking lot.

FIGURE 168. Low-level lighting adjacent to a sidewalk near the visitor center.

Interpretive elements. Cannon have been placed within several locations as interpretive aids. In 1968 a temporary cannon plaza was built for four cannon in front of the visitor center. Cannon are also present at the summit of Kennesaw Mountain (Figure 168 and Figure 169 and refer to Figure 156).

FIGURE 169. Cannon located on the north side of the visitor center.

Utilities. Above ground evidence of utilities within this character area include drain pipes with stone culverts, drain pipes with brick culverts, a large concrete flume near the Georgia Monument, steel drainage inlets at the overlook parking lot, above-ground water pipes at the CCC camp site, fire hydrants along public roads, a water standpipe in a planting bed in front of the visitor center, a large concrete utility cover west of the visitor center parking lot (Figure 170), and a U.S. Coastal Geodetic survey marker installed at the summit of Kennesaw Mountain (Figure 171).

FIGURE 170. Large concrete utility cover west of the visitor center parking lot.

FIGURE 171. Survey marker at the summit of Kennesaw Mountain.

Archeological Resources

A total of nineteen archeological investigations have been conducted at Kennesaw Mountain National Battlefield Park. A 1975 survey conducted by the University of Georgia under the supervision of David J. Hally and reported by Rogers (1977), provides the only systematic, park wide archeological survey of KEMO undertaken to date. The survey was conducted to identify prehistoric and historic archeological features as well as those that would be disturbed by the installation of fencing for the park's boundary.[152]

Within the Visitor Core Character Area, archeological survey was conducted in 1991. This survey was performed by Douglas Potter, NPS Southeast Archeological Center (SEAC) archeologist, and included a Section 106 clearance for a proposed sidewalk at the park visitor center.[153]

152. Robert Hellman, *Kennesaw Mountain National Battlefield Park Archeological Overview and Assessment*, SEAC 471 (Tallahassee, Florida: Southeast Archeological Center, National Park Service, 2003), 88–94.
153. Ibid., 88.

Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

LEGEND

- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

See Inset, this page

Inset

Western & Atlantic Railroad
Snake fence
Stilesboro Road
Twenty-four Gun Battery Creek
Brick entrance sign
Gilbert Road
Gilbert Field
Federal Twenty-Four Gun Battery
Second Federal Battery
Proposed parking
Little Kennesaw earthworks
Brumby Creek
Old Mountain Road
Four cannon
Bench
Fort McBride sign
Observation Rock
Army of the Tennessee Line
Burnt Hickory Creek
Pigeon Hill overlook structure
Pigeon Hill Trail
Pigeon Hill
Pigeon Hill earthworks
Burnt Hickory Road
Cass House site (1864)
Pedestrian crossing
Pedestrian crossing

Brick entrance sign
Casemated Battery
Old 41 Highway
Wood fence
Stilesboro Road

0′ 450′ 900′ 1800′
SCALE 1" = 900'

See Figure 173, Earthworks and Trails Character Area (2 of 3)

Source:
Kennesaw Mountain National Battlefield Park GIS files, 2007.

Figure 172.
Existing Conditions: Earthworks and Trails Character Area (1 of 3)

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See Figure 172, Earthworks and Trails Character Area (1 of 3)

LEGEND
- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

Pigeon Hill Trail
Street parking
Burnt Hickory Road
Paved area with interpretive sign (surrounded by privet hedge & trash receptacle)
Brick entrance sign
Split-rail fence
Georgia State historical marker (Kennesaw Battlefield)
Kiosk, drinking fountain, directional sign, cell phone audio tour sign
Cass House site
Hardage House site
Bench
New Salem Church Site (1864)
Bridge with stone culvert
Detour signs
Trail regulations sign
Plastic culvert
Brick entrance sign
Fourth Corps Line
New Salem Church Trail
Noses (Noyes) Creek Earthworks
Cheatham Hill Connector Trail
West Trail (north loop)
Stone waterbars
New bridge
Expanded fire road to the bridge
Bald Knob/Nodine Headquarters earthworks
West Trail (south loop)
Culvert
Shiloh Church & School site
Brick entrance sign
Dallas Highway
Detour sign
Ballenger House site
Cheatham Hill Drive

The Horseshoe
Bald Knob
Hardage Drive
Mount Calvary Road
Whitlock Avenue
Burnt Hickory
Noses (Noyes) Creek

0' 400' 800' 1600'
SCALE 1" = 800'

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Cultural Landscape Report
for
Kennesaw Mountain National Battlefield Park

Source:
Kennesaw Mountain National Battlefield Park GIS files, 2007.

Figure 173.
Existing Conditions: Earthworks and Trails Character Area (2 of 3)

LEGEND
- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

Split-rail fence (3 rails)
Picnic area
Stormwater retention pond
Parking area
Split-rail fence (2 rails)
Stone columns and gates
Kiosk, regulatory signs, Kolb Farm Loop Trail wood sign
Split-rail fence (2 rails)
Stone columns and gates
Row of pin oaks
Interpretive sign (Sherman's Command Post)
Georgia State historical marker (5 Federal Brigades)
Regulatory signs
General Thomas's Headquarters site earthworks
Strahl's Fort
Twentieth Corps/ Hooker's Corps Initial and Second Positions
Kolb Farm Loop Trail
Horse trailer parking
Pedestrian crossing
Kolb House
see Figure 282
Brick entrance sign
Kolb Farm Loop Trail
Peel Field
Cheatham Hill Road
Cheatham Creek
John Ward Creek
Overlook Creek
Horse Creek
Kolb Creek
Strahls Creek
Powder Springs Road
0' 500' 1000' 2000'
SCALE 1" = 1000'

Cultural Landscape Report
for
Kennesaw Mountain National Battlefield Park

Source:
Kennesaw Mountain National Battlefield Park GIS files, 2007.

Figure 174.
Existing Conditions: Earthworks and Trails Character Area (3 of 3)

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Earthworks and Trails Character Area

Refer to Figure 172 through Figure 174.

The Earthworks and Trails Character Area encompasses a large area of the park that extends between the northern and southern boundaries. The Earthworks and Trails Character Area is composed of two noncontiguous parcels. The first parcel is located north of Dallas Highway and extends to the northernmost edge of the park along its western side. The second parcel includes land south of Cheatham Hill and north of Powder Springs Road. Features associated with this character area include the trail systems that follow the Confederate and Union earthworks through generally forested areas and periodically open areas.

Natural Systems and Features

The most important landforms located within the Earthworks and Trails Character Area are Little Kennesaw Mountain and Pigeon Hill. South of Burnt Hickory Road, at the base of these features, the land drops to more gently-sloped terrain characterized by rolling knolls and valleys cut by the ravines of stream corridors.

Little Kennesaw Mountain rises above the saddle ridge south of Kennesaw Mountain. It was used by the Confederate Army to establish a strong and strategic artillery position. Pigeon Hill is a rocky outcrop located south of Little Kennesaw Mountain and adjacent to the lowland terrace occupied by Burnt Hickory Road that played an important role in the Confederate defensive system established at Kennesaw Mountain. It rises to an elevation of approximately 1,240 feet AMSL.

A number of creeks flow through this character area. Twenty-Four-Gun Battery Creek flows northwest across Stilesboro Road. Noses Creek bisects the character area from east to west between Dallas Highway and Burnt Hickory roads. It is fed by a number of tributaries that help drain the area, including Burnt Hickory Creek, which runs through the northern portion of the character area (Figure 175). These creeks constitute wetlands, and as such play an important role in the park's natural systems.

John Ward Creek bisects the south parcel of this character area from east to west. It is located between Dallas Highway and Powder Springs Road. A substantial portion of John Ward Creek flows through private property that is surrounded by park land. It is fed by Horse, Overlook, Kolb, Cheatham, and Strahl's creeks, all of which flow through the character area. These creeks constitute wetlands that are critical components of the park's natural environment.

Drunkard Springs is located north of Burnt Hickory Road and east of Pigeon Hill. It is associated with the Eaton House site. It was not located during fieldwork conducted on behalf of this project.

FIGURE 175. Noses Creek bisects the north parcel of the character area between Burnt Hickory Road and Dallas Highway.

FIGURE 176. Smaller tributaries drain the character area and empty into the named creeks like John Ward and Noses.

The Earthworks and Trails Character Area includes a variety of open fields and forested areas. Peel Field is located in the southern portion of the character area. It is currently being used as a test area for reintroducing American chestnut (*Castanea dentata*) trees to Eastern forests that have been bred with Chinese chestnut (*C. mollissima*) for resistance to the blight that has nearly eradicated this former forest dominant from North America. Open fields are maintained in many of the locations where they were present historically as a battle interpretive aid. The park's earthworks are generally maintained under forest cover, which helps protect them from the elements and from curious park visitors.

Responses to Natural Resources

The trails that traverse the Earthworks and Trails Character Area are generally located to take advantage of natural ridgelines and level stream corridors and to provide access to historic resources and views where possible. Several bridges convey pedestrian walks over creeks, including a newly constructed structure over Noses Creek (Figure 177). There are also culverts along the trail that allow passage of the creek water (Figure 178).

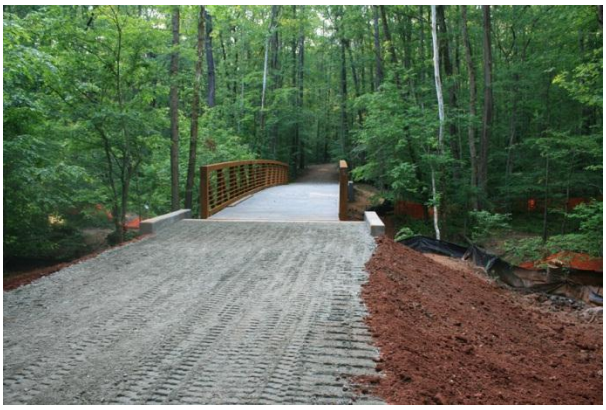

FIGURE 177. A new bridge allows pedestrians and park vehicles to cross Noses Creek.

FIGURE 178. Culverts, some with stone headwalls, are used to convey small drainageways beneath paths and trails.

In addition, responses to natural resources in this character area include terrain features and remnant earthworks associated with battle events, trails to provide access to the key terrain of the military landscape on Little Kennesaw Mountain and Pigeon Hill, siting of primary roads on level terrain, earthworks preservation, and design of trails to minimize impact on the terrain.

Patterns of Spatial Organization

Within the Earthworks and Trails Character Area, spatial organization is derived from the park boundary combination of open fields, roads, and landform. Most of this character area is currently forested by second-growth stands of pine and hardwoods that have grown up in former agricultural fields. Fields maintained in open meadow are generally framed by woodland that forms a sense of enclosure and inward-focused

views. Longer views and vistas are sometimes afforded from higher elevations.

The linear berm-like forms of the earthworks, often sited on elevated terrain, also define space at a smaller scale. Because the trails are designed to follow the earthworks, the structures often act as a datum that helps define the path corridor.

Clusters of twentieth-century housing located along the western border of the fields adjacent to Burnt Hickory Road and in an inholding located in the southern half of the character area create a distinct edge along the park boundary (Figure 179 through Figure 182).

FIGURE 179. Earthworks and forest vegetation.

FIGURE 180. There are open fields to either side of the trailhead at Burnt Hickory Road.

FIGURE 181. Large trees define the edges of open space.

FIGURE 182. Open fields and woodland vegetation near the trailhead at Burnt Hickory Road.

Topographic Modifications

The topography of the Earthworks and Trails Character Area is characterized by the rolling hills and valleys common to the Georgia Piedmont. This character area is punctuated by several low peaks separated by shallow valleys around stream beds. The park's trails cross many of these streams via culverts and bridges.

Grading to accommodate roads and hiking and horse trails has resulted in modifications to the existing topography of the area. While most of these grading efforts are relatively minimal, more significant grading was required to accommodate the 2011 bridge crossing at Noses Creek. Additionally, the Cheatham Hill Connector Trail

crosses a tributary of Noses Creek approximately 0.15 miles north of the trail's intersection with Dallas Highway via bridge. The creek bed is much lower than the trail's elevation at this point.

Throughout this character area, one of the most prevalent modifications is the system of military fortifications visible along the trails and within woodland areas. These fortifications include Confederate earthworks at Little Kennesaw Mountain, Pigeon Hill, Burnt Hickory Road to Dallas Highway (Noses Creek Earthworks), Strahl's Fort, the Fourth Army Corps line, the Second Federal Battery, the Army of the Tennessee line, the Union Twenty-Four-Gun Battery, the Twentieth Corps or Hooker's Corps site, Federal earthworks (on a recently acquired parcel), and the Thomas Headquarters works.

Land Uses and Activities

The primary land use associated with the Earthworks and Trails Character Area is recreation. The pedestrian and equestrian trails that run through this portion of the park provide an essential link between the visitor center to the north and the Cheatham Hill and Kolb Farm areas to the south. The character area is also used for interpretation, which occurs via signage located at trailheads. One example is the Burnt Hickory Road trailhead, which provides information about the assault on Pigeon Hill. Agricultural land uses are associated with the historic leases held by local farmers, who maintain some of the fields for hay production. Transportation land uses are associated with the primary road corridors that traverse the park, such as Dallas Highway and Stilesboro Road.

Circulation

Roads. The primary circulation features associated with the Earthworks and Trails Character Area are public roadways that run east to west along the northern and southern boundaries of the area and the park's trail systems. Old U.S. Highway 41 and Stilesboro Road extend through the northern section of the character area. Burnt Hickory Road, a two-lane asphalt-paved road, bisects the northern portion of the character area and runs generally east to west below Pigeon Hill. Dallas Highway is a two-lane asphalt-paved road that runs east-west through the center of the park. Powder Springs Road, a three-lane asphalt-paved state road, travels for 3/4 mile along the park's southern boundary.

Gilbert Road, a one-and-one-half-lane wide gravel road, forms the western edge of the character area near the Twenty-Four-Gun Battery, running north-south for 600 yards within the park between Stilesboro Road and Old Mountain Road (Figure 183). The park has proposed construction of a new parking area along Gilbert Road in the area of the Twenty-Four-Gun Battery, which would be coordinated with development of an interpretive trail to the artillery position. Currently, parking is afforded to the west for Gilbert Field. There is also a small gravel pull off near the Twenty-Four-Gun Battery.

FIGURE 183. Gilbert Road runs between Stilesboro Road and Old Mountain Road.

Stilesboro Road is a two-lane asphalt-paved state road that extends for 1-1/2 miles through the park in an east to west direction near the park's northern boundary. Stilesboro Road extends into the Visitor Core Character Area where it intersects with Old U.S. Highway 41. Parking is afforded for the field associated with Recreation Area 2 from Old U.S. Highway 41.

Old Mountain Road is a two-lane asphalt-paved state road that travels for 1.4 miles north-to-south along the lower slopes of Kennesaw and Little Kennesaw mountains and Pigeon Hill between Stilesboro Road and Burnt Hickory Road.

Ridenour Road is a narrow public road that extends north of Old U.S. Highway 41 through a small section of the park. Remnant Union earthworks are located along the eastern margin of the road.

Hardage Drive crosses a narrow portion of park property in its southern half to provide access from Dallas Highway to the residential properties located within the southern inholding parcel.

Roadside parking is provided on the south side of Burnt Hickory Road to either side of its intersection with Old Mountain Road (Figure 184 and Figure 185). Presently, this parking parallels the road. The spaces west of Old Mountain Road are edged by a paved buffer while the spaces east of Old Mountain Road are not. The southern edge of the eastern spaces is supported by a stone and mortar curb that is in fair condition due to crumbling of the stones in several places and slumping of the asphalt road edge. These parking areas can accommodate between 30 and 40 cars. A new pull-off parking lot is planned for construction just west of the trailhead on the edge of the existing field south of Burnt Hickory Road.

FIGURE 184. Roadside parking edges the south side of Burnt Hickory Road.

FIGURE 185. A Stone and mortar curb along Burnt Hickory Road.

The park has recently completed construction of a paved parking lot along the western edge of Cheatham Hill Road in the southern part of the character area. This lot includes 72 angled pull-in spaces with curb stops and four universally accessible spaces. It serves the fields referred to as Recreation Area 3. There is a picnic area associated with this parking as well as interpretative signs and trailheads (Figure 186 through Figure 190). A storm water detention basin also edges the parking area.

FIGURE 186. Paved parking lot located along the western edge of Cheatham Hill Road.

FIGURE 187. Picnic area associated with the paved parking lot along Cheatham Hill Road.

FIGURE 188. Trailhead and interpretive sign adjacent to the paved parking lot along Cheatham Hill Road.

FIGURE 189. Cheatham Hill Road, near the paved parking lot.

FIGURE 190. The paved parking lot includes angled pull-in spaces.

A gravel parking lot and turn-around are provided for horse trailers along Cheatham Hill Road, north of the intersection with Powder Springs Road. The lot is composed of a one-way loop that encircles a forested island (Figure 191 and Figure 192).

FIGURE 191. Gravel access road to the horse trailer parking lot along Cheatham Hill Road.

FIGURE 192. The one-way gravel loop in the horse trailer parking lot.

Trails. A system of trails runs north-south through the eastern portion of the Earthworks and Trails Character Area. The Cheatham Hill Connector is an equestrian trail and park fire road that links Burnt Hickory Road and Dallas Highway. It is approximately 13 feet wide and 1.4 miles long and surfaced with gravel. The bridge constructed in 2011 provides access across Noses Creek for all of the trails in the southern part of the park.

The West Trail branches off of the Cheatham Hill Connector Trail approximately 1/3 mile from the start of the trail at Burnt Hickory Road. The trail is surfaced with hard-packed earth with a sandy clay base and is approximately 6 feet wide. The northern portion of West Trail is approximately 0.9 mile long and reconnects with Cheatham Hill Connector Trail just north of Noses Creek. The southern portion of West Trail is also surfaced with hard-packed earth, approximately 0.9 mile long and connects with the Cheatham Hill Connector Trail south of Noses Creek, near its intersection with Dallas Highway.

A third spur trail known as the New Salem Church Trail connects with the Cheatham Hill Connector approximately 0.42 miles to the south of the trailhead. It continues northeast toward Burnt Hickory Road, intersecting the road to the east of the Pigeon Hill on-street parking. This portion of the trail is approximately 0.6 miles long and connects to a spur trail on the north side of Burnt Hickory Road that leads to the Burnt Hickory Loop Trail.

The Burnt Hickory Loop Trail, which connects the Kennesaw Mountain summit with Burnt Hickory Road, follows the ridgeline of Little Kennesaw Mountain and Pigeon Hill. A wooden railing and ramp structure near the base of Pigeon Hill allows the pedestrian visitor to cross the earthworks and interpret Civil War conditions without damaging the historic structures (Figure 193 and Figure 194).

FIGURE 193. Burnt Hickory Loop Trail.

FIGURE 194. A wooden railing and ramp structure along Burnt Hickory Loop Trail allows pedestrians to cross the historic earthworks.

The Cheatham Hill Connector Trail runs from the parking area along Burnt Hickory Road to the Cheatham Hill parcel, generally paralleling the West Trail. As noted previously, the trail crosses Noses Creek via the bridge constructed in 2011. The trail crosses John Ward Creek south of Cheatham Hill via culvert. The connector also leads to the developments associated with Cheatham Hill. This portion of the trail is described within the Cheatham Hill character area section below.

Two parallel trail systems also continue south from Cheatham Hill to the Kolb Farm. Together, the trails form the Kolb Farm Loop Trail. The Kolb Farm Loop Trail aligns generally north to south through both the east and west halves of the southern portion of the character area. The trail provides pedestrian access to the southern area of

the park from Cheatham Hill and the parking lot on Cheatham Hill Road. Visitors can cross Powder Springs Road at the southern end of the trail to visit the Kolb House environs.

The trails within this character area are susceptible to erosion. They range in condition from good to poor. Water bars constructed of stone, wood, and combinations of these materials are used along the trails to redirect storm water off the trail. Deep gullies and loss of trail surfacing are evident in some locations and require ongoing maintenance by the volunteer corps and park staff.

Trails cross public roads in several locations. Including two at Burnt Hickory Road, one at Dallas Highway, and one at Cheatham Hill Road. The pedestrian crossings are marked by striping and signage. The crossings are associated with both ends of the Cheatham Hill Connector Trail and the north end of New Salem Church Trail. Another pedestrian crossing is located along Cheatham Hill Road just south of the entrance to the horse trailer lot (Figure 195 and Figure 196).

FIGURE 195. Pedestrian crossing along Cheatham Hill Road.

FIGURE 196. Pedestrian crossing adjacent to a hard-packed earth trail.

Rail line. The Western & Atlantic Railroad line, owned by the State of Georgia and leased by CSX Corporation, runs along the edge and through the northern end of the character area. The railroad line also extends through the Visitor Core Character Area. The railroad line consists of steel track laid atop creosote-soaked cross ties set in a bed of crushed granite.

Vegetation

The majority of the character area is forested by the second-growth hardwood forest common to the Georgia Piedmont. Species common to these forests include chestnut oak, blackjack oak, scarlet oak, shortleaf pine, and loblolly pine, along with herbaceous and shrubby undergrowth. Problematic invasive species observed within the character area include kudzu, privet, ailanthus, mimosa , and Japanese honeysuckle.

Several hay fields are located within the Earthworks and Trails Character Area and are maintained by farmers under lease agreement with the National Park Service. The most notable of these fields include one at the intersection of Burnt Hickory Road and Old Mountain Road. Two smaller clearings are visible along the Cheatham Hill Connector Trail and West Trail. These areas convey a sense of the historic landscape at the time of the Battle of Kennesaw Mountain. Several old oaks are located within the field south of Burnt Hickory Road, edging the Cheatham Hill Connector Trail.

Large amounts of poison ivy can be found along the trail margins within the character area. While native to Georgia, poison ivy presents a hazard to park visitors due to the often severe symptoms associated with plant contact. Several potential hazard trees are also present along the trails as well.

Building and Structures

Structures associated with the Earthworks and Trails character areas include earthworks, bridges, and culverts. There are no buildings located within this character area, but the Wallis House has been described herein because of its important associations and possible future inclusion in the park.

Buildings

Wallis House. The Wallis House, built by John Wallis circa 1853, is one of only two existing buildings in the area remaining from the Civil War battle period. It was first used as a Confederate hospital and then served as the headquarters for Union General O. O. Howard. Harriston Hill to the northwest provides a sweeping vista of the valley leading to Kennesaw Mountain. In 2002, Cobb County purchased 1.25 acres containing the Wallis House as well as a 5.5-acre parcel encompassing Harriston Hill with the intent of donating the properties to Kennesaw Mountain National Battlefield Park. Also, Cobb Land Trust purchased a 1.13-acre parcel at the foot of Harriston Hill to provide for future visitor access to both sites.[154]

The Wallis House is located approximately one-half mile west of the park boundary on the north side of Burnt Hickory Road. The parcel containing the house is separated from Harriston Hill by a twenty-first century residential subdivision on Wallis Farm Way. The parcel includes several outbuildings, an entrance drive, stone wall, and ornamental plantings.

The Wallis House is an L-shaped gable-roof one-story structure. The building has a fieldstone foundation, walls clad with painted wood siding and trim, and an asphalt shingle roof. A shed roof porch with a fieldstone foundation extends across the width of the south facade. Brick masonry chimneys are located at the east and west gable ends. The windows are typically wood double-hung; some windows have aluminum-framed awnings and aluminum storm windows (Figure 197 through Figure 199).

FIGURE 197. The Wallis House from the east.

FIGURE 198. The west facade of the Wallis House.

154. Statement of Stephen E. Whitesell, Associate Director, Park Planning, Facilities, and Lands, National Park Service, U.S. Department of the Interior, Before the House Committee on Natural Resources, Subcommittee on National Parks, Forests and Public Lands, Concerning H.R. 5152, *To Authorize the Secretary of the Interior to Adjust the Boundary of the Kennesaw Mountain National Battlefield Park and for Other Purposes.* June 10, 2010.

FIGURE 199. The rear wing of the Wallis House.

Garage/Carport. Behind the house is a garage and carport building. This structure has an enclosed portion with wood siding, wood six-over-six double-hung windows, and a gable roof covered with sheet metal. Attached to the enclosed room is an open-air carport with unpainted wood siding and a sheet metal shed roof (Figure 200 through Figure 202).

FIGURE 200. Garage/carport building from the east.

FIGURE 201. Garage/carport building from the northeast.

FIGURE 202. Garage/carport building from the west.

Outbuildings. Also on the Wallis House site are two small wood-framed outbuildings. One outbuilding has a sheet metal covered gable roof, while the other has a sheet metal covered shed roof (Figure 203 and Figure 204). There are also two small huts, possibly doghouses, near the Wallis House (Figure 205).

FIGURE 203. The gable-roof outbuilding.

FIGURE 204. The shed-roof outbuilding.

FIGURE 205. The doghouses.

Structures

Confederate Earthworks north of Burnt Hickory Road. The surviving Confederate earthworks within this character area north of Burnt Hickory Road include:

Confederate battery, Little Kennesaw Mountain. (LCS 090135; park structure HS-14). Atop the crest of Little Kennesaw Mountain lies a Confederate battery position edged by infantry trenches originally constructed in 1864 out of a combination of earth, stone, and wood. The earthworks at Little Kennesaw include both Confederate infantry and artillery positions. A portion of the line is known as Fort McBride for Lt. E. D. McBride, who was killed defending this position. A sign atop Little Kennesaw Mountain identifies Fort McBride. These earthworks were assessed in good condition in 2010. Threats include visitation, vegetation, and erosion.

Observation Rock. Also located atop Little Kennesaw Mountain is a natural feature that supported confederate defenses during the Battle of Kennesaw Mountain. This feature is formed from two rocks piled atop one another. It is located at the south end of the landform. The natural aperture formed between the two rocks provided a protected vantage point for observing Union troop movements.[155]

Confederate trench line. Another trench line is located at the junction of Little Kennesaw Mountain and Pigeon Hill. It is in fair to good condition.[156] The position was occupied by the

155. Anne F. Rogers, *Archeological Survey of Kennesaw Mountain National Battlefield Park* (Athens, Georgia: University of Georgia Department of Anthropology, 1977, manuscript on file), 30.
156. Robert Hellman, *Kennesaw Mountain National Battlefield Park Archeological Overview and Assessment* (Tallahassee, Florida: Southeast Archeological center, National Park Service, 2003), 121, citing Rogers, 30.

Mississippi Brigade, which was part of Maj. Gen. Samuel G. French's Division.[157]

Pigeon Hill earthworks. (LCS 090136; park structure HS-15). The continuous earthen parapet of the Confederate infantry line at Little Kennesaw ends along the mountain's steep southern slope. As Little Kennesaw merges with Pigeon Hill, a line of earthworks continues northeast to southwest below the crest of Pigeon Hill. These earthworks were constructed from a combination of earth, stone, and wood by Confederate forces in 1864. The Confederates created obstacles in front of the line by felling trees in front of their positions. The earthworks were fortified with 2-foot-high stone walls used as shields and rifle supports.

Portions of the line were stabilized by the National Park Service in 1982. They were assessed in good condition in 2010, with threats posed by erosion, visitation, and vegetation. In 2010, volunteers from the Greening Youth Foundation trimmed saplings and brush from the Twenty-Four-Gun Battery. Fencing and an observation platform have been added by the National Park Service in the early 1990s on the lower slopes of Pigeon Hill to mitigate visitor access impacts. Fencing was placed around some infantry positions as part of an Eagle Scout project in 2000.

Confederate trench line. Also located atop the summit of Pigeon Hill is a trench line incorporated into rocky outcrops that offers a good view to the west.[158] This was the location of Brig. Gen. Francis Cockrell's Missouri Brigade.[159]

Confederate Rifle Pits. Several rifle pits have been identified on the west slope of Pigeon Hill in the vicinity of Burnt Hickory Road. These pits appear to be in fair to poor condition.[160] These are associated with Cockrell's Missouri Brigade.[161]

Confederate battery/trench. Located on the south slope of Pigeon Hill adjacent to Burnt Hickory Road is another trench or battery position that is in poor to fair condition.[162] It likely represents a continuation of Cockrell's Missouri Brigade line.[163]

Confederate trench line. Located on the southeast slope of Pigeon Hill is another component of the trench line. This feature, in fair condition, was first discovered in 1975 by park staff.[164] It is thought to have provided protection for General Sears's headquarters.[165]

Confederate encampment. A series of depressions located along the eastern boundary of the park just north of Noses Creek and due east of Pigeon Hill mark the likely site of a Confederate encampment. The camp was likely composed of sleeping pits used by the Confederate forces stationed there.[166]

Confederate Earthworks between Burnt Hickory Road and Dallas Highway. The surviving Confederate earthworks within this character area between Burnt Hickory Road and Dallas Highway include:

Confederate battery. Located near an old road south of Burnt Hickory Road and close to the eastern park boundary is a likely Confederate battery position in good condition.[167]

Confederate trench line. Located between Burnt Hickory Road and Noses Creek is another trench line in poor to fair condition. It was most likely occupied by elements of Maj. Gen. William H. T. Walker's division, which was part of Hardee's Army Corps.[168]

Confederate rifle pits. Confederate rifle pits are located between Noses Creek and an unnamed stream south of Burnt Hickory Road. They are generally in good condition and fairly well defined.[169] The rifle pits are most likely associated

157. Ibid., 121.
158. Ibid., 121, citing Rogers, 30.
159. Ibid., 121.
160. Ibid., 121, citing Rogers, 30.
161. Ibid., 121.
162. Ibid., 121, citing Rogers, 30.
163. Ibid., 121.
164. Ibid., 121, citing Rogers, 30.
165. Ibid., 121.
166. Ibid., 121, citing Rogers, 31.
167. Ibid., 121, citing Rogers, 31.
168. Ibid., 121.
169. Ibid., 121, citing Rogers, 31.

with the 63rd Georgia, placed forward of the main Confederate lines for skirmishers.[170]

Confederate trench line. Located between Burnt Hickory Road and Dallas Highway just north of Noses Creek is another line of Confederate trenches in fair condition.[171] This line was most likely held by Walker's division, or possibly Brig. Gen. Joseph H. Lewis's Kentucky "Orphan" Brigade.[172]

Confederate trench line. Located south of Burnt Hickory Road near the park's western boundary is another trench line in poor condition. The trench line is surrounded by Federal positions, and may have initially been occupied by Confederate forces, but later overtaken by Union troops.[173]

Trench line. Another likely Confederate trench line is located just south of Burnt Hickory Road along the park's western boundary. It is in poor condition.[174]

Confederate Earthworks between Dallas Highway and Powder Springs Road. The surviving Confederate earthworks within this character area between Dallas Highway and Powder Springs Road include:

Confederate trench line. Located between the Dallas Highway and the south bank of Noses Creek is a trench line in fair to good condition.[175] This position was most likely held by elements of Maj. Gen. William B. Bates's Division.[176]

Confederate trench line. Located forward of the line described above is another Confederate trench line in poor condition.[177] This possibly represents a forward element of Bates's Division.[178]

170. Ibid., 121.
171. Ibid., 121, citing Rogers, 31.
172. Ibid., 121.
173. Ibid., 125.
174. Ibid., 125, citing Rogers, 36.
175. Ibid., 125, citing Rogers, 32.
176. Ibid., 121.
177. Ibid., 125, citing Rogers, 32.
178. Ibid., 122.

Confederate trench line. Located between Burnt Hickory Road and Dallas Highway is another trench line that possibly represents the location of Brig. Gen. Jesse J. Finley's Florida Brigade. It is in good condition.[179]

Confederate battery. Another battery position evident north of Dallas Highway is in fair condition.[180]

Confederate trench line. A Confederate trench line extends south from Cheatham Hill. It was associated with Cheatham's Division. It is in fair condition.[181]

Confederate trench line. Located south of Cheatham Hill is another trench line. It is in relatively good condition, with some erosion occurring on the south end of the entrenchment.[182] This position is associated with Cheatham's Division.[183]

Strahl's Fort earthworks. (LCS 090134, Park structure HS-13). As the Confederate line continues south across John Ward Creek, it forms a cluster of earthen parapets known as Strahl's Fort. Located on a wooded rise along the park's eastern boundary, Strahl's Fort is an eight-gun emplacement with an L-shaped parapet constructed along the rear and right flank. A C-shaped parapet covers the front of the fort, just below the crest of the hill. At the center of this arrangement is a C-shaped, four-gun emplacement approximately 30 feet across. These features were associated with Brig. Gen. Otho F. Strahl, commanding officer of a brigade in Maj. Gen. Benjamin F. Cheatham's Division.[184]

The earthworks are likely some of the best preserved in the park and also the most impressive.[185] This line features outstanding examples of parapets and traverses, some measuring between 5 and 7 feet high. The

179. Ibid., 122, citing Rogers, 32.
180. Ibid.
181. Ibid., 122.
182. Ibid., citing Rogers, 33.
183. Ibid., 122.
184. Ibid.
185. Ibid., citing Rogers, 33.

structures are primarily constructed of earth. The fort was assessed as being in good condition in 1994, with threats posed by vegetation, erosion, visitation, and neglect. Located in an area of the park that is best accessed from an adjacent residential neighborhood, these earthworks are little visited but similarly are difficult for park staff to access to address repair and maintenance needs.[186]

Confederate trench line. Located between John Ward Creek and Powder Springs Road is another trench line in fair to good condition.[187] These positions were most likely occupied by Brig. Gen. Edmund W. Pettus's Alabama brigade, which was part of Hood's Army Corps.[188]

Union Earthworks north of Burnt Hickory Road. The surviving Union earthworks within the Earthworks and Trails Character Areas from the northern park boundary to Burnt Hickory Road include:

Casemated battery. The Union troops constructed a casemated, or covered, battery that would be less likely destroyed by incoming artillery fire. The battery was located north of the rail line and south of Old U.S. Highway 41, and was designed to fire on Kennesaw Mountain. It was associated with trench line 1 below.

Federal trench line 1. (LCS 012176; park structure HS-02). This trench line is located in the extreme northern section of the park between the Western & Atlantic Railroad rail line and Old U.S. Highway 41. It was most likely associated with the Union XVI Corps, part of McPherson's Army of the Tennessee, and manned by Brig. Gen. Thomas W. Sweeney's 2nd Division. The trench line is in fair condition.[189]

Federal trench line 2. This trench line is located due east of Federal trench lines 1 and 4 between Old U.S. Highway 41 and Stilesboro Road. The line is described as well-defined and in good condition by Rogers.[190] This position was most likely held by Sweeny's 2nd Division.[191]

Federal trench line 4. This structure is located northeast of Federal trench line 1 along the north side of Old U.S. Highway 41. This line is described as in fair to good condition by Rogers.[192] These lines were occupied by Colonel William L. Sanderson's 1st Brigade, part of the 4th Division, XVII Corps.[193]

Federal fortification. A line of earthworks lies along the northern boundary of the park that continues beyond the park boundary. It includes a well-defined trench line encircling the crest of the hill that encloses the remains of a battery.[194]

This line is part of the segment held by Sanderson's 1st Brigade.[195]

Trench line. Located on the south side of the Western & Atlantic Railroad rail line between Old U.S. Highway 41 and Stilesboro Road is a trench. This trench has been described as being in poor condition.[196] The trench line was likely held by the 66th Illinois, which was positioned forward of the main Federal entrenchments as skirmishers.[197]

Federal trench line 5. Located north of Old U.S. Highway 41 along the northern boundary of the park is a trench line described as being in fair condition.[198] This area was occupied primarily by Sanderson's 1st Brigade.[199]

Federal Twenty-Four-Gun Battery. (LCS 090137; park structure HS-16). The Federal

186. Blythe, Carroll, and Moffson, "Kennesaw Mountain National Battlefield Park" National Register nomination, Section 7, pages 5 and 6, and National Park Service, "List of Classified Structures."
187. Hellman (2003), 122, citing Rogers, 33.
188. Ibid., 122–123.
189. Ibid., 117, citing Rogers, 26.
190. Ibid.
191. Ibid., 117.
192. Ibid., citing Rogers, 26.
193. Ibid., 117-120.
194. Ibid., 117, citing Rogers, 26-27.
195. Ibid., 120.
196. Ibid., 120, citing Rogers, 28.
197. Ibid., 120.
198. Ibid., 120, citing Rogers, 28.
199. Ibid., 120.

Twenty-Four-Gun Battery is located in the woods near Gilbert Road in the park's northwestern sector. The artillery position, which is visible as a series of four groups of six-gun emplacements, is characterized by horseshoe-shaped earthen berms and pits located behind the parapet walls, aligned in a row facing Little Kennesaw Mountain. The position was established in 1864 by Federal troops to fire on Confederate entrenched positions on the mountain above. Construction of these earthworks originally included wood headlogs and possibly stone revetments. They were manned by elements of the 1st Illinois Light Battery F and the 1st Iowa Light Battery, both of the Union XV Corps. Other elements included the 1st Michigan Light Battery C, the 14th Ohio Light Battery, and the 2nd U.S. Battery F from the Union's XVI Corps. The earthworks were assessed as being in good condition in 2012, with threats posed by vegetation, weather, and neglect, and the impacts of an old farm road. Holes representing the remnants of decayed tree stumps are present in several emplacements. There are also large trees growing within many of the parapets and ditches. The remote location of these emplacements and their wooded condition limits visitation.

Trench lines. Located adjacent to the park's western boundary north of Burnt Hickory Road are additional earthworks considered to be in fair condition. The trench lines exhibit overlapping construction that suggests original use by Confederate forces and later occupation by Federal troops.[200] This position was held by Brig. Gen. Morgan L. Smith's Division.[201]

Federal trench line. North of Burnt Hickory Road near the western park boundary in a wooded area is another trench line in fair condition.[202] This position was held by Smith's Division.[203]

Federal trench line. Continuing north of the above two lines is another trench line located near the park's western boundary. The line was held by Smith's Division. It is thought to be in poor condition.[204]

Trench line. Located north of the above-mentioned trench line is another section of line that is broken and in poor condition.[205] This position was possibly held by Smith's or Brig. Gen. William Harrow's 4th Division.[206]

Federal trench line. Located just north of Burnt Hickory Road this line is most likely a continuation of a line located south of the road. Its condition is not currently known. This position was possibly held by Smith's 2nd Division.[207]

Union Earthworks between Burnt Hickory Road and Dallas Highway. The surviving Union earthworks within the Earthworks and Trails Character Areas from Burnt Hickory Road to Dallas Highway include:

Trench line. Located just south of Burnt Hickory Road and facing Pigeon Hill is another trench in unknown condition. This position was held by Osterhaus's Division.[208]

Fire road trench line. Located along a fire road near the juncture of Burnt Hickory Road and the western park boundary is another trench in unknown condition. This position was also held by Osterhaus's Division.[209]

Trench line. Located near the juncture of burnt Hickory Road and the western park boundary is another trench in fair to poor condition. This position was held by Osterhaus's Division.[210]

Federal battery. A Federal trench associated with a battery position is located on the park's western boundary north of Noses Creek. It is reportedly in fair condition.[211]

200. Ibid., 125, citing Rogers, 36–37.
201. Ibid., 125.
202. Ibid., 125, citing Rogers, 36.
203. Ibid., 125.
204. Ibid., 125, citing Rogers, 37.
205. Ibid.
206. Ibid., 125.
207. Ibid.
208. Ibid.
209. Ibid.
210. Ibid., 124, citing Rogers, 36.
211. Ibid.

Federal trench line. Another trench line is located between Noses Creek and a nearby tributary. Its condition is not currently known. This position was likely held by elements of Brig. Gen. Peter J. Osterhaus's 1st Division, part of Maj. Gen. John A. Logan's XV Corps.[212]

Federal trench line. Another trench line, which is in fair condition, stands between Noses Creek and one of its tributaries. This line is the easternmost of the Federal lines in this area.[213] These Federal lines were manned by Colonel William Stroughton's 2nd Brigade, part of the 1st Division of the Union's XIV Corps.[214]

Bald Knob/Nodine Headquarters. North of Dallas Highway and south of Noses Creek is a Federal trench line that is located on a privately-held parcel surrounded by the park. It is described as second only to Strahl's Fort in its excellent state of preservation. These earthworks, held by both Confederate and Federal troops at various times in the battle, are named for Col. Richard H. Nodine (Nodean) who commanded a brigade in the IV Corps which was part of the Army of the Cumberland.[215]

Federal battery. A remnant Federal battery is located along the western park boundary north of the Dallas Highway in a pasture. The battery's condition is fair.[216]

Federal trench line. This earthwork is located just north of Dallas Highway near the western boundary of the park. Its condition appears to range from fair to poor.[217] The position was most likely held by Colonel Richard H. Nodine's 1st Brigade, which was part of the 3rd Division in Howard's Corps.[218]

212. Ibid., 124.
213. Ibid., 124, citing Rogers, 35.
214. Ibid., 124.
215. Ibid., 124, citing Rogers, 35. *Nodine* appears to be the correct spelling, although Hellman lists *Nodean* as an alternate spelling.
216. Ibid., 124.
217. Ibid., 124, citing Rogers, 35.
218. Ibid., 124.

Union Earthworks between Dallas Highway and Powder Springs Road. The surviving Union earthworks within the Earthworks and Trails Character Areas between Dallas and Powder Springs roads include:

General Thomas's Headquarters site. A trench line located between John Ward Road and Cheatham Hill road likely includes the site of General Thomas's headquarters and command post during the battle. Thomas served as commanding officer of the Union Army of the Cumberland.[219]

Federal trench line. Another Union trench line survives between Cheatham Hill Road and the western park boundary. These earthworks, which are in fair condition, were originally a Confederate line that was later taken over by Federal troops, based on the presence of a double line of earthworks.[220] Federal troops occupying these positions were most likely elements of Palmer's Corps.[221]

Federal trench line. Between Cheatham Hill Road and the western park boundary lies another trench line considered to be in fair condition.[222] This area was held by Palmer's XIV Corps.[223]

Federal trench line. Nearby, also west of Cheatham Hill Road along the park's western boundary, is a trench line that appears to be in fair to good condition.[224] This area was occupied by Brig. Gen. William's 1st Division, part of Hooker's XX Corps.[225]

Federal trench line. A final Union trench line is located north of Powder Springs Road and runs generally north to south across Cheatham Hill Road. The condition of the earthworks east of Cheatham Hill Road is considered fair, while the earthworks west of the road are described as

219. Ibid., 123, citing Rogers, 34.
220. Ibid.
221. Ibid., 123.
222. Ibid., 123, citing Rogers, 34.
223. Ibid., 123.
224. Ibid., 123, citing Rogers, 34.
225. Ibid., 123.

better preserved.[226] This area was held by elements of either Brig. Gen. Alpheus William's 1st Division or Maj. Gen. Daniel Butterfield's 3rd Division, both part of Hooker's XX Corps.[227]

Powder Springs Road earthworks. Described in 1977 by a University of Georgia archeologist: "This line, which incorporates a battery, occurs both east and west of Cheatham Hill Road. Preservation of this line is fair. The line is better preserved on the western side of the road, although its western extension disappears into a heavily eroded area and its exact extent can no longer be determined."[228] The battery was associated with Battery F Michigan.

Other Structures. Structures in the Earthworks and Trails Character Areas include the vehicular and pedestrian bridge crossing of Noses Creek and plank footbridges associated with the trails, as well as a wooden deck used as an interpretive viewing platform at Pigeon Hill. The bridge crossing Noses Creek was built in 2011 to replace an earlier bridge The new bridge is a weathering steel welded truss structure with a reinforced concrete deck (refer to Figure 177). The interpretive platform at Pigeon Hill was constructed in the early 1990s to reduce erosion of the earthworks caused by visitors. Interpretive wayside signage and a bench are associated with the wooden deck platform.

A stone bridge and culvert is located where the Cheatham Hill Connector Trail crosses Burnt Hickory Creek in the northern portion of the character area.

Views and Vistas

Views and vistas within the Earthworks and Trails Character Area are generally limited due to forest vegetation. Notable exceptions include the views available around the parking area and along the trailheads at Burnt Hickory Road below Pigeon Hill. This open area associated with the Hardage House and is maintained through mowing. There are two additional open fields located along the West Trail south of the Hardage House site. In the southern half of the park, the Kolb Farm Loop Trail passes Peel Field, another historic open agricultural area that is maintained for interpretive purposes by the park. A final open field occurs along the Kolb Farm Loop Trail near Overlook Creek. Glimpses into these fields from the trail are possible and provide an open view in contrast to the visually enclosed wooded trail experience.

Views from park lands to adjacent parcels are often diminished by residential development located in close proximity to park boundaries.

There are also limited views from the crest and upper slopes of Little Kennesaw due to small hardwood growth. Views from Pigeon Hill are limited by pines and other woody growth.

Small-scale Features

Signs. Two of the red brick park entrance monument signs constructed by the CCC in 1941 are located within the Earthworks and Trails Character Area. One is located on the south side of Burnt Hickory Drive where it enters the park from the west. The second is on the north side of Dallas Highway as it enters the park from the east.

A brown-painted metal sign with white lettering supported by two brown-painted wooden posts indicate the former location of the Hardage House (Figure 206). The sign is located in the field to the east of the Cheatham Hill Connector Trail. Another sign located atop Little Kennesaw Mountain notes the historic location of Confederate Fort McBride.

A three-panel information sign is located near the north end of the Cheatham Hill Connector Trail. The sign is composed of a brown-painted metal frame that supports three panels, one of which is a Plexiglas display case, while the remaining two panels are unprotected from the elements. Similar signs are found at trailheads throughout the character area (Figure 207).

226. Ibid., 123, citing Rogers 34.
227. Ibid., 123.
228. Moore, Cooper, and Walker, 13.

FIGURE 206. A brown metal sign with white lettering marks the site of the Hardage House.

FIGURE 207. A three-panel informational sign near the north end of the Cheatham Hill Connector Trail. Also note the cell phone audio tour sign.

Two signs are located in the fields east and west of the Cheatham Hill Connector Trail. These indicate regulations regarding picnicking and alcohol use restrictions. These signs are brown-painted metal with white lettering and are supported by two wood posts. They also feature small signs indicating park hours. The signs are located throughout the character area (Figure 208).

A sign indicating a cell phone tour stop is located at the northern end of the Cheatham Hill Connector Trail. The sign is metal with a metal post and is consistent with the cell phone audio tour signage system throughout the park (refer to Figure 207).

FIGURE 208. A Park regulation sign.

A regulation sign is located at the north end of the Cheatham Hill Connector Trail, reminding visitors that metal detecting and relic hunting in national parks is prohibited. Additional similar signs are located elsewhere within the character area.

Informational signs are located at either end of the West Trail as well as at the north end of the Cheatham Hill Connector Trail. These signs are brown-painted metal with white lettering on a metal post. They provide information to park users about keeping pets on a leash, bicycle use, fires, and park hours. These signs are located throughout the character area. (Figure 209).

A standard traffic sign marks a single universally-accessible parking space at the Burnt Hickory Road parking area (Figure 210).

Detour signs along the Cheatham Hill Connector Trail at each end of the West Trail indicate that the path is closed due to construction and that hikers should follow the West Trail as they move through this section of the park. These signs are painted metal panels on metal posts (Figure 211). A small sign identifying the West Trail is located at the northern end of the trail and is composed of a small painted wooden panel covered with a white laminated sheet with black lettering. This sign is supported by a wooden post painted brown (Figure 212). The signs are in good condition; however, the sign at the southern end of the Cheatham Hill Connector Trail is not stable and leans on the Western Trail identification sign.

FIGURE 209. Trail regulation signs next to a drinking fountain along Burnt Hickory Road.

FIGURE 210. Sign marking a universally-accessible parking space.

FIGURE 211. Construction detour sign.

FIGURE 212. Sign identifying the West Trail.

A standard NPS low profile interpretive sign is located past the trailhead at Burnt Hickory Road. This sign is composed of a slanted fiberglass panel supported by a powder-coated steel frame with two legs (Figure 213). Similar signs are found at the Cheatham Hill Road parking lot (refer to Figure 188) and at Pigeon Hill.

FIGURE 213. Low profile interpretive sign.

Two Georgia State Historical Markers are located along Burnt Hickory Road near the Cheatham Hill Connector Trailhead. These markers give details about the Kennesaw Spur and Kennesaw Battlefield (Figure 214). Other Georgia State Historical Markers are found at the Cheatham Hill Road parking lot, the Wallis House, and the nearby Kolb Farm Loop trailhead. The signs are cast iron plaques supported by reinforced concrete poles. The concrete base of the Kennesaw Spur marker is in fair condition due to deterioration.

FIGURE 214. Georgia State historical marker.

A sign indicating the distance between Cheatham Hill and Kolb Farm is located along the northern end of the Cheatham Hill Connector Trail. The stained wood panel is brown with white routed lettering and is supported by a square wood post that is also pained brown. The sign stands 4 feet 11 inches tall and is attached to a 2x6 post (Figure 215).

FIGURE 215. Wooden sign indicating the distance between Cheatham Hill and Kolb Farm.

A brown metal sign with white lettering, supported by two brown painted wooden posts, is located along Dallas Highway at the south end of the Cheatham Hill Connector Trail and across from the entrance to Cheatham Hill. This sign indicates which way vehicles should turn to reach the park visitor center or Kolb Farm (Figure 216).

FIGURE 216. A brown metal sign along Dallas Highway.

A brown painted wooden sign with white pained routed lettering, supported by a brown painted wooden post, indicates the start of the West Trail at its southern end where the trail intersects Dallas Highway. This sign is similar to other wayfinding signage found within the character area and throughout the park (Figure 217 and Figure 218).

FIGURE 217. Trail signs located at the intersection of West Trail and Dallas Highway.

FIGURE 218. Wayfinding and regulation signage at the Kolb Farm Loop Trail.

Site Furnishings. A metal drinking fountain with green painted metal base and a separate basin for pets is located at the north end of the Cheatham Hill Connector Trail

A freestanding wooden bench is located on the east side of the Cheatham Hill Connector Trail near the northern trailhead under a large oak tree (Figure 219). Other benches found within the character area are located at the Pigeon Hill interpretive platform, near the site of the artillery position known as Fort McBride atop Little Kennesaw Mountain, and along the Kolb Farm

Loop Trail trailhead near the Cheatham Hill Road parking lot. All are constructed of wood slats and wood posts and set in concrete footings (Figure 220).

FIGURE 219. Free-standing wooden bench along the Cheatham Hill Connector Trail.

FIGURE 220. A wooden bench with back.

A brown metal animal-proof trash receptacle is located on a concrete pad near the northern end of the Cheatham Hill Connector Trail. The receptacle accommodates both trash and recyclables (Figure 221). Four similar receptacles are also located at the picnic area at the Cheatham Hill Road parking area.

FIGURE 221. Animal-proof trash receptacle along the Cheatham Hill Connector Trail.

Twelve picnic tables, including two universally accessible tables, are located within the picnic area at the northern end of the Cheatham Hill Road parking lot. The tables are constructed of recycled plastic and are set on concrete pads (Figure 222).

FIGURE 222. Recycled plastic picnic tables near the north end of the Cheatham Hill Road parking lot.

Fences and Gates. Short sections of snake fencing are located along Dallas Highway at the intersection with the Cheatham Hill Connector Trail (refer to Figure 216). This portion of fencing has likely been disturbed by the construction efforts in the area and is in fair to poor condition.

A brown painted metal gate mounted on a concrete-filled metal post is located at the north entrance to the Cheatham Hill Connector Trail at Burnt Hickory Road. This gate remains locked during operating hours but is opened for emergency and maintenance access. Similar gates are found throughout the character area and the park, including at the Kolb Farm Loop Trail trailhead near the Cheatham Hill Road parking lot

and in the horse trailer parking area (Figure 223 and Figure 224).

A round, brown-painted metal post with a hinge pin is located at the intersection of the Cheatham Hill Connector Trail and Dallas Highway (refer to Figure 216). It is assumed that a gate existed in the location and was removed to accommodate the bridge construction efforts along the Cheatham Hill Connector Trail.

FIGURE 223. Metal single-arm gate.

FIGURE 224. A metal single-arm gate at the Kolb Farm Loop Trail trailhead.

A split rail fence (two-rail with posts) is located on the south edge of Burnt Hickory Road. The rustic style fence runs between the fields and the parking area along the road (refer to Figure 210). The fence is weathered but appears to be in good overall condition. A break in the fence is located where the trail intersects Burnt Hickory Road.

A four-rail snake fence is located between the Cheatham Hill Road parking lot and Cheatham Hill Road. A split rail fence with three rails supported by posts edges the southwest side of the parking lot and surrounds the picnic area. This fence helps prevent access to the storm water retention pond located along the southwestern edge of the parking lot (Figure 225 and refer to Figure 195).

FIGURE 225. Three-rail split rail fence along the southwest edge of the Cheatham Hill Road parking lot.

The Cheatham Hill Road parking area is secured by brown powder-coated aluminum gates supported by a stone-veneer pier (Figure 226). Similar gates are located at the visitor center, the overflow parking lot, and the entrance to Cheatham Hill Road.

FIGURE 226. Gates at the entrance of the Cheatham Hill Road parking lot.

Archeological Resources

There have been several archeological investigations conducted at the park associated with areas associated with the Earthwork and Trails Character Area. In 1979–1980, the NPS contracted for an archeological and historical survey to be conducted in and around the park in conjunction with the construction of water-pollution-control facilities along Noses Creek in the Earthworks and Trails Character Area. A part of the investigation considered the right-of-way of Dallas Highway running through the park. No new sites were identified as a result of the survey, so it was concluded that the project did not affect any archeological resources in the park. [229]

In 1986, a subsurface survey was conducted by Allen Cooper of NPS SEAC along the route of a proposed universally accessible trail between a potential parking lot location along Gilbert Road and the Twenty-Four-Gun Battery.[230] The approximately 400 feet of access trail proposed was mitigated by conducting twenty-three posthole tests paced every 5 meters. No artifacts were recovered during these tests.[231]

Additional archeological investigations conducted within the Earthworks and Trails Character Areas have been associated with the widening of Dallas Highway, damage inflicted near Old U.S. Highway 41 and Pigeon Hill, construction of the Burnt Hickory Road parking lot, vandalism of a stone mound, and damage to resources at Pigeon Hill and Ridenour Road. No significant cultural resources were found during these investigations.

In 2007, archeological investigations were conducted by SEAC in association with a proposed new trail system at Kennesaw Mountain National Battlefield Park. The study area included 9-1/2 miles of proposed new trails, parking areas, and bathroom facilities. Investigations were conducted within the Earthworks and Trails Character Areas, the Visitor Core Character Area, and the Cheatham Hill Character Area. The results of the investigations were sufficient to determine that construction of the trails, parking areas, and comfort stations would not significantly impact any cultural resources. It was recommended that construction proceed as planned. [232]

229. Hellman (2003), 63.
230. Ibid., citing Rogers, 70.
231. Ibid., 83.
232. Robert Hellman and Jessica McNeil, *An Archeological Investigation of a New Trail System at Kennesaw Mountain National Battlefield Park* (Tallahassee, Florida: National Park Service Southeast Archeological Center, 2010), 60.

LEGEND
- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

Pedestrian crossing
Georgia State historical marker
Stone pillars and gate
Whitlock Avenue
Dallas Highway
Snake fence on both sides of Cheatham Hill Drive near gates
Trail regulations and wayfinding signs
Park hours sign
Brick entrance sign
Ballenger House site
Cell phone audio tour sign
Interpretive sign (Interlocking Defenses)
Whitlock Creek
Regulatory sign
Two cannon
Concrete steps
Old John Ward Road
Access road to Youth Museum
Texas Monument
Cheatham Hill Connector Trail
Cheatham Hill Drive
Cheatham Hill
see Figure 228 for detail
Cheatham Creek
Cheatham Hill
Recreation Area 3
Illinois Monument
Plank bridge
Pedestrian crossing
Davis's Division Line (Morgan's Brigade)
Pedestrian crossing
Cheatham Hill Road

0' 400' 800' 1600'
SCALE 1" = 800'

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Cultural Landscape Report
for
Kennesaw Mountain National Battlefield Park

Source:
Kennesaw Mountain National Battlefield Park GIS files, 2007.

Figure 227.
Existing Conditions:
Cheatham Hill
Character Area

LEGEND
- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

Regulations and park hours sign
Trail regulations sign
Gate
"No metal detecting" sign base
Trail post markers (3)
Benches (2)
Access to Kolb Farm Trail
Parking
Cell phone audio tour sign
Interpretive sign (Harker's Attack)
Bench
Pet bag station
Kiosk
Drinking fountain
Trash receptacle
Directional sign
Interpretive sign (Climax at Cheatham Hill)
"Historic Earthworks" sign
C.H. Coffey Marker
"Living Relics" bronze plaque
Interpretive sign (Camouflaged Cannon)
Two cannon
Cheatham Hill
Fellows Marker
Interpretive sign (Dead Angle)
Union Tunnel Marker
McCook's Brigade Marker
Interpretive sign
Cheatham Hill earthworks
Interpretive sign (The Assault Falters)
Grave of Unknown U.S. Soldier
Restrictions and wayfinding signs
Restored open meadow
Illinois Monument and curbed terrace
Black bollard and chain fence
Interpretive sign (Monument to the Fallen)
Neighbour Marker
Kolb Farm Loop Trail
0' 100' 200' 400'
SCALE 1" = 200'

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Cultural Landscape Report
for
Kennesaw Mountain National Battlefield Park

Source:
Kennesaw Mountain National Battlefield Park GIS files, 2007.

Figure 228.
Existing Conditions:
Cheatham Hill
Character Area Detail

Cheatham Hill Character Area

Refer to Figure 227 and Figure 228.

The Cheatham Hill Character Area is located within the southern half of Kennesaw Mountain National Battlefield Park south of Dallas Highway. This character area is accessible to vehicular traffic via Cheatham Hill Drive, which extends south from Dallas Highway and ends in a parking lot and trailhead. Cheatham Hill Character Area is also accessible by pedestrian traffic via foot trails from the north and south.

The Cheatham Hill Character Area includes several historic landscape features associated with the 1864 Battle of Cheatham Hill and subsequent commemoration, including earthworks, views, clearings, monuments and markers, and CCC-constructed improvements such as Cheatham Hill Drive. The character area includes the expansion of the original 60-acre parcel that was purchased by the Kennesaw Memorial Association in 1917 and additional property acquired by the National Park Service for access from the Marietta-Dallas Highway by the National Park Service in 1934.

The focal point of the character area is the crest of Cheatham Hill where the Illinois Monument, an associated stone staircase, and related commemorative markers are sited to mark locations important to the battle. Cannon occupy gun emplacements within the surviving Confederate fortification system and are accessed by trails behind the earthworks. The parcel is primarily wooded, although the woodlands on the hill behind the earthworks is maintained with a cleared understory. The Union approach route to the Confederate earthworks below the Illinois Monument has been cleared and is maintained as an open meadow to reflect 1864 landcover conditions.

Natural Systems and Features

The landscape of the Cheatham Hill Character Area revolves around a ridge formed by intrusion of granite thrust upward through the surrounding sedimentary and metamorphic rocks during the formation of the Appalachian Mountains.

Cheatham Hill is smaller than either Kennesaw Mountain or Little Kennesaw Mountain and approximately the same size as Pigeon Hill.

At the base of Cheatham Hill is Cheatham Creek, a tributary of John Ward Creek (Figure 229). The two creeks form a valley to the east and west of Cheatham Hill. Cheatham Hill rises approximately 120 feet above the bed of these creeks. Whitlock Creek flows west through the character area. The creeks are important natural resources of the park.

FIGURE 229. Cheatham Creek, a tributary of John Ward Creek.

Responses to Natural Resources

The primary cultural responses to natural resources in the Cheatham Hill Character Area include remnants of the Confederate defensive fortifications established along the high ground and key terrain to command views of potential avenues of attack from lower-lying area, the Union earthworks fortifications within view of targeted Confederate positions, the access road and parking, the careful siting of the trail system to avoid impacts to terrain and earthworks, the use of culverts and bridges to convey roads and trails across stream corridors, the siting of the Illinois Monument, the Union Tunnel Marker at the base of the Illinois Monument, siting of various commemorative markers and plaques, and evidence of streambed restoration, soil conservation, and earthworks preservation efforts conducted by the CCC and PWA in the 1930s.

Patterns of Spatial Organization

Within the Cheatham Hill Character Area, spatial organization is characterized by the arrangement of woodland and open fields that alternate along the entrance road and trails affording a variety of open and directed views. The large open field surrounded by forest vegetation below the hill offers a broad perspective across the landscape, especially from the prospect afforded by the Illinois Monument. The linear system of earthworks also helps to create spaces at a smaller scale. Clusters of twentieth-century housing edge the eastern side of the entrance road to Cheatham Hill.

Open fields edge Cheatham Hill Drive to the west. The nearly level fields are punctuated by Confederate entrenchments. Open meadow also edges the western side of the entrance drive near the Texas Monument (Figure 230 through Figure 232). Woodland edges the drive for much of its remaining length.

FIGURE 230. Patterns of earthworks and vegetation within the character area.

FIGURE 231. Open fields west of the entrance drive.

FIGURE 232. Open meadow beyond the Texas Monument.

Along the crest of Cheatham Hill, Confederate entrenchments formed a powerful line of defense against the Union forces. Below the line is an open field surrounded by forest vegetation (Figure 233 and Figure 234). The field was the site of a massive assault by the Union Army up the hill toward the Confederate entrenchments.

FIGURE 233. View across open field below Dead Angle.

FIGURE 234. Open field below the Dead Angle and adjacent forest vegetation.

South of the Illinois Monument, the loop trail becomes enveloped by forest vegetation, and is sometimes edged by the low mounds of earthworks, the occasional wayside, and other small-scale features (Figure 235).

FIGURE 235. Forest vegetation encloses the trail below the Illinois Monument.

Topographic Modifications

Topographic modifications evident within this character area include grading to accommodate Cheatham Hill Drive and the parking lot at its southern terminus. Topographic modifications also include grading for the terrace base of the Illinois Monument and the marble staircase that spans the slope to the west of the monument. The trails on the crest of Cheatham Hill and their connections to the larger trail system in the park were graded to accommodate alignments that keep visitors off of the earthworks and direct storm water from the trail surface (Figure 236 through Figure 238). Topographic modifications also occurred in conjunction with streambed restoration and erosion control measures conducted during the 1930s by the CWA.

FIGURE 236. Topographic modifications include grading to establish levels plinths and landings for the Illinois Monument and marble staircase.

FIGURE 237. The terraced base of the Illinois Monument was graded to establish a level viewing area.

FIGURE 238. Trails are graded to shed storm water and afford a level and evenly-pitched walking surface.

The extensive earthworks system located within this character area survive as topographic modifications from the Civil War (Figure 239 through Figure 241 and refer to Figure 230). The Confederate earthworks at Cheatham Hill were one of the objectives of Sherman's two-pronged attack on June 27, 1864, that initiated the Battle of Kennesaw Mountain. The site includes the famous Dead Angle that the Union army mistakenly believed could be successfully assailed.

The complex system of earthworks at Cheatham Hill generally follows the contour of the ridge. A forward parapet edges the crest of the hill. It includes a significant traverse that forms a salient angle with the main parapet. Two additional lines extend across the hill behind the salient, forming a network of parapets, ditches, traverses, and dugouts overlooking the open field below. The Union approach route through the field is maintained in open vegetative cover to help interpret the battle.

FIGURE 239. Historic earthworks survive from the Civil War period.

FIGURE 240. Some Cheatham Hill earthworks maintained in mown grass.

FIGURE 241. Cannon have been emplaced behind some of the Cheatham Hill earthworks for interpretive purposes.

Land Uses and Activities

The primary land uses associated with the Cheatham Hill Character Area include commemorative, interpretive/museum, and recreation. Agricultural uses are associated with historic leases held by local farmers to harvest hay from park fields. Utility uses are associated with water lines that service the drinking fountain near the parking area. Transportation uses are associated with Dallas Highway that edges the character area to the north. Visitor services are also offered through the provision of a drinking fountain at Cheatham Hill.

Evidence of former military use occurs in the form of earthworks. Interpretation is the primary land use, while hiking and horse trails provide recreational opportunities. Commemoration is also an important use within this character area, associated with the Illinois Monument, the Texas Monument and other small-scale markers (Figure 242 and Figure 243).

FIGURE 242. Recreational uses are associated with hiking and equestrian trails.

FIGURE 243. Commemorative uses are associated with the monuments.

Circulation

Circulation within the Cheatham Hill Character Area includes both public and park vehicular roads as well as park. State Highway 120 (Dallas Highway) bisects Kennesaw National Battlefield Park from east to west and provides access to the Cheatham Hill Drive (Figure 244). Due to the rapid growth of the area around the park, this road and others are extremely busy and are used by commuters traveling to Marietta and to Atlanta, beyond. This makes ingress and egress into Cheatham Hill very difficult for park visitors, especially during period of peak traffic volumes.

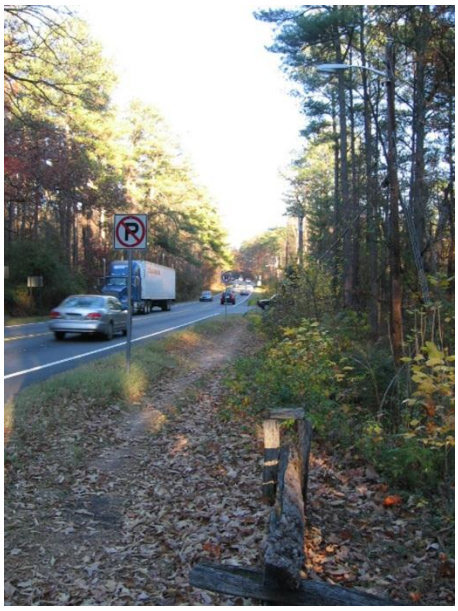

FIGURE 244. State Highway 120 (Dallas Highway) bisects the park.

Cheatham Hill Drive and parking area are the primary vehicular circulation elements within the Cheatham Hill Character Area, although Old John Ward Road traverses the area to the west. Cheatham Hill Drive is a 22-foot-wide asphalt-paved road that leads from Dallas Highway to the summit of Cheatham Hill (Figure 245). It was built in 1940 to replace an earlier road and parking complex established by the U.S. War Department. Current parking configurations include parking spaces for 32 vehicles in one area and a second lot that accommodates another 6 vehicles. Concrete wheel stops edge these spaces. There are 2 universally accessible parking spaces at the south end of the primary parking lot (Figure 246).

FIGURE 245. Cheatham Hill Drive.

FIGURE 246. Cheatham Hill parking area.

Old John Ward Road is a 20- to 22-foot-wide packed gravel maintenance road that connects Dallas Highway and New John Ward Road.

Many of the existing trails at Cheatham Hill were established by the CCC in the late 1930s and early 1940s. They were designed to provide access to several earthworks, the Illinois Monument, and the margins of the field used by the Union army to approach the Confederate positions.

From the parking area, a pedestrian loop trail provides access to Mebane's Tennessee Battery (Figure 247 and refer to Figure 234). The trail follows the line of earthworks and trenches through terrain that descends gradually toward the monument. After passing the monument, the trail continues east and north, intersecting the Kolb Farm Loop Trail.

The Illinois Monument can also be accessed by pedestrians via the Cheatham Hill Connector Trail, which crosses Dallas Highway into the Cheatham Hill Character Area near the intersection with Cheatham Hill Drive. The trail parallels the entrance road for most of its length, continuing south into the field below the Illinois Monument where visitors can walk up to the commemorative area. This trail is used by both pedestrians and equestrians. At the field, the trail branches. The western branch edges the open field and continues west across a bridge, leading to the parking area along Cheatham Hill Road. The eastern branch follows the northern margin of the field before turning southeast, and then southwest.

It eventually forms the western segment of the Kolb Farm Loop Trail.

Trail erosion is particularly evident around the Illinois Monument where storm water has formed gullies and exposed tree roots and drainage pipes (Figure 248 and Figure 249). Close to the parking lot, asphalt has eroded away, revealing a pattern of red brick that may have been a pathway constructed by the CCC.

FIGURE 247. The Cheatham Hill Connector Trail trailhead as it leads into the Cheatham Hill Character Area.

FIGURE 248. Trail erosion is evident in several places below the Illinois Monument.

FIGURE 249. Trail erosion at the base of the Illinois Monument stair.

Vegetation

Vegetation within the Cheatham Hill Character Area includes heavily forested areas characterized by stands of shortleaf pine, loblolly pine, and second growth hardwoods such as chestnut oak, blackjack oak, and scarlet oak (Figure 250). At the base of Cheatham Hill are stands of hardwood and pine as well as open meadow. Some of the pines survive from a loblolly pine plantation established by the CWA in the 1930s. The undergrowth includes exotic plants such as Japanese honeysuckle, kudzu, privet, ailanthus, and mimosa (Figure 251 through Figure 253).

FIGURE 250. Forest vegetation frames many of the trails at Cheatham Hill.

FIGURE 251. Open meadow near the Texas Monument.

FIGURE 252. Some earthworks have grass and tree saplings growing on them.

FIGURE 253. Some larger trees are also found growing on the historic earthworks.

Buildings and Structures

There are no buildings located within the Cheatham Hill Character Area. Structures associated with the Cheatham Hill Character Area include earthworks, monuments, and commemorative markers.

Confederate Earthworks. The surviving Confederate earthworks within this character area include:

Confederate trench line. Located south of Dallas Highway is a trench line in poor condition that marks the position of Maj. Gen. Patrick R. Cleburne's Division.[233]

Confederate battery. West of Cheatham Hill Drive and south of Dallas Highway is a two-gun battery position centered on a 488-foot-long infantry line. The battery consists of four earthen parapets that are badly eroded. The embrasures are no longer in evidence.[234]

Cheatham Hill earthworks. (LCS 090133; park structure HS-12). This earthwork is located between Dallas Highway and John Ward Creek. One of the redoubts and a section of the forward line were rehabilitated beginning in the 1980s, including Mebane's Tennessee Battery position, but are in fair condition due to visitor access.[235] The earthworks are composed of two infantry lines (1,299 and 1,947 feet long, respectively) with a 4 to 6-foot-high parapet, a front and rear trench, and traverses extending back from the front line that formed the salient known as the dead angle. These positions were associated with Maj. Gen. Benjamin F. Cheatham's Division.

233. Hellman (2003), 122, citing Rogers, 32.
234. Ibid., 122.
235. Ibid., 122, citing Rogers, 32.

Cheatham Hill Battery. (LCS 090138; park structure HS-17a). Also known as Granbury's Brigade site, these Confederate earthworks were first constructed of earth and wood in 1864, and stabilized by the park in 1982. Mebane's Tennessee Battery is the first artillery position encountered by visitors to Cheatham Hill walking between the parking area and the Illinois Monument. It was likely a two-gun position centered on a 488-foot infantry line beginning south of Dallas Highway. It features four earthen parapets that are badly eroded with the embrasures no longer in evidence. The parapet ranges in height from 3 to 5 feet. while a second fieldwork along the line is a 60-foot-square redoubt with 4-foot-high parapet walls. The battery was assessed in good condition in 2010. Threats identified to the structure include visitation, erosion, and vegetation.

Confederate Encampment Site. Several small depressions on the back slope of Cheatham Hill are thought to be sleeping pits associated with the Confederate troops stationed behind the trench lines and batteries.

Union Earthworks. Union earthworks at Cheatham Hill include:

Federal trench line. A Union trench line is located near the junction of John Ward Road and Dallas Highway. It is in poor condition.[236] The line was manned by Howard's IV Corps.[237]

Trench line. This earthwork is located east of John Ward Road and south of Dallas Highway. It possibly represents a Federal entrenchment with a battery position. The line is badly deteriorated.[238] It was manned by Howard's IV Corps.[239]

John Ward Road Trench. This earthwork is located east of John Ward Road and follows the park's western boundary. These earthworks are badly eroded due to farming activity.[240] They were manned by Howard's IV Corps.[241]

Trench line. Located east of the park boundary and intersected by an old road, this trench line is thought to be associated with the Federal line, but is in poor condition.[242] It was held by Palmer's Corps.[243]

Federal trench line. Located east of Cheatham Hill Road and facing Cheatham Hill is a Union trench line held by Maj. Gen. John Palmer's Corps. This is one of very few earthworks to survive from this position.[244]

Federal trench line. Located east of Cheatham Hill Road is another Union trench line that features well-defined earthworks in good condition.[245] This position was held by Palmer's Corps.[246]

Monuments and Commemorative Markers.

Illinois Monument. The most prominent commemorative structure in the park is the Illinois Monument. The stone sculpture was designed by architect James B. Debelka and executed by artist J. Mario Korbel. It was constructed in 1914 by the McNeel Marble Company of Marietta. The monument consists of a 25-foot-tall battered marble shaft rising from an 8-foot-square base. The sides and back of the monument include stone plaques with raised lettering. On the front of the monument is a bronze sculptural group consisting of a Union soldier flanked by two women. Above the sculptural group is raised lettering "Illinois" surrounded by wreath and swag decoration, and a sculpted stone eagle and shield. The monument is sited on the crest of Cheatham Hill, and overlooks a small plaza paved in marble.

236. Ibid., 124, citing Rogers, 35.
237. Ibid., 124.
238. Ibid., 124, citing Rogers, 35.
239. Ibid., 123–124.
240. Ibid., 124, citing Rogers, 35.
241. Ibid., 123.
242. Ibid., 123, citing Rogers, 34.
243. Ibid., 123.
244. Ibid., 123, citing Rogers, 34.
245. Ibid.
246. Ibid., 123, citing Rogers, 34.

Two flights of marble steps leading down the western slope of the hill below the monument (refer to Figure 236).

Union Tunnel Marker. The Union Tunnel Marker is a 5-foot-wide by 3-foot-tall marble arch with an inscribed keystone flanked by a dry-stacked stone wall (Figure 254). It marks the location of the tunnel begun by Federal troops attempting to undermine the Confederate trenches during the Battle of Cheatham Hill in 1864. It was constructed around the same time as the Illinois Monument.

FIGURE 254. Union Tunnel Marker near the base of the Illinois Monument.

Texas Monument. The Texas Monument (LCS ID 090143, HS-10), erected in 1964, is located west of Cheatham Hill Drive. The monument is constructed of pinkish-red granite and is a rectangular stone, standing vertically. The monument stands 2 feet high, and is 1 by 1 foot 7 inches in width and depth. It is set on a 3 by 2 foot granite base. The front and rear elevations are similar, and contain the names of the Texas units that fought at Kennesaw and a single bronze star encircled by laurel leaves.

The monument is a memorial to Texans who served the Confederacy and was erected by the State of Texas in 1964 (refer to Figure 232).

Footbridges. The trails at Cheatham Hill cross stream corridors using wood plank bridges.

Views and Vistas

Views of potential avenues of enemy approach associated with the military field of fire relating to Confederate artillery positions were important to the battle strategy of the military commanders involved in the Battle of Kennesaw Mountain. The summit of Cheatham Hill provided the means to observe enemy movements arising from lower lying areas, such as Cheatham Creek. Union positions were concealed while located within the woodlots and forest areas. However, once they moved forward to the field below the Confederate fortifications, they were fully visible and exposed to artillery fire. Today, from the monument long views are afforded across the open field below. The historic conditions present at the time of the battle can be understood today due to the clearing maintained below the Illinois Monument by the National Park Service. The clearing is not as large as that present at the time of the battle, however.

FIGURE 255. View of the open field beyond the Illinois Monument.

Views from the Cheatham Hill Character Area include residential development located to the east and west of the park boundary. Development to the east of the road is visible year round from Dallas Highway (Figure 257 and Figure 258).

FIGURE 256. Cannon placed by the park help interpret the views and associated fields of fire from historic earthworks.

FIGURE 257. Residential development adjacent to the park is visible through forest vegetation.

FIGURE 258. Residential development visible from the park.

Small-scale Features

Small-scale features associated with the Cheatham Hill Character Area include site furnishings, fences and gates, signs, interpretive elements, landscape steps and commemorative markers.

Site Furnishings. Site furnishings within the Cheatham Hill Character Area include benches, trash receptacles, a drinking fountain, and a pet bag station. Most of these visitor amenities are located to the south, southeast, and southwest of the Cheatham Hill parking lot. The drinking fountain is composed of a metal arm painted green with a copper basin and nozzle. The drinking fountain is located adjacent to the south edge of the parking lot, within easy access of the universally accessible parking spaces. There is also a wooden bench in this vicinity, which is constructed of wood slats with a continuous seat and back. A smaller backless wooden bench is located at the trail head for the Kolb Farm trail east of the Cheatham Hill parking lot. A pet bag station for visitors who use the trails to walk their dogs is located at the southeast end of the parking lot. A large brown animal-proof trash receptacle is also located at the south end of the parking lot, near the other visitor amenities (Figure 259 through Figure 261).

FIGURE 259. One of the wood slat benches near the parking lot.

FIGURE 260. A backless wood bench at the trailhead of the Kolb Farm Loop Trail.

FIGURE 261. A drinking fountain and animal-proof trash receptacle near the Cheatham Hill parking lot, with signage visible beyond.

Fences and gates. Fences edge Cheatham Hill Drive beginning at Dallas Highway. Split-rail snake fencing follows the edge of Dallas Highway and turns to follow Cheatham Hill Drive to either side for a part of its length (Figure 262). Split-rail snake fencing also protects the artillery redoubt that protected Major General Patrick R. Cleburne's Confederate division where an interpretive wayside has been installed for visitors. The fence is in good condition.

FIGURE 262. Snake fencing is found throughout the character area.

Split rail fencing also encloses the marker commemorating the Grave of the Unknown U.S. Soldier. This fence has three rails and is approximately 18 inches high. It is in fair condition.

Split-rail fencing is used in various locations along trails and at the base of the Illinois Monument (Figure 263 and refer to Figure 233). A short span of fencing sits at the base of the slope to the west of the monument to keep pedestrians from walking into the open field and forming social trails through the meadow. These short spans of split rail snake fencing are also used on various parts of the trails to limit access to earthworks and other sensitive landscape features.

FIGURE 263. Split-rail snake fencing edging one of the Cheatham Hill trails.

The Illinois Monument and plaza is spatially defined by a bollard and chain fence. The bollards and chains are cast iron and painted black. The fence forms the edge of the trails around the

monument and terrace to the north, east, and west until it reaches the steps to the monument. The fence continues for approximately 50 feet south along the eastern edge of the Cheatham Hill Loop Trail as it passes the Illinois Monument (Figure 264 and refer to Figure 255).

FIGURE 264. A bollard and chain fence edges the Illinois Monument plaza.

The entrance to the Cheatham Hill Character Area on Cheatham Hill Drive is marked by sandstone piers that support powder-coated aluminum gates (refer to Figure 257), similar to those at the visitor center entrance, the overflow parking lot, and the entrance and exit to the parking lot on Cheatham Hill Road. The piers are 4 feet 8 inches tall with a 2 inch cap. Each pier rests on a 3 by 3 foot concrete pad. The gate arms are 11 feet 9 inches in length.

Associated with some of the trails in the character area are standard NPS brown swing gates that prohibit vehicular access to the trails (Figure 265).

FIGURE 265. Brown swing gates control vehicular access to several trails.

Steps. A small set of stone steps is associated with the interpretive wayside containing the artillery redoubt that protected Maj. Gen. Patrick R. Cleburne's Confederate division on the west side of Cheatham Hill Drive. There are two steps that afford access to the redoubt from the road (Figure 266).

FIGURE 266. A small set of stone steps provides access to Cleburne's Redoubt.

Signs. Signs associated with the Cheatham Hill Character Area are diverse and include a Georgia State historical marker, interpretive signs, wayfinding and identification signs, and traffic and regulatory signs. Also found at Cheatham Hill are wood and metal plaques, steel and fiberglass carriers, cell phone audio tour signs, and earthworks identification signs (Figure 267 through Figure 270).

The signage within this character area begins at the entrance to Cheatham Hill on Cheatham Hill Drive. A large standard NPS sign posts park hours and regulations. A standard stop sign is attached to the metal gates regulating access to Cheatham Hill Drive. There is also signage associated with the trail connection across Dallas Highway into the Cheatham Hill Character Area. These signs include a low wooden directional sign to Cheatham Hill and Kolb Farm and a standard NPS sign designating trail use by pedestrians and equestrians. Most of these signs are NPS standard brown metal with white lettering attached to a wooden post. Signs also convey earthworks information along the trails.

FIGURE 267. One of the trail regulation signs.

FIGURE 268. Park hours and regulations signs along Cheatham Hill Drive.

FIGURE 269. A sign indicating the sensitive nature of Civil War earthworks for visitors.

FIGURE 270. Trail regulations signs.

Interpretive signage within the character areas includes a Georgia State historical marker at the entrance to Cheatham Hill and NPS interpretive signs constructed of fiberglass boards supported by black-painted metal frames. These low profile signs are associated with various interpretive sites and feature text and images about the earthworks and battles associated with Cheatham Hill (Figure 271 and refer to Figure 255). Alongside many of the interpretive signs are cell phone audio tour signs, constructed of metal sign faces attached to metal poles.

FIGURE 271. A low profile interpretive sign.

Cannon serve as interpretive aids at selected sites around the Cheatham Hill Character Area. These are found in the fort at Cheatham Hill, south of the parking lot, and in the redoubt west of Cheatham Hill Drive. There are also several cannon placed along the trails within the character area to support interpretation (Figure 272).

FIGURE 272. Cannon emplaced for interpretive purposes by the park.

To the east of the parking lot there is a kiosk used to post information for visitors. It consists of a wooden padlocked display case with a small gable roof (Figure 273).

Earthworks informational signs are constructed of wood and painted gray with white letters (Figure 274). Many of the sign types are grouped at the parking lot and trailheads to reduce clutter (refer to Figure 261).

FIGURE 273. Kiosk and cell phone audio tour sign east of the parking lot.

FIGURE 274. Wooden earthworks regulation sign, painted gray.

Commemorative markers. A number of markers at Cheatham Hill are associated with commemoration of the battle. Circa 1914, several smaller markers were installed to mark battle events in conjunction with the Illinois Monument. These small commemorative markers include the Harker Marker, the McCook Brigade Marker, the C. H. Coffey Marker, and the Fellows Marker, and the Grave of the Unknown U.S. Soldier.

The Neighbour Marker is located southwest of the Illinois Monument. It is a rectangular granite marker with incised lettering, approximately 2 feet 6 inches in height, 1 foot 6 inches wide and 4 to 5 inches in depth (Figure 275).

FIGURE 275. The Neighbour Marker.

The Harker Marker is a small metal plaque with an angled sign face attached to a wooden post (Figure 276). The text reveals that this was where Brig. Gen. Charles G. Harker rode into battle on a

white horse and was shot and mortally wounded. The marker is located in a grass area west of the parking lot.

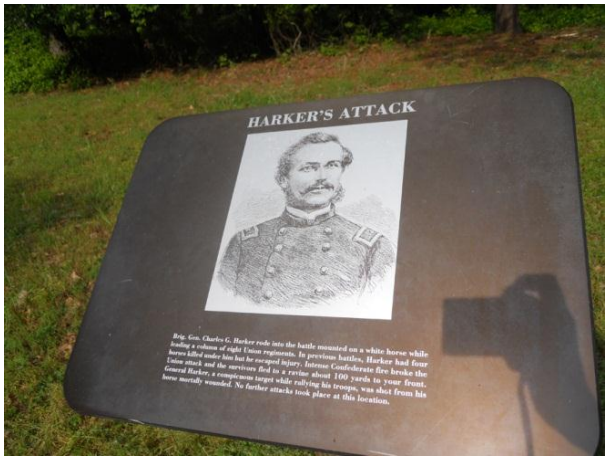

FIGURE 276. Marker commemorating Harker's Attack.

The McCook Brigade Marker is a 24 by 24 by 15 inch rectangular granite marker located at the point where McCook's Brigade began its assault on Confederate positions, as described on the marker's beveled face. It is located opposite Cheatham Hill. This marker was moved further south between 1935 and 1939 from its original location.

The C. H. Coffey Marker was erected in 1914. It is a 2 by 1 by 3 foot marble tablet indicating the place where Sgt. C. H. Coffey was mortally wounded during the Federal assault on Cheatham Hill (Figure 277). It is located approximately 300 feet north of the salient at the crest of the hill. The marker is sited to the west of the gravel trail leading from the parking lot to the Illinois Monument.

Approximately 10 feet west of the Coffey marker is a small angled tablet mounted on a 4 by 4 wood post, approximately 2 feet in height. The tablet surface is 9 by 12 inches and contains brief interpretive information about historic trees. (Figure 278).

FIGURE 277. The marble C. H. Coffey Marker.

FIGURE 278. A small tablet interpreting historic trees.

The Fellows Marker is a 1 by 2 by 2 foot rectangular white marble marker with a beveled face bearing the inscription: "Captain W.W. Fellows/Inspector General/3rd Brigade Second Division/14th A.C." (Figure 279). It was erected circa 1914 and is located on Cheatham Hill east of the Illinois Monument.

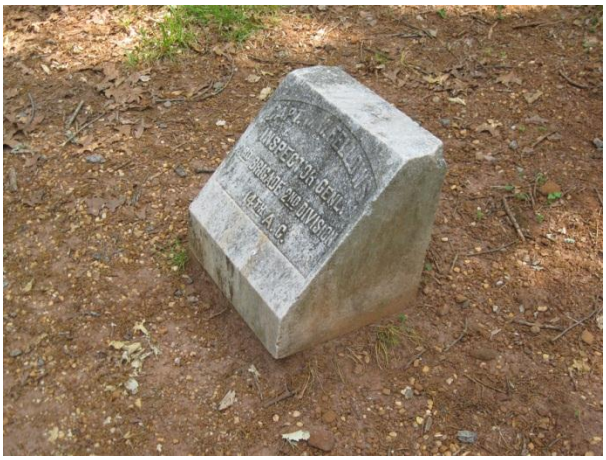

FIGURE 279. The Fellows Marker.

The Grave of the Unknown U.S. Soldier is a 1 by 2 by 3 foot marble headstone inscribed: "Unknown/ U.S. Soldier/ June 27, 1864." Civil Works Administration laborers discovered the soldier's grave in 1934 while clearing the surrounding area of vegetation. The grave was then marked with this stone. The grave is enclosed by a split rail fence and is located along the Cheatham Loop Trail, southeast of the Illinois Monument (Figure 280 and Figure 281). It is the only known Civil War interment at the park.

FIGURE 280. Marble headstone marking an unknown grave, surrounded by a split rail fence.

FIGURE 281. Marble headstone marking the grave of an unknown soldier.

Utilities. Above ground evidence of utilities within the Cheatham Hill Character Area includes the drainage pipes exposed at the base of the Illinois Monument stairs (refer to Figure 249). The pipes are broken in some areas and their exposure to pedestrian traffic results in continued wear that will eventually destroy the remaining exposed surfaces.

Archeological Resources

Prior to the construction of the park road from Dallas Highway to Cheatham Hill in 1939, SEAC investigator Charles Fairbanks conducted a preliminary archeological study of the area to determine the location of Confederate fortifications. This project was undertaken to identify Confederate entrenchments so that they could be avoided during the construction of a park road to Cheatham Hill. Fairbanks wrote that few objects were found in the excavation and that the trenches were sufficiently located to justify the location of the road. These conclusions came only from official correspondence between Fairbanks and Superintendent Yates. Documentation such as field notes, maps, sketches, and photographs, which would be needed to fully assess the work, has not been identified.[247]

A plan prepared by Georgia Department of Transportation to widen Dallas Highway resulted in an archaeological mitigation survey along the 3/4 mile section of the public road corridor that passes through the park in 1987 by William Bowen. Following background research, Bowen conducted a field survey to locate sites and features within the proposed corridor, and relocate any previously recorded resources. Background research indicated the presence of entrenchments, gun emplacements and rifle pits, and sites of nineteenth and twentieth century structures that are no longer standing, such as the Shiloh School and Church and the Ballenger House. Shovel tests confirmed the remains of a nineteenth century structure thought to be the Ballenger House site but did not reveal the

247. Hellman (2003). 88–94.

presence of any other significant artifact concentrations or features.[248]

An archeological survey conducted by Robert Entorf of SEAC in 1990 was a continuation of Bowen's earlier survey, which only included limited subsurface testing along Dallas Highway. The purpose of this second survey was to locate and document through data recovery archeological resources located within the construction limits of the project corridor.[249]

In 1991, Kenneth Wild, Jr., an archeologist from NPS SEAC, investigated a number of Archeological Resources Protection Act (ARPA) violations which had occurred near the Illinois Monument on Cheatham Hill. Wild's final report, *Assessment of Damage to Archeological Resources at Kennesaw Mountain National Battlefield Park, Georgia*, includes a list of disturbances and estimates for restoration and repair, archeological value, and commercial value.[250]

In 1996, SEAC archeologist John Cornelison, Jr., investigated seventy-two instances of ARPA violations that had occurred south of State Route 120 (Dallas Highway) near the Texas Monument associated with Cheatham Hill. The final report includes a damage assessment and estimated cost for restoration and repair, archeological value, and commercial value.[251]

248. Ibid.
249. Ibid.
250. Ibid.
251. Ibid.

LEGEND
- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

0' 50' 100' 200'

SCALE 1" = 100'

Cheatham Hill Road

Powder Springs Road

Kolb Farm Loop Trail

Cell phone audio tour sign

Interpretive sign

Residence sign

Split-rail fence (3 rails)

Hard-packed earth trail to intersection

Trail connects to residential sidewalk

Kolb House

Flagstone walkway

Trash receptacles

Residence sign

Screen fence (post and plank wood)

Gravel parking (remnants of wood curb along edge)

Parking

Georgia State historical marker (Battle of Kolb's Farm)

Interpretive sign

Georgia State historical marker (Battle of Kolb's Farm)

Cell phone audio tour sign

Accessible parking sign

Kolb family cemetery, surrounded by low concrete wall

Private property sign

Gravel drive

Powder Springs Road

Callaway Road

Jun 17, 2013 - 1:06pm G:\PROJECTS\Kennesaw CLR\Planning\AutoCAD\Active\KEMO_CLR_EXCON_090712.dwg

Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Source:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Figure 282.
Existing Conditions:
Kolb House
Character Area

Kolb House Character Area

Refer to Figure 282, Existing Conditions: Kolb House Character Area.

The park includes a small parcel south of Powder Springs Road that straddles Callaway Road. The parcel features the Kolb House, an antebellum residence present at the time of the Civil War battle. The house is part of a farmstead established in the 1830s that is associated with early Cobb County settlement. The Battle of Kolb's Farm occurred near the house. In addition to the residence, the Kolb House Character Area includes a gravel access road, fenced yard, pull-in parking area off of Callaway Road, interpretive and regulatory signage, and a grove of large shade trees. The Kolb family cemetery is located adjacent to the pull-in parking area but remains in family ownership. All resources associated with the character area have been assessed as in good condition unless otherwise noted.

Natural Systems and Features

The Kolb House is located on a relatively level parcel of land. There are no apparent springs or waterways, or other natural resources, within the character area boundaries.

Responses to Natural Resources

The Kolb House is located within a relatively level area. The property was historically used as a farm The surrounding terrain was likely well suited to crop production.

Patterns of Spatial Organization

Within the Kolb House Character Area, patterns of spatial organization include the high canopy cover area around the house, the open field to the south of the house, and the adjacent dense forest vegetation to the east of Callaway Road (Figure 278). A low concrete wall defines the boundary of the Kolb family cemetery (Figure 284).

FIGURE 283. Shade trees and grass lawn in the yard adjacent to the Kolb House.

FIGURE 284. A low concrete wall defines the boundary of the Kolb family cemetery.

FIGURE 285. The Kolb Farm property is located along Powder Springs Road.

Topographic Modifications

Topographic modifications within the Kolb House Character Area include grading to accommodate parking and a gravel access drive that leads to the rear of the property from Callaway Road. The parking area was graded to allow pull-in parking for 6 to 8 cars directly from the road (Figure 286 through Figure 288).

FIGURE 286. Topographic modifications include grading for the pull-in parking area.

FIGURE 287. The Powder Springs Road corridor has been also graded to establish a wide level travelway.

FIGURE 288. The gravel access drive leading to the rear of the property from Callaway Road has also been graded.

Land Uses and Activities

The primary land uses associated with the Kolb House Character Area include interpretive/museum/educational and lodging. The three interpretive signs located at the parking area convey interpretive uses (Figure 289). The house is used occasionally as lodging for park guests.

FIGURE 289. Interpretive uses are associated with the signs located along the pull-in parking area margins.

FIGURE 290. The part of the park parcel located east of Callaway Road is heavily forested.

Circulation

Public roadways edge the character area to the east and north. Powder Springs Road runs northeast to southwest along the northwest boundary of the character area, while Callaway Road runs north to south through the character area. North of Powder Springs Road, the continuation of Callaway Road is known as Cheatham Hill Road.

Powder Springs Road is a five-lane asphalt-paved road that links the town of Marietta to the northeast with Macland Road to the southwest (Figure 291). Callaway Road, which bisects the character area and runs along the east side of the Kolb House site. is a two-lane asphalt-paved road (Figure 292). The road continues south to Route 5 (Austell Road), and eventually Interstate 20.

Cobb County plans to improve the intersection of Powder Springs and Callaway roads. The road widening project includes the addition of turn lanes on Powder Springs Road that will impact the Kolb Farm Character Area. This project will result in widening of Powder Springs Road into the northwestern part of the character area and some encroachment of Callaway Road into the parcel east of the house and cemetery site. As part of the work, the park will gain a small parcel to the east of Calloway Road (refer to Figure 282, Kolb House Character Area).

FIGURE 291. Powder Springs Road, looking toward the intersection with Callaway Road.

FIGURE 292. Callaway Road looking south across the Kolb family cemetery.

Visitors are accommodated in the asphalt-paved pull-in parking area to the west of Callaway Road. The parking area accommodates five to six cars, including one universally accessible space (refer to Figure 286 and Figure 290). The parking area is difficult to enter and exit safely due to its proximity to the congested intersection of Powder Springs and Callaway roads.

A gravel driveway or access road runs east to west from Callaway Road into the parcel to the south of the Kolb House. The driveway provides access to a timber-lined, gravel-paved parking area that can accommodate two vehicles (Figure 293 and refer to Figure 288). The gravel driveway and parking area are partially overgrown with grass and are thus in fair to good condition.

FIGURE 293. The gravel driveway and parking area.

The landscape north of the Kolb House contains a hard-packed earth rutted and eroded pathway that parallels Powder Springs Road (refer to Figure 285). It leads between the intersection at Powder Spring and Callaway roads and a concrete sidewalk to the west of the character area.

A small flagstone path leads between the gravel parking area and the southeast entrance of the Kolb House. The path extends through the yard, characterized by grass lawn, shade trees, and ornamental shrubs, to a split-rail fence that surrounds the house (Figure 294).

FIGURE 294. A flagstone path leads from the gravel parking area to the south entrance of the Kolb House.

Vegetation

Cultural vegetation associated with the Kolb House Character Area includes deciduous hardwood specimen trees and lawn surrounding the house to the north and east. The majority of the larger specimen trees are oaks. Species include post oak; southern red oak; scarlet oak; and water oak. Another very large specimen tree present on the site is a pecan. A variety of other trees dot the landscape around the house and the lawn west of the parking area and cemetery. Trees species include eastern red cedar, persimmon, elm *(Ulmus Americana)*, and American holly. Smaller and more ornamental tree plantings include dogwood and lilac (*Syringa vulgaris*) (Figure 295 through Figure 298).

South of the house and cemetery, the parcel is maintained in mown grass. The cemetery is planted with grass, with ornamental shrub plantings at each corner.

FIGURE 295. A larger oak southwest of the house.

FIGURE 296. Ornamental shrub plantings at the corners of the cemetery.

FIGURE 297. Trees planted in the lawn east of the house.

FIGURE 298. A large oak east of the house.

Building and Structures

The Kolb House is the only remaining structure associated with an 1830s farmstead present at the time of the Civil War (Figure 299).

The Kolb House is a rectangular one-story log structure with a gable roof covered with wood shingles. Two brick chimneys are present at each gable end. Along the south side and at the west gable end are open wood-framed porches with shed roofs. The windows are typically wood double-hung nine-over-nine sash. The house has no basement but is supported on stone piers. The house is currently vacant but is occasionally used for temporary lodging for park guests or staff. In 1963 the exterior was restored to its appearance at the time of the Battle of Kolb Farm in 1864.

FIGURE 299. The Kolb House.

The Kolb family cemetery is located east of the house and just south of the pull-in parking area (Figure 300). It is surrounded by a 2 to 4 foot high concrete retaining wall of unknown age. The cemetery remains in private ownership. The park helps to maintain the cemetery.

FIGURE 300. The Kolb family cemetery remains privately owned.

Views and Vistas

The relatively level topography of the site and the open, mown lawn and tall shade trees allow for views to the adjacent roadways and the intersection of Powder Springs Road and Callaway (Figure 301). Views from the Kolb House are limited due to dense forest vegetation to the east and south, and thick vegetation along the western boundary and fencing associated with an adjacent residential subdivision. Views north encompass Powder Springs Road but are impeded beyond by dense vegetation north of the road. Views east encompass Callaway Road but are then blocked by dense forest cover.

FIGURE 301. View to the intersection of Powder Springs Road and Callaway Road from the Kolb House parcel.

Small-scale Features

Small-scale features associated with the Kolb House Character Area include signs, site furnishings, fences and gates, markers, and utilities.

Signs. A variety of signs are located within the Kolb House Character Area. These include regulatory, identity, and interpretive signage of various types. The sign types and materials represented are consistent with signs found throughout Kennesaw National Battlefield Park.

The regulatory sign is a standard sign with a metal face bolted onto a steel pole, designating the pull-in parking area's universally accessible space. It is located on the west edge of the parking lot adjacent to several other interpretive signs. The sign is approximately 4 feet 6 inches in height and the sign face is approximately 24 inches by 24 inches. The sign face is deep blue with white lettering and reads, "Reserved for Handicapped."

There are three identity signs within the Kolb House Character Area. One identity sign is located near the intersection of the gravel driveway and Callaway Road (Figure 302). The brown-painted wooden sign face is attached to a 4x4 wooden post with routed lettering painted white. The sign identifies the Kolb House area as private property. A second identity sign is located by the opening in the south side of the fence surrounding the house. It identifies the property as a residence

(Figure 303). The sign has a metal face, painted brown with white lettering, which reads, "Residence Do Not Enter." The sign face is 12 inches by 18 inches and is attached to a 4x4 wooden post approximately 5 feet in height. Brass numbers, presumably displaying the property's address, are secured to the wooden post. The post is not currently secure in the ground and the overall condition of the sign is poor. A third identity sign is located along the northeast side of the fence surrounding the house (Figure 304). The sign is composed of a brown metal face with white lettering of a single word, "Residence." The sign face is bolted to a 4x4 inch wooden post.

FIGURE 302. Identity sign adjacent to the gravel driveway.

FIGURE 303. An identity sign with brass address numbers on the post.

FIGURE 304. One of three brown-painted wooden identity signs.

There are several types of interpretive signs within the Kolb House Character Area. Adjacent to the west edge of the parking area are two Georgia State historical markers (Figure 305). Both markers are standard cast iron with raised painted lettering set on a reinforced concrete support pole. The first marker, numbered 033-13 and dated 1984, is in fair condition due to its deteriorated concrete base. The second marker, numbered 033-12 and dated 1952, is in good condition and has likely been recently restored. Both historical markers contain text interpreting the 1864 Battle of Kolb's Farm. Located between the two historical markers is a low profile interpretive sign oriented to face the west edge of the parking lot. The fiberglass panel features interpretive text and images about the house and troop movements during the Battle of Kolb Farm, and is positioned at an angle in a brown powder-coated steel frame set in the ground within concrete footers. Located between the house and parking lot is a small interpretive sign, 4 feet in height, constructed of an angled metal face supported by a 4x4 inch wooden post set in concrete. The sign face has images and text interpreting the Kolb House.

Two recently installed metal signs on steel posts provide instructions for accessing the cell phone audio tour at the Kolb House. One is located on the west edge of the parking area beside the interpretive signage and the other is located between the house and the parking lot beside the smaller interpretive sign (Figure 306). Identical signs are located throughout Kennesaw National Battlefield Park at various historic sites of interest.

FIGURE 305. Group of interpretive signs and a sign delineating a universally accessible parking space at the pull-in parking lot.

FIGURE 306. Cell phone audio tour sign and low profile interpretive sign adjacent to the parking area.

Site Furnishings. Two metal trash receptacles are located next to the opening in the south side of the split rail fence. The cans have removable tops and are lined with plastic trash bags. They are set in metal frames that are not permanently secured to the ground.

Fences and Gates. A split rail fence surrounds the Kolb House on three sides (refer to Figure 295 and Figure 297). It is a three rail fence supported by posts approximately 4 feet 6 inches in height. The fourth (southwest) side of the enclosure is formed by a wooden plank privacy fence alongside the residential subdivision that stands approximately 5 to 6 feet in height (Figure 307).

FIGURE 307. Wooden plank privacy fence on the southwest side of the house.

Markers. The Kolb family cemetery is thought to have been established circa 1837. Although listed on the NPS List of Classified Structures, the Kolb family cemetery is privately owned and not located within park boundaries. The cemetery is thought to have been established circa 1837, with work conducted to stabilize its features in 1967. The cemetery measures 48 by 50 feet in plan. It contains eleven marked graves with marble headstones dating from 1839 to 1955. The oldest headstone (1839) is a rounded shaft on a pedestal; the shaft is loose (Figure 308).

FIGURE 308. Headstones in the Kolb family cemetery.

Utilities. Utilities associated with the Kolb House Character Area include power lines and poles that parallel both sides of Powder Springs Road and the west side of Callaway Road. The intersection of Powder Springs and Callaway roads presents a number of utility lines crossing the two roads within view of the Kolb House site (refer to

Figure 301). An HVAC unit is located at the northeast corner of the house. A small utility pole equipped with lighting for the pathway is located along the flagstone path that extends southeast from the house to the gravel parking area (refer to Figure 294).

Archeological Resources

The Moore, Cooper, and Walker report, *Archeological Investigations at the Kolb Farm Battlefield Site Kennesaw Mountain National Battlefield Park, Georgia (1985–1986)*, is a summary of work associated with investigations conducted in the vicinity of the Kolb Farm complex and Powder Springs Road. The first report, *Archeological Survey and Testing of the Area to be Impacted by the Widening of Powder Springs Road*, is concerned with the initial proposal to widen Powder Springs Road from two to four lanes. The second report, *Archeological Investigation of a Rock Feature Discovered during Widening of Powder Springs Road*, summarized investigations surrounding a rock feature that was subsequently identified as the remains of a retaining wall built sometime after 1870. The report entitled, *Archeological Investigation of the Kolb Farm Battlefield Interpretive Parking Area*, describes the site reconnaissance survey, post hole testing, and metal detector investigations conducted prior to construction of a loop road and parking area near a Union entrenchment associated with the Battle of Kolb's Farm.[252]

In 1999, NPS SEAC archeologist Guy Prentice investigated twenty incidences of unauthorized excavation in the southwestern area of the park near the Kolb Farm Battlefield. The disturbances were photographed and mapped, and an estimation was made for restoration and repair, archeological value, and commercial value.[253]

252. Robert Hellman, *Kennesaw Mountain National Battlefield Park Archeological Overview and Assessment* (Tallahassee, Florida: National Park Service Southeast Archeological Center, 2003), 88–94.
253. Ibid.

Analysis and Evaluation

Introduction

This chapter consists of three sections: an evaluation of the significance of the Kennesaw Mountain National Battlefield Park landscape in accordance with the guidance provided by the National Register of Historic Places; a comparative analysis of historic and existing landscape conditions; and an integrity assessment.

The significance evaluation identifies the important historical associations of the property, as well as its architectural, archeological, and social value. The property's significance is tied to a discrete period of time during which important contributions were made relevant to national, state, and local historic contexts.

The comparative analysis is based on the identification and discussion of the property's significance, and the period during which its important associations are conveyed. The analysis compares historic and existing landscape conditions, and provides an understanding of how much the park and its resources today reflect their character and appearance during the period of significance.

One of the byproducts of the comparative analysis is an inventory of resources that survive from the period of significance with integrity. These are referred to as contributing features. Resources that originated after the period of significance or have lost integrity are identified as non-contributing. Features known to have existed during previous periods of the site's history that are no longer extant are listed as missing resources. This information is summarized in Appendix A, a table listing what is known about each of the features described in this chapter as well as the preceding Existing Conditions chapter. The table conveys the names and alternate names for inventoried landscape features through time, lists dates of origin and modification for each feature as known, and identifies which features contribute to the significance of the landscape.

The final section of this chapter is an integrity assessment that summarizes to what degree the park retains its ability to convey its significant historic associations.

Current National Register Status of Kennesaw Mountain National Battlefield Park

Kennesaw Mountain National Battlefield Park was first listed in the National Register of Historic Places on October 15, 1966, as part of the Historic Preservation Act. A detailed nomination for the property was completed in 1995 that identified the park as a historic district, significant under Criteria A, B, and C, and Criterion Consideration F, for its associations with the important Civil War battles of Kolb Farm and Kennesaw Mountain, and as a commemorative property developed by veterans and others beginning in 1899 to mark, protect, and honor the hallowed ground of the battlefield. The nomination indicates the areas of significance for the park as Military, Commemoration, and Architecture, during the periods of May–September 1864, and 1887–1942.[254]

254. *National Register Nomination– Kennesaw Mountain National Battlefield*, Robert W. Blythe, Historian; Maureen A. Carroll, Historian; and Steven H. Moffson, Architectural Historian, National Park Service Southeast Regional Office, Atlanta, Georgia,

The nomination indicates that Kennesaw Mountain National Battlefield Park is significant under Criterion A for its association with the Civil War; under Criterion B for its association with persons significant in our past, including Maj. Gen. William T. Sherman and Gen. George E. Thomas, as well as Gen. Joseph E. Johnston; and under Criterion C for designed features relating to the commemoration of the battlefield. Due to its commemorative associations, the park is also noted as meeting the eligibility requirements of Criterion Consideration F for properties that are primarily commemorative in nature. At the time the nomination was prepared, insufficient information was available to nominate the battlefield under Criterion D as a property that has yielded or is likely to yield information important in prehistory or history.

The nomination considers the park's significance within two historic contexts: the Battle of Kennesaw Mountain and the Atlanta Campaign, May–September 1864; and Kennesaw Mountain National Battlefield Park: The Commemoration of American Battlefields and National Park Development, 1887–1942.

Under the first context, the nomination notes National Park Service developed Theme VI, "The Civil War," including the subthemes "War in the West" and "Political and Diplomatic Scene," and the context for Georgia history titled, "Major Theater for the Civil War." The nomination examines the park under this context and the Battle of Kennesaw Mountain as one in a series of clashes during Sherman's Atlanta Campaign, which began with Sherman's march from Chattanooga in May 1864 and ended with the capture of Atlanta in September of that year. The context discusses military and political aspects of the Battle of Kennesaw Mountain and Sherman's successful execution of the Atlanta Campaign, as well as the battles fought at Kennesaw, and discusses how military strategy and tactics developed over the course of the Civil War were employed at Kennesaw Mountain.

Several resources within the park are noted as contributing to this significance, including the surviving Civil War era earthworks; the Kolb House and cemetery; the historic road corridors of Stilesboro, Gilbert, Old John Ward, Dallas, Burnt Hickory, and Big Kennesaw Antebellum roads; the New Salem Church site; and the Grave of the Unknown U.S. Soldier.

The second context, "Kennesaw Mountain National Battlefield Park: The Commemoration of American Battlefields and National Park Development, 1887–1942," relates to local and national efforts to commemorate Civil War battlefields, beginning with the efforts of veterans at the close of the Civil War and culminating with the establishment and subsequent development of national military and battlefield parks by the War Department and National Park Service. The nomination relates the park's significance to facets of National Park Service historic contexts involving Theme XXXIII, "Historic Preservation" and subthemes including "Battlefield Preservation" and "The National Park Service and the New Deal," within the broader context of "The Federal Government Enters the Movement, 1884–1949." National battlefield commemoration is known to have stemmed from efforts by veterans' groups to honor both the men who fought and died during the Civil War, and the places where they fought. Following these efforts, the federal government sought protection of these sites through the development of national battlefield parks and national cemeteries. The nomination's narrative traces the activities of private commemorative associations at Kennesaw from the 1880s through the 1910s, the establishment of the national battlefield site in 1917, the administration of the battlefield by the War Department until 1933, its designation as a national battlefield park in 1935, and further development by the National Park Service from 1933 to 1942, including work by the Civilian Conservation Corps (CCC).

For the commemorative period, the nomination indicates the Illinois Monument, the Union

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October 24, 1994; was certified by the National Park Service on March 14, 1995, and entered into the National Register on March 31, 1995.

Tunnel Marker, the McCook Brigade Marker, the Fellows Marker, Cheatham Hill Drive, and eight brick entrance signs as contributing to the significance of the historic battlefield landscape.

In the nomination, surviving evidence of a CCC work camp and New Deal-era maintenance buildings are designated as non-contributing, as are the Marietta-Cassville Road and Powder Springs Road. The assessment as non-contributing of these features appears primarily related to loss of integrity. No buildings survive within the former CCC camp, the maintenance yard has been altered through removal and addition of buildings, the character of Powder Springs Road has changed significantly as it is now a highly developed traffic corridor that is largely outside the boundaries of the park, and the Marietta-Cassville Road is no longer in use and survives only as a trace.

Evaluation of Significance

The information presented in the existing National Register nomination was considered in conjunction with the guidance afforded in National Register Bulletins: *How to Apply the National Register Criteria for Evaluation*, *Guidelines for Identifying, Evaluating, and Registering Battlefields*, and *Guidelines for Documenting and Evaluating Rural Historic Landscapes*, and the information derived from the CLR's comprehensive investigation into the history of the battlefield landscape to consider the significance of the site within the contexts of early regional settlement, the Civil War's Atlanta Campaign, commemoration, federal battlefield park development, and the National Park Service's Mission 66 program. The investigation into the site-specific history of the park has suggested consideration be paid to revising several aspects of the National Register nomination. These are identified in the discussion of the site's potential National Register-level significance conveyed below. They include considering the addition of Criterion D for historical archeology, to reflect the information potential of remaining features of the CCC camp, as well as the Kolb House site and the military landscape; the addition of Conservation, Historic Archeology, Landscape Architecture, Politics/Government, and Social History, as areas of significance, to augment the areas of significance of Military, Commemorative, and Architecture currently listed; and revision of the beginning date of the commemorative period of significance from 1887 to 1899, to reflect the first acquisition of property for establishment of a commemorative battlefield park.

National Register Criteria for Evaluation

In order for a property to be eligible for inclusion in the National Register of Historic Places, it must possess significance under one of four criteria. The Criteria for Evaluation state:

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, and objects that possess integrity of location,

design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.[255]

Based on research, analysis, and consideration of all materials available for preparation of this Cultural Landscape Report, the park appears nationally significant under Criteria A, B, C, and D, as a historic district that protects and preserves the core of the Battle of Kennesaw Mountain and the Battle of Kolb Farm, which had a direct and decisive impact on the outcome of the Atlanta Campaign. The park is also significant for the early-twentieth-century historic preservation efforts conducted by the War Department and the National Park Service to protect significant battlefield lands, restore historic landscape conditions, and appropriately mark and interpret key areas of the landscape for educational purposes. The battlefield also possesses significance for the efforts of veterans to acquire battlefield land and to commemorate the events of the battle at Cheatham Hill during the late nineteenth and early twentieth century. Finally, located within the park are significant examples of dwellings that can be traced to early settlement of Cobb County and represent rare examples of regional vernacular architecture. For these associations, Kennesaw Mountain National Battlefield Park is significant in the areas of Military, Conservation (Historic Preservation), Commemoration, Architecture, Social History, and Politics/Government.

Kennesaw Mountain National Battlefield Park conveys significance within several contexts, including the Civil War and the Atlanta Campaign (May–July 1864), Post-Civil War Commemoration and Reunification (1899–1917), Historic Preservation and Park Development (1917–1942), Civilian Conservation Corps Contributions to Park Development (1938–1942), and Local Vernacular Architecture associated with Early Settlement (1830s–1840s).

The park landscape contains several historic landscape resources that contribute to its significance such as earthworks, circulation routes, landform and topography, water resources, field and forest patterns, one antebellum dwelling, and views. The earthworks in particular are significant physical vestiges of the Union and Confederate campaigns at the Battle of Kennesaw Mountain that clearly indicate the areas of combat and engagement. Several roads that extend through the park known to have been present at the time of the battles and to have been used for troop movements continue to be used for vehicular traffic, including by visitors to the park. These include Gilbert, Old John Ward, Stilesboro, Dallas, and Burnt Hickory Roads. Stilesboro, Dallas, and Burnt Hickory Roads served as transportation corridors for the approaching armies. The Big Kennesaw Antebellum Road, which was used by the Confederates to haul artillery to Kennesaw Mountain's summit, also survives as a trace. The role of the battle in the Atlanta Campaign, the grand strategy of the war, battlefield tactics, and the life of the average soldier are represented by these resources.

The Kolb House and the Wallis House, which is likely to be added to the park in the future, contribute to the national significance of the battlefield under Criterion A as buildings appropriated for use by military commanders, and are also locally significant as examples of early Cobb County Euro-American vernacular architecture structures under Criterion C. These

255. *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (Washington, D.C.: Department of the Interior, 1995).

are the only buildings to survive today that existed during the Battle of Kennesaw Mountain and are rare examples of early Cobb County settlement. Other features that contribute an understanding of local lifeways during early settlement include the Kolb Cemetery, which offers a representation of burial customs among early settlers; the New Salem Church Cemetery, which is associated with the ruins of New Salem Church and reflects nineteenth- and early twentieth-century burial practices; and road corridors that were present at the time of the battle, such as Gilbert and Old John Ward roads.

Commemorative markers at Cheatham Hill, particularly the Illinois Monument, also contribute to the park's significance as representations of the efforts of Illinois veteran organizations between 1899 and 1917 to recognize the participants in the battle in the postwar period. The acquisition of battlefield land and erection of monuments followed veterans' blue-grey reunions at Cheatham Hill that began in 1887. These markers connect visitors to the nationally important post-Civil War era involving reunification.

Extensive battlefield land acquisition and additional commemoration occurred after the National Park Service began administering the property in 1935. Physical developments that represent this period include the public access drive to Cheatham Hill and the eight brick entrance signs constructed where public roads intersected the expanded park boundaries. Features developed during this period are significant under Criterion C because they possess high artistic value and embody distinctive characteristics of a type, period, or method of construction and are associated with New Deal-era development using CCC labor.

Criterion A. Kennesaw Mountain National Battlefield Park possesses national significance under Criterion A of the National Register of Historic Places for its association with the military events of June 27, 1864, which had a decisive impact on the Atlanta Campaign and the Civil War. Under Criterion A, the Battle of Kennesaw Mountain was a major battle that witnessed some of the heaviest fighting of the Atlanta Campaign and held important military and political implications for the final phases of the Civil War. Kennesaw Mountain National Battlefield Park is the only National Park Service property that commemorates the Atlanta Campaign.

Also of national significance are the various commemorative efforts that honored the site of the surrender and established a locus for national reunification during the nineteenth and twentieth centuries. These include the establishment of the 60-acre Cheatham Hill reservation, the Illinois Monument, and later the federally-administered national battlefield site and national battlefield park. Efforts conducted by veterans' organizations, the War Department, and the National Park Service with the CCC to preserve, restore, and interpret elements of the historic battlefield landscape are significant within a national context of conservation and commemoration in the areas of Commemoration, Conservation, Politics/Government, and Social History.

Kennesaw Mountain and the Civil War, 1864. By late spring 1864, Abraham Lincoln faced dim reelection prospects for fall 1864 due to the failure of Grant's Overland Campaign for Richmond and the associated extensive loss of life, stalemated conditions in the Sherman's efforts to curtail Confederate industrial production in Atlanta, and continued Confederate dominance of the Shenandoah Valley, which threatened Union strongholds in Pennsylvania and Washington, D.C.

In June 1864, the Union army under the command of Gen. William Tecumseh Sherman approached the city of Atlanta seeking to disrupt a Confederate manufacturing and industrial center, and a region of symbolic and tactical importance to the South. By successfully outflanking the Confederate forces stationed atop Kennesaw Mountain, the Union troops were able to effectively reach and capture Atlanta. The campaign had important military implications, but also helped to assure President Lincoln's reelection. The success of the Atlanta Campaign, coupled with Sheridan's victory in the Shenandoah Valley at Cedar Creek in October 1864, provided Americans with renewed hope that

the war would soon come to an end, bolstering Lincoln's chances.

Commemoration of the Kennesaw Mountain Battlefield and Cheatham Hill, 1899–1964. Kennesaw Mountain National Battlefield Park possesses national significance for commemorative efforts that honored the location of the Union attack on Confederate fortifications at Cheatham Hill during the Battle of Kennesaw Mountain, where several Union officers lost their lives. Commemorative activities, including veterans' reunions, preceded federal land acquisition at the site. A 60-acre parcel was acquired in 1899 to mark the location of the Cheatham Hill engagement, and several monuments were placed on the site on the fiftieth anniversary of the battle in 1914. In 1917, the 60-acre reservation was donated to the federal government, which established a historical park administered by the War Department. The property was transferred to the National Park Service in 1933, which began to administer the park in 1935. The park is significant for these commemorative activities within the areas of Conservation (Historic Preservation), Social History, and Politics/Government.

Preservation and commemoration of battlefields may be seen as an evolving tradition:

> . . . in the United States since at least the late eighteenth century. Congress authorized the erection of a marble column at Yorktown to commemorate the surrender of General Cornwallis to General Washington only ten days after the American victory. Although the monument was not constructed for another 100 years, it was among the first authorized battle monuments in the United States. Other early efforts to preserve military sites or mark heroic efforts include the purchase of Fort Ticonderoga (1820), the purchase of Washington's Headquarters in Newburgh, New York (1813-50), and the stabilization of the Moore House in Yorktown, Virginia (1881).
>
> During the mid-to-late-nineteenth century, patriotic groups organized to preserve historic houses and sites related to colonial America, the years of the Revolution, the War of 1812, and the Civil War. The Mount Vernon Ladies' Association, established in 1853 to save George Washington's home on the Potomac River from destruction, served as the model for many groups. Organizations that preserved military sites included the Gettysburg Battlefield Memorial Association (1864), the Hollywood Memorial Association (c. 1870), the Valley Forge Centennial Association (1877), Association for the Preservation of Virginia Antiquities (1888), Sons of the Revolution (1889), Daughters of the American Revolution (1890), and the Colonial Dames of America (1890). These groups typically garnered both public and private support to purchase and maintain historic structures and sites, erect monuments and plantings to commemorate military achievements, and mark graves of the heroic dead. Marking the locations of military events grew in popularity during the nineteenth century.
>
> The Gettysburg Battlefield Memorial Association (GBMA) initiated an approach for marking the lines of the battle of Gettysburg that became the basis for the development of the first five national military parks, each established during the 1890s. In 1866, the Pennsylvania General Assembly passed legislation that allowed land to be condemned along a 300-foot corridor for the purpose of building avenues, improving and ornamenting the grounds, and erecting structures and works of art. Through the 1880s, the GBMA constructed eight avenues and erected 100 monuments at locations held by state regiments within the avenue corridors. When the War Department took over administration of Gettysburg in 1895, it continued developing the battlefield and by 1905 had constructed more than twenty miles of avenues marked with monuments and landscaped with fencing and plantings to lead visitors throughout the landscape. The other four nineteenth century national military parks, including Antietam (authorized 1890) and Vicksburg (authorized 1899), followed similar design approaches, placing monuments at critical battlefield event locations and designating either existing or newly-established roadways as tour routes throughout the battlefield landscape. At Chickamauga and Chattanooga (authorized 1890) and Shiloh (authorized 1894), monuments were again placed at locations of

> significant actions, but existing road systems were used instead of designed tour routes.[256]

At Kennesaw, beginning in 1917, the War Department established an access road and signage to the Cheatham Hill site, and hired a caretaker. The War Department maintained a presence and interest in commemorating the site until its transfer to the National Park Service in 1933.

Trends in the physical expressions of commemoration evolved to a great degree between the antebellum period and the New Deal era. Prior to the Civil War, private groups and individuals conducted the majority of commemorative efforts. For the most part, these efforts were object-oriented, involving the placement of markers, monuments, or plaques in recognition of an event or an individual. As early as 1853, ideas about commemoration began to change with the establishment of the Mount Vernon Ladies' Association, who acquired and preserved George Washington's home along the Potomac River in Virginia. In 1863, the Gettysburg Battlefield Memorial Association formed and sought to preserve the entire Gettysburg battlefield. Both trends are represented at Kennesaw Mountain National Battlefield Park.

Efforts to commemorate Kennesaw at first focused on establishing object-oriented commemorative features in the Illinois Monument. However, efforts undertaken at other battlefield sites, such as the protection of large areas of battlefields as national military parks, influenced the concept of memorialization at Kennesaw. By the 1930s, the value of protecting the larger landscape of the battlefield and restoring the character of the landscape to its mid-nineteenth century appearance was a goal for many sites and consistent with commemoration on a national level.

Historic Preservation and Park Development, circa 1933–1966. The evolution of the park concept at Kennesaw Mountain National Battlefield Park is nationally significant as it pertains to National Park Service efforts to "go rather heavily into the historical park field" under Director Horace Albright in the 1930s.[257] After several newly-established national sites of historic value, including George Washington Birthplace National Monument, Colonial National Historical Park, and Morristown National Historical Park were added to the National Park System in the early 1930s, historic military sites formerly under the administrative responsibility of the War Department were transferred to the National Park Service in 1933. Suddenly, the agency was faced with the need to identify appropriate approaches for managing historic sites.

The efforts to protect and interpret Civil War resources at Kennesaw occurred at a crucial turning point in the history of preservation in the United States. It was at this moment that notions of preservation as the bucolic and reverential protection of historic resources were being supplanted by a mandate for accuracy in preservation, and for scene restoration to be based on scientific and diligent research. During the late nineteenth and early twentieth centuries, preservation of historic sites had often involved a romanticized view of the past. Physical evidence considered to be incompatible with a historic scene was often removed. Conjectural and representative or typical features were established in the name of restoration when historical documentation was not available. Work conducted at Kennesaw Mountain National Battlefield Park in the 1930s and 1940s focused on accurate scene restoration, and providing access to historic resources for visitors in ways that would diminish impacts to the resources. Park development focused on acquiring core battlefield lands, and then restoring landscape features that had been part of the nineteenth-century rural scene, such as field and woodland patterns, through the clearing and cutting of vegetation to restore viewsheds and rural agricultural patterns,

256. John Milner Associates, Inc., *National Register Nomination – Valley Forge National Historical Park*, 2009.

257. Herbert Kahler, "Preservation Come of Age," available online at http://www.nps.gov/history/history/online_books/npsg/nps65/sec5.htm.

as well as replanting historic forests and restoring degraded stream corridors.

Criterion B. Per Criterion B, the battlefield is associated with the lives of persons significant in our past, particularly Union Maj. Gen. William T. Sherman and Confederate Gen. Joseph E. Johnston.

Johnston's failure to contain the Union Army and his withdrawal to the outskirts of the city later that summer would lead Confederate President Jefferson Davis to relieve him of his command. Johnston regained command in the final days of the war, before surrendering to Sherman on April 26, 1865.

The Union capture of Atlanta would allow General Sherman to conduct his infamous March to the Sea and Campaign for Savannah, which resulted in the destruction of extensive property and the loss of crucial industrial capacity in the South.

Criterion C. Per Criterion C, post-Civil War efforts to commemorate, preserve, and interpret Kennesaw's significance to visitors are also nationally significant in the areas of Conservation, Commemoration, and Landscape Architecture. Criterion C significance is derived from commemorative features, such as the Illinois Monument, as well as the physical form of the park that resulted from efforts to commemorate, conserve, stabilize, rehabilitate, and restore features of the Civil War-era landscape. These efforts to honor the events of June 1864 by indicating their significance to the visitor are representative of a national context of similar programs, and are also significant. The Illinois Monument possesses artistic values, and represents a significant and distinguishable entity within the overall park landscape.

The Kolb House is individually eligible for listing in the National Register of Historic Places as a rare surviving example of vernacular architecture. This potential area of significance has not been addressed as part of this study.[258]

The earthworks are also designed features that may be significant under Criterion C. Further research and comparison of Kennesaw's earthworks to others associated with Civil War activities at this point in the war would be required to evaluate to what degree they represent an innovation in construction or design. (See also discussion of Criterion D, below.)

Civilian Conservation Corps Site Development, circa 1938–1942. Kennesaw Mountain National Battlefield Park is also nationally significant for its association with the CCC, which conducted efforts to clear, clean, and develop the new park between 1938 and 1942. The CCC was a federally-administered program, and its work in conjunction with the National Park Service at Kennesaw Mountain served as a successful model for interagency cooperation in implementing statutes approved by the legislative and executive branches of the government. (See also discussion of Criterion D, below.)

The work of Company NM-3 enhanced park infrastructure and maintenance. The contributions of the CCC to the reconstruction, stabilization, and establishment of the commemorative landscape created a key framework for the emerging park. Projects undertaken by the CCC laid the groundwork for additional restoration efforts. Under the supervision of landscape architects, CCC laborers cleared the land of overgrown shrubs, both as a fire-protection measure and to re-establish viewsheds; reconstructed fence lines, realigned roads, constructed new roads and trails, recreated vegetation and circulation patterns from the Civil War period, and installed utilities. The CCC also demolished unwanted buildings and structures

258. According to the 1995 National Register Nomination, the Civil War earthworks, the Kolb House, the Illinois Monument, the McCook Brigade Marker, the Captain Fellows Marker, and the Grave of the Unknown U.S. Soldier had been identified as contributing structures under National Register criteria prior to preparation of the nomination.

considered contrary to the historic setting, and quarried local stone near Kennesaw Mountain to build culverts and grade roadbeds. The CCC work at Kennesaw is significant in the areas of Politics/Government and Social History.

Local Vernacular Architecture, circa 1833–1942. The buildings constructed in the vicinity of the park during the nineteenth and early twentieth centuries reflect a wide range of styles, from modest cabins to more formal homes. The village of Kennesaw and the nearby county seat of Marietta include surviving examples of nineteenth-century architecture representative of a typical rural community in northwest Georgia. Although there were several homesteads present within the landscape currently encompassed by the park at the time of the battle, only the Kolb House survives today. The house is a modest log cabin structure composed of locally-fashioned materials with details that are modest and reflect a sufficiency farm lifestyle.

The Kolb House is representative of a rural setting in the mid-nineteenth century in its form and spatial arrangement along a primary road corridor. Knowledge of secondary structures, such as mills and agricultural buildings, contribute to a rural farming scene that depended on crop production. The Kolb House is significant under Architecture (vernacular) as an example of early settlement residential architecture in the region. The Wallis House may similarly be found to be significant.

Mission 66 Park Development, 1956–1966. The Mission 66 period of National Park Service planning and design spanned ten years beginning in 1956, and ended with the fiftieth anniversary of the establishment of the agency. The program was intended to upgrade facilities associated with the national parks, and help visitors better understand their significant resources. Built elements of the program embodied

> [a] distinctive new architectural style that can be described as 'Park Service Modern.' Park Service Modern architecture responded to the new context of post-World War II social, demographic, and economic conditions. American architects had assimilated the influence of European modern architecture by the 1950s, and Park Service architects in turn were influenced by this national trend.[259]

Park Service Modern was the design style most frequently associated with a new building type that emerged as part of the program: the visitor center. It was conceived to

> . . . serve the vastly increased numbers of people and their cars that began visiting the national parks following World War II. . . . The influence of the visitor center idea was profound. . . . The visitor center typically is a centralized facility that includes multiple visitor and administrative functions within a single architectural floor plan or compound. The use of the word 'center' indicated the planners' desire to centralize park interpretive and museum displays, new types of interpretive presentations, park administrative offices, restrooms, and various other visitor facilities. . . . The visitor center facilitated and concentrated public activities, and so helped prevent more random, destructive patterns of use.[260]

Parking and circulation were also integral components of Mission 66 design. Parking lots sited near the visitor center and key resources were part of the intended processional of visitors to the park. The visitor centers were typically

> . . . sited in relation to the overall circulation plan of the park, in order to efficiently intercept visitor flow at critical points. . . . In some cultural parks, visitor centers were often sited as close as possible to the landscape or other resources to be interpreted. This implied a certain amount of encroachment on the park landscape, but it was felt that this provided the most powerful means of interpreting a site that otherwise might remain obscure or less than fully appreciated by park visitors.[261]

In 1961, a master plan was developed for Kennesaw Mountain National Battlefield Park that

259. Sarah Allaback, Ph.D., *Mission 66 Visitor Centers: The History of a Building Type* (Washington: National Park Service, 2000), 270.
260. Ibid., 268.
261. Ibid., 269–270.

focused on enhancing visitor use and understanding of the resource as part of the Mission 66 program. The entrance sequence was reconsidered to provide safe visitor access to the park, while streamlining traffic, screening cars and parking from historic areas, yet providing easy access to historic resources. Pull-offs and parking areas were created to provide access to other features of the park, as well as to markers indicating specific events leading up to the culmination of the cease-fire.

As part of Mission 66, the National Park Service determined to establish a visitor center in the park to replace use of the historic Hyde House. The visitor center was designed in the Park Service Modern style. Under the criteria presented in Sarah Allaback's *Mission 66 Visitor Centers: The History of a Building Type*, the Kennesaw Mountain National Battlefield Park Visitor Center, constructed in 1964, was designed late in the period and would not have been considered eligible for listing in the National Register of Historic Places.[262] However, it has also lost integrity due to substantial alterations made in 1997 to enhance and enlarge the facilities.

As part of Mission 66 work at the park, several staff residences were constructed and changes were made to the existing maintenance area. The residences lack architectural distinction. The changes to the maintenance yard were relatively inconsequential as representative of Mission 66 architecture and also led to the diminishment of CCC-era integrity of the maintenance area.

Although Mission 66 efforts at Kennesaw Mountain National Battlefield Park are consistent with the nationwide to improve visitor facilities and protect and interpret natural and historic resources, for the reasons above the CLR study indicates that the park is not significant for its Mission 66 associations.

Criterion D. As noted in *Kennesaw Mountain National Battlefield Park: Archeological Overview and Assessment* by Robert Hellman of the Southeast Archeological Center (2003), most archeological studies at the park to date have been conducted as Section 106 compliance and were therefore limited in scope and extent. Additional surveys of the park's prehistoric and historic era resources would be needed to determine if these archeological resources are eligible for inclusion in the National Register.

However, there are several resources that should be considered for future evaluation under Criterion D, including the extensive system of military earthworks that clearly indicate the areas of combat during the Battle of Kennesaw Mountain.

Other resources that merit further evaluation under this criterion are features associated with CCC activities at the park. The CCC camp site (1938–1942) was designated as a non-contributing property in the National Register nomination, primarily because the buildings are no longer extant except for concrete foundations. The National Register nomination concluded that as a cultural landscape, the camp site does not possess integrity. However, the site work performed for this study suggests that the historical importance of the site be reconsidered on the basis of future archeological investigations.

262. In *Mission 66 Visitor Centers: The History of a Building Type*, Sarah Allaback notes that the historical context developed for Mission 66 visitor centers indicates that only those visitor centers that served as early prototypes (1945–1956) or which were part of the original, finite group of Mission 66 visitor centers (1956–1966) potentially possess "exceptional importance." Referencing National Register (Criteria Consideration G), she further notes that the period of significance for any Mission 66 visitor center of exceptional importance should therefore fall within the years 1945–1966. To be considered eligible for the National Register, visitor centers of this period should also possess substantial physical integrity to the period of significance, 1945–1966, to higher standard for integrity than that required for significant resources fifty years of age or greater. Finally, the visitor center should also possess exceptional importance in terms of architecture, planning, or association with historic events.

Additionally, the New Salem Church site may possess archeological potential, because the church possibly served as a Confederate field hospital.

Period of Significance

With reference to defining periods of significance for historic battlefields, *National Register Bulletin: Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields* states:

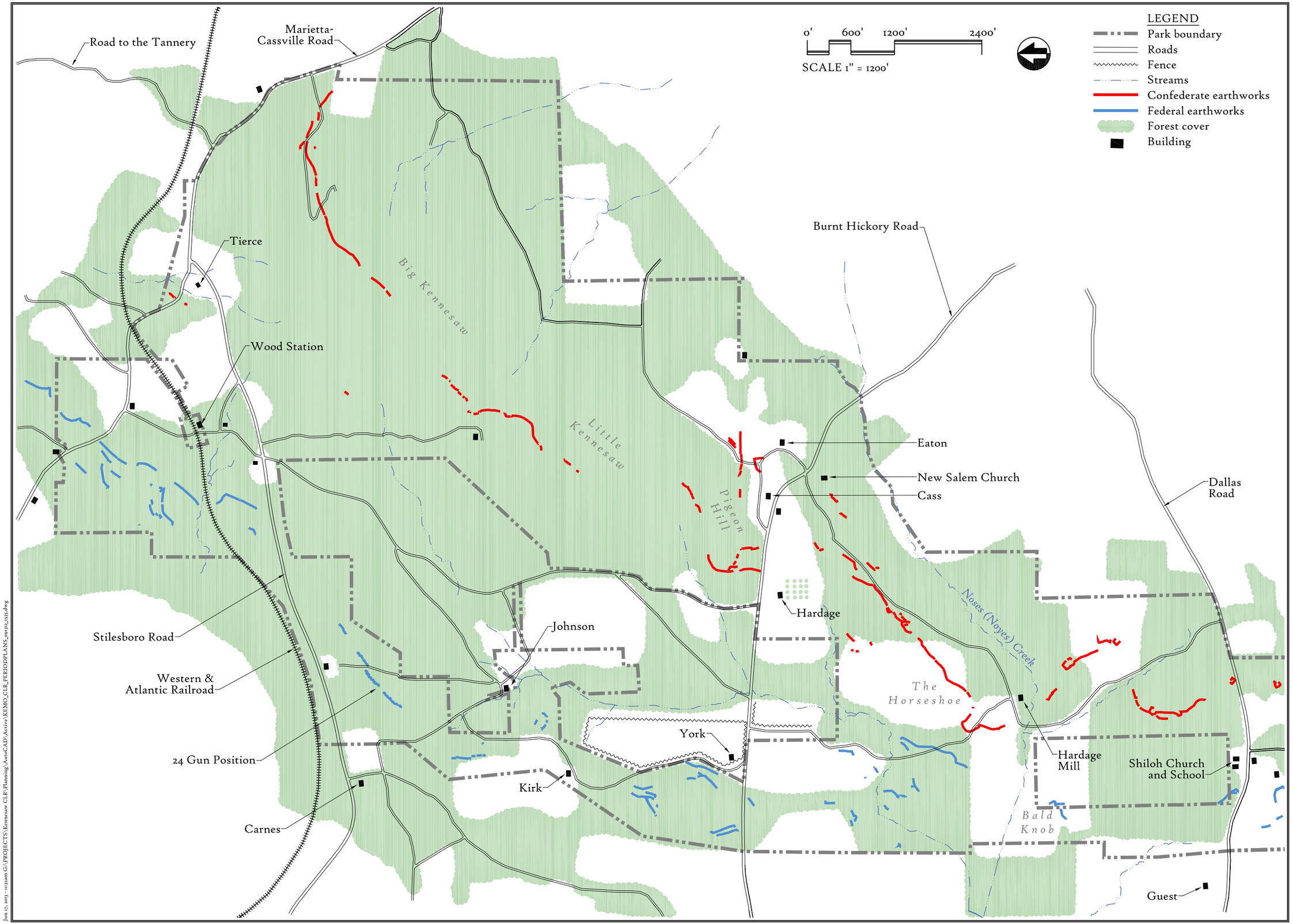
> Some battlefields are significant solely for the military event that occurred on the site. . . . The significance of other battlefields may encompass a longer time span, particularly for those battlefields where there were important later events to memorialize the battle and its participants. In such cases, the Period of Significance for the site should be extended to include these important later developments if the memorialization effort followed soon after the battle (or two distinct Periods of Significance should be defined if there was a longer intervening span between the battle and the memorialization effort) and the features at the site that contribute to this later significance should be identified.[263]

The above guidance is relevant to Kennesaw Mountain National Battlefield Park, where significant memorialization efforts occurred.

The first period of significance associated with the site is that of the Atlanta Campaign that extended from May 6 to September 15, 1864, and led to the fall of Atlanta and Sherman's infamous March to the Sea through Georgia, culminating in the capture of Savannah in December 1864. These events proved to be defining moments of the Civil War. The battles waged in and around Kennesaw Mountain were of critical importance to the outcome of the Atlanta Campaign. Kennesaw Mountain National Battlefield Park conserves and interprets the location and surviving resources associated with the battles, and is one of only a few sites associated with the campaign that are protected and accessible to the public. In fact, the park is the single largest and best developed in terms of access and interpretation of any Atlanta Campaign battlefield.

The 1995 National Register nomination defines a second period of significance extending from 1887 to 1942 that reflects commemoration. The period begins with reunions by military units that fought at the Battle of Kennesaw Mountain and ends with the close of CCC activities within the park. Research conducted for this CLR suggests that the beginning date for this period of significance be revised to 1899, to reflect the first acquisition of property for establishment of a commemorative battlefield park. Although the 1887 veterans' reunion supports the theme of commemoration, no physical changes to the site occurred as a result of this reunion and no vestiges of these activities survive today. In addition, the CLR study suggests two adjustments to the National Register definition of this period of significance.

263. Patrick W. Andrus, National Register Bulletin: *Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields*, (Washington, D.C.: National Park Service, 1992, rev. 1999), 10.



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Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Sources:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Emmet A. Nichols, "Historic Ground cover – June 1864," 1978.

National Park Service, "Historical Base Map 1864," Dwg. No. 352-2055, 1939.

Figure 309.
1864 Period Plan (1 of 2)

0' 600' 1200'

SCALE 1" = 1200'

LEGEND
- Park boundary
- Roads
- Fence
- Streams
- Confederate earthworks
- Federal earthworks
- Forest cover
- Building

Dallas Road
Camp
Powder Springs Road
Springer
Cheatham Hill
Camp
John Ward Creek
Kolb House
Dr. Ballenger
Shiloh Church and School
Gin
Channel
Greer
Guest

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Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

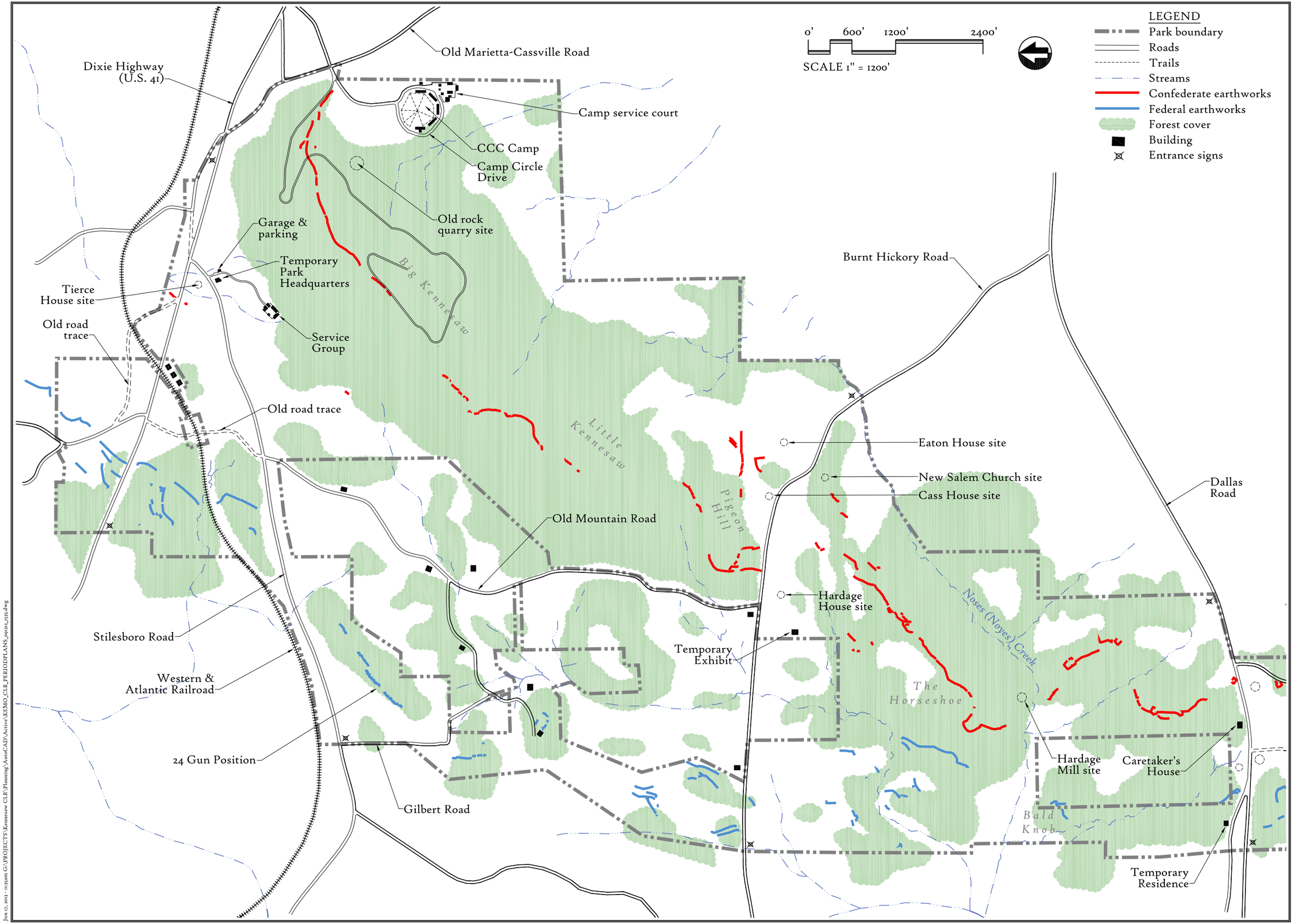
Sources:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Emmet A. Nichols, "Historic Ground cover – June 1864," 1978.

National Park Service, "Historical Base Map 1864," Dwg. No. 352-2055, 1939.

Figure 310.
1864 Period Plan (2 of 2)



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Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Sources:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

National Park Service, "General Development Plan," Dwg. No. NBP-KM-2063, 1942.

____, "Layout Plan – Service Group" Dwg. No. NBP-KM-2003A, 1942.

____, "40' Temporary Fire Tower – Big Kennesaw Mountain" Dwg. No. NBS-KM-8005, 1939.

____, "Tool Room & Office – CCC Camp" Dwg. No. KM-NBS-8003, 1939.

____, "Temporary Storage Sheds – Park Headquarters and CCC Camp" Dwg. No. NBS-KM-8006, 1939.

____, "Preliminary Location – Utility Group" Dwg. No. NBP-KM-2060, 1940.

____, "Other Structures & Monuments" Dwg. No. NBP-KM-2061, 1940.

____, "Field Planting – Cheatham Hill Division" Dwg. No. NBP-KM-2057, 1939.

____, "Preliminary Location – Road to Cheatham Hill" Dwg. No. NBP-KM-2052, 1939.

1943 Aerial Photography.

Figure 311.
1942 Period Plan (1 of 2)

0' 600' 1200' 2400'

SCALE 1" = 1200'

LEGEND

- Park boundary
- Roads
- Trails
- Streams
- Confederate earthworks
- Federal earthworks
- Forest cover
- Building
- Entrance signs

Dallas Road

Powder Springs Road

Parking Area

Wilcox House site

Caretaker's House

Old road trace

Springer House site

Cheatham Hill

Illinois Monument

Ballenger House site

House site

Foot Trail

John Ward Creek

John Ward Road

Kolb House

Shiloh Church and School site

Start of Assault Monument

Oatman House

Temporary Residence

Old road trace

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Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Sources:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

National Park Service, "General Development Plan," Dwg. No. NBP-KM-2063, 1942.

____, "Layout Plan – Service Group" Dwg. No. NBP-KM-2003A, 1942.

____, "40' Temporary Fire Tower – Big Kennesaw Mountain" Dwg. No. NBS-KM-8005, 1939.

____, "Tool Room & Office – CCC Camp" Dwg. No. KM-NBS-8003, 1939.

____, "Temporary Storage Sheds – Park Headquarters and CCC Camp" Dwg. No. NBS-KM-8006, 1939.

____, "Preliminary Location – Utility Group" Dwg. No. NBP-KM-2060, 1940.

____, "Other Structures & Monuments" Dwg. No. NBP-KM-2061, 1940.

____, "Field Planting – Cheatham Hill Division" Dwg. No. NBP-KM-2057, 1939.

____, "Preliminary Location – Road to Cheatham Hill" Dwg. No. NBP-KM-2052, 1939.

Figure 312.
1942 Period Plan (2 of 2)

Kennesaw Drive (Old Marietta-Cassville Road)
Dixie Highway (Old U.S. 41)
Portions of Mountaintop Trail (CCC road to Big Kennesaw)
CCC camp road
CCC camp stone bridge
CCC camp parade, red cedar and oak plantings
NPS Boundary
CCC erosion control terracing
Site of CCC Quarry
Cannon (to be confirmed)
Portions of Kennesaw Mountain Drive (CCC Road to Big Kennesaw)
Tierce House site
Access road
Ridenour Road
Maintenance area and portions of buildings
Big Kennesaw
Observation rock
Little Kennesaw
Old Mountain Road
Pigeon Hill
East-to-west road patterns, sited on level terrain
Stilesboro Road
Western & Atlantic Railroad
East-to-west road patterns, sited on level terrain
Gilbert Road
Hardage House site and nearby spring
Stone culverts built by CCC (typ)
Noses (Noyes) Creek
The Horseshoe
Union earthworks in lower lying areas in view of Confederate positions (typ)
Bald Knob
Hardage Mill site
Shiloh Church and School site
Eaton House site
New Salem Church site
Cass House site
Confederate earthworks on high ground (typ)
CCC stream restoration (typ)
East-to-west road patterns, sited on level terrain
Burnt Hickory Road
Dallas Highway

0' 600' 1200' 2400'
SCALE 1" = 1200'

LEGEND
- Park boundary
- Roads
- Trails
- Streams
- Confederate earthworks
- Federal earthworks
- Building
- Entrance signs
- Views

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Cultural Landscape Report
for
Kennesaw Mountain National Battlefield Park

Sources:
Kennesaw Mountain National Battlefield Park GIS files, 2007.

Notes:
1. See CLR text for full list of contributing resources.
2. See Figures 319 and 320. Woodland Cover Diagram, for contributing woodland resources

Figure 313.
Contributing Features
(1 of 2)

0' 600' 1200' 2400'

SCALE 1" = 1200'

LEGEND
- Park boundary
- Roads
- Trails
- Streams
- Confederate earthworks
- Federal earthworks
- Building
- Entrance signs
- Views

East-to-west road patterns, sited on level terrain

East-to-west road patterns, sited on level terrain

Dallas Highway

Powder Springs Road

Confederate earthworks on high ground (typ)

Cheatham Hill parking area

McCook's Brigade Marker

Grave of Unknown U.S. Soldier

Illinois Monument and terrace; Union Tunnel Marker

Cheatham Hill

Cheatham Hill Road (Old John Ward Road)

Wilcox House site

Cheatham Hill Drive

John Ward Creek

Portion of Kolb Farm; Kolb House, built with native wood timbers and stone

Springer House site

Cannon

C.H. Coffey Marker

CCC erosion control terracing

Ballenger House site

Portions of Cheatham Hill trail

Shiloh Church and School site

Fellows Marker

Restored open field

Union earthworks in lower lying areas in view of Confederate positions (typ)

Old John Ward Road trace

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Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Sources:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Notes:

1. See CLR text for full list of contributing resources.
2. See Figures 319 and 320. Woodland Cover Diagram, for contributing woodland resources

Figure 314.
Contributing Features
(2 of 2)

Comparative Analysis of Historic and Existing Conditions

One goal of this CLR is to evaluate the ability of the existing landscape to reflect the primary Civil War period of significance as well as the period of significance associated with early park development. To better understand the relationship between the contemporary park landscape as documented in Chapter Three, and the landscape that existed during the 1864 and 1899–1942 periods of significance discussed above, the section that follows presents a comparative analysis of historic and existing conditions.

The narrative discussion is organized into the landscape characteristics used to document existing site conditions:

- Natural Systems and Features
- Responses to Natural Resources
- Patterns of Spatial Organization
- Topographic Modifications
- Land Uses and Activities
- Circulation
- Cultural Vegetation
- Buildings and Structures
- Views and Vistas
- Small-scale Features

For each landscape characteristic, the discussion begins with a summary of the character-defining features present within the landscape today. A summary of the features that survive from, postdate, and are missing from the period of significance, follows. This introductory overview is followed by more detailed information, as known, about the evolution of individual resources and resource types over time, and the identification of any changes that have occurred to historic resources. This information is used to support an assessment of their historic integrity, and to discuss their ability to contribute to the significance of the battlefield landscape. The narrative discussion is supported by period plans that illustrate the park at key snapshot moments in history that relate to the periods of significance and other important periods of physical landscape development. Figures, including diagrams, historic images, comparative photography, and maps that identify contributing resources are also included as part of this chapter. Appendix A includes a summary of each feature discussed herein, including its contributing/non-contributing status, condition assessment, date of origin and subsequent modification as known, and other relevant annotations.

Overview

Refer to Figure 313 and Figure 314, Features Contributing to the Significance of the Kennesaw Mountain National Battlefield Park.

Comparison of the landscape of the Kennesaw Mountain National Battlefield Park during its periods of significance with present-day conditions indicates that the majority of the contemporary landscape features were present by 1942. Landscape features such as landform and topography, water resources, earthworks systems established by Confederate and Union troops, primary and secondary road corridors, trails, commemorative markers, the Kolb and Wallis farmhouses, portions of the woodland and field patterns, and the relatively undeveloped character of the landscape within park boundaries offer connections to and convey historic associations with the battle events and their commemoration.

Contemporary park boundaries encompass the majority of the battlefield core area and illustrate much of the study area, protecting for future generations the land over which the battle occurred.[264] The battlefield landscape, as modified

264. In 1992, the Civil War Sites Advisory Commission prepared a report on the nation's Civil War battlefields. The commission oversaw the documentation of the nation's Civil War battlefields, including the identification of a core and study area for each battlefield, and an evaluation of their significance and integrity. The battlefield study area boundary is drawn to encompass all important components of the conflict, such as approach routes, areas of troop concentrations, reserve

to support visitor understanding of the events of 1864, survives with integrity today and continues to convey its historic associations.

Several notable changes have occurred within the park since the periods of significance that diminish to a degree its overall integrity. These include the composition and configuration of woodland and field patterns, the addition of administration, maintenance, and visitor center facilities at the base of Kennesaw Mountain, the Kennesaw Mountain parking area and Kennesaw Mountain overlook completed in 1964, changes that have occurred within the maintenance area, the addition of several large parking and recreation areas along public road corridors within the park, the demolition of the CCC camp located along the eastern margin of Kennesaw Mountain, and the addition of residential developments along park boundaries and within view of the summit of Kennesaw Mountain. Other less noticeable landscape changes that postdate the period of significance include the addition of site access and interpretation features such as interpretive signs and plaques and path systems.

Some of these change are reversible. For example, the patterns of spatial organization associated with vegetation today are not consistent with that present during the Civil War period. Several attempts have already been made by the park to restore the historic character of the park's vegetation. However, there remain several areas where current land cover composition obscures an understanding of important military tactics and battle events. Additional work to clear woodlands where fields were present at the time of the battle or to reforest currently open areas that were wooded will enhance the integrity of the battlefield landscape and help visitors to understand battle events.

The park nonetheless continues to convey its historic associations to both the Civil War, and commemorative and early park development period due to the surviving qualities of landform and topography, water resources, earthworks systems, trails and commemorative markers, and the relatively undeveloped character of the landscape within park boundaries. The evolution of landscape character over time and similarities and differences between historically significant periods and today are discussed in more detail below.

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positions, a commander's headquarters, signal stations or other important observation points, picket lines, battle lines, maneuver areas, assault areas, artillery positions, retreat routes, and places where the armies bivouacked before or after the fighting when these are nearby. The study area provides a strategic context and geographic setting for understanding the conflict. The battlefield core area encompasses those areas of confrontational deployment, heaviest fighting, and most severe casualties. The core area also occasionally includes sites that were important in shaping the ebb and flow of battle, even when fighting at these sites was minimal, such as river crossings, crossroads, signal stations, or other features that contributed to the battle's development and outcome.

Natural Systems and Features

Primary among the natural systems and features that are character-defining for Kennesaw Mountain National Battlefield Park is the dramatic saddle landform of Big and Little Kennesaw mountains, with the Pigeon Hill extension to the south. This elongated ridge, punctuated by its two peaks, rises steeply above the surrounding terrain and serves as a landmark and point of reference for miles around, conveying a particular sense of place to the region. Also character-defining for the park landscape is the rolling terrain representative of Georgia's Piedmont physiographic province, the dendritic drainage pattern, and the associated stream valleys edged by lowland terraces (Figure 315).

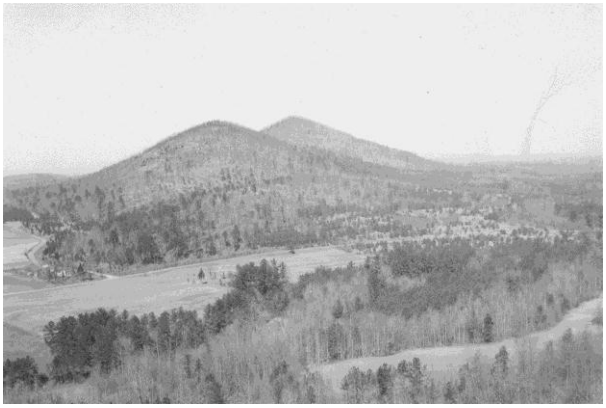


FIGURE 315. Big Kennesaw Mountain landform.

The extant natural systems and features associated with Kennesaw Mountain National Battlefield Park are nearly entirely consistent with those present at the time of the battle, as well as the later commemorative and early park development period. The only measurable change that has occurred in relation to natural systems and features is the channelization of portions of the John Ward and Noses Creek stream corridors by local farmers, and later manipulation during the early park development as a soil and water conservation measure and to address mosquito control. The alterations conducted by the CWA and CCC during the early park development period contribute to the significance of the historic landscape in the area of Conservation.

The most important natural feature of this cultural landscape is the landform of Kennesaw Mountain, a prominent ridge formed when an igneous granite intrusion thrust upward through the surrounding sedimentary and metamorphic rocks during the formation of the Appalachian Mountains some 480 million years ago (Refer to Figure 20 and Figure 38 in the Site History chapter). The Kennesaw Mountain ridge has three rocky peaks, named, from north to south, Kennesaw Mountain (also sometimes referred to as Big Kennesaw Mountain), Little Kennesaw Mountain, and Pigeon Hill (Figure 316). Further south, the line is continued by Cheatham Hill. Each of these landforms was integral to the course of events associated with the Battle of Kennesaw Mountain in 1864 as commanding high ground that was important to the defense of the region by the Confederates. The summits of these elevated landforms were critical to the Confederate defense of the region as they afforded long views of the surrounding avenues of approach to Atlanta. The Confederate lines formed a spine along the top of the ridgeline, which was strengthened with artillery. These ridges constituted key terrain, control of which was considered a primary objective of both the Union and Confederate commanders. They remain recognizable and consistent in terms of composition and character today and contribute to the significance of the historic landscape.

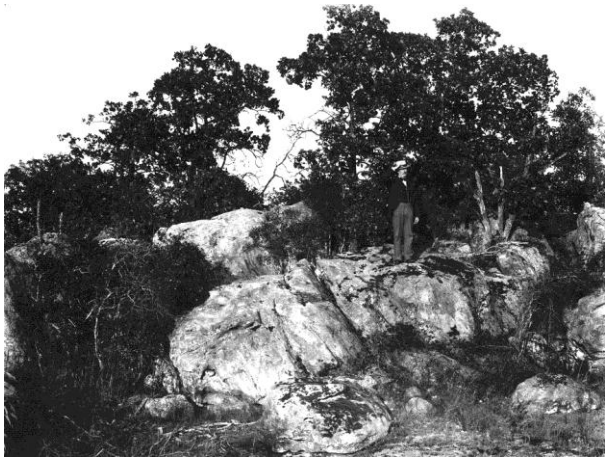


FIGURE 316. The Kennesaw Mountain ridge summit is rocky and features three peaks.

The base of Kennesaw Mountain is edged by the more gently-sloped terrain of the Georgia Piedmont, characterized by rolling knolls and valleys cut by the ravines of stream corridors. The

more level portions of the escarpments that characterize the rolling terrain have traditionally been used for agriculture, including cultivation, since early European-American settlement. Union forces established positions within this lower lying land that they used to fire on the Confederate line and artillery above, taking advantage of cleared farm fields to establish their fields of fire. Many of the escarpments and terraces remain recognizable today; however, changes in vegetative land cover diminish the ability of the visitor to ascertain the historic fields of fire and perceive landform and the way that it was used at the time of the battle (Figure 319 and Figure 320).

Other factors that have affected the character of the landform and topography used by Union and Confederate troops include erosion in the lower-lying areas as the result of cultivation. When exposed to rain, freeze/thaw action, drought, and flooding, the local soils are subject to severe erosion.[265] This was exacerbated after the war due to local farming practices; the resulting erosion appears to have diminished some of the finer points of the terrain experienced by the combatants and has resulted in the loss of many Union earthwork segments. (See also topographic modifications and structures sections below.) Despite and the loss of Union earthworks and other erosion, landform and topography resources continue to retain sufficient integrity to convey their historic association and contribute to the significance of the historic landscape.

Two streams cross the park: Noses and John Ward creeks. These streams are fed by several tributaries. All of the existing streams and their tributaries generally follow the same channels present in 1864, except for segments that were channelized to accommodate agriculture after the war, and sections that were rehabilitated for erosion control during the early park development period. During the Civil War, the ravines of the stream corridors, which cut deeply through the surrounding terrain, presented physical obstacles to troop movements during the battle. They also offered opportunities for cover and concealment from artillery fire during the course of the battle. As such, these streams are important resources for understanding battle events.

Sections of both Noses and John Ward creeks were channelized after the war to expand the area available for cultivation by local farmers. In some limited segments, the streams follow a slightly different alignment than they did during the Civil War. For example, the streambed of Noses Creek near Bald Knob is known to have been moved to create a larger field for planting. The park's streams were later altered by CCC enrollees in the late 1930 and early 1940s to repair eroded banks and implement malarial control measures. In some areas, riprap was used to stabilize the banks (Figure 317 and Figure 318). Due to these efforts, the appearance of the park creeks differs modestly from that of the time of the 1864 battle, but remain consistent with the later commemorative and park development period. They thus contribute to the significance of the historic landscape.

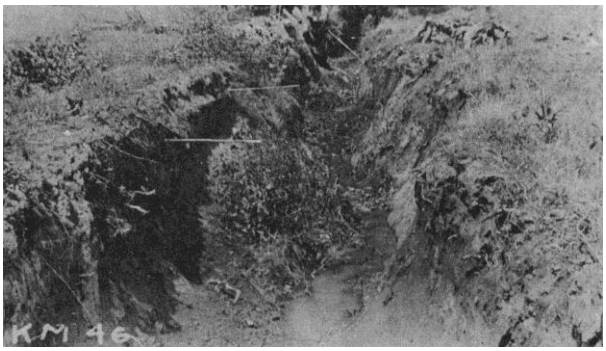


FIGURE 317. Erosion at Noses Creek prior to work, 1934.

FIGURE 318. Construction of a riprap wall in progress at Noses Creek in 1934–1935.

265. National Park Service, "Annotations for Kennesaw Historical Base Map," prepared to accompany map prepared in 1941 as part of the master plan.

A few springs are also present within the park that were important historically to both residents and soldiers. Two are mentioned in historic accounts. These include Drunkard Springs, located north of Burnt Hickory Road and east of Pigeon Hill that was associated with the Eaton House, and an unnamed spring near the former twentieth-century schoolhouse site between the rail line and Stilesboro Road. These springs survive with integrity and contribute to the significance of the historic landscape.

The evolution of each of these individual natural features and systems is discussed in more detail below.

Kennesaw Mountain. The Marietta region is visually dominated by the saddle form of Kennesaw Mountain, which rises some 750 feet above the surrounding rolling countryside to an elevation of 1,808 feet above mean sea level (AMSL) and curves around the city to the north and west (refer to Figure 315). Kennesaw Mountain and its associated ridges extend for 2-1/2 miles, and establish the watershed between the Etowah and Chattahoochee rivers. In 1864, the ridge offered the Confederates a natural fortification of great strength and unexcelled visibility of the surrounding terrain and potential enemy movements.[266] It served as the foundation for their defense system and a primary military objective of the Union army.

Beginning in the 1930s, the summit of Kennesaw Mountain became the focus of national park development aimed at protecting, preserving, and interpreting the events of the battle for the public. The National Park Service acquired Kennesaw Mountain by July 1941, thereafter establishing trails along the ridge and a road to the summit for visitors in order to enhance their understanding and interpretation of the battle. Expansion of woodland cover, subsequent development of park access and interpretation features, such as the Kennesaw Mountain overlook, and views of twentieth century development from the summit serve to diminish the integrity of setting and feeling associated with Kennesaw Mountain. The mountain otherwise retains sufficient integrity to convey its historic associations, including integrity of location and association.

Little Kennesaw Mountain. Little Kennesaw Mountain rises above the saddle ridge south of Kennesaw Mountain to a height of 1,610 feet AMSL. Like Kennesaw Mountain, Little Kennesaw was used by the Confederates to establish a strong defensive position as part of their attempt to prevent Union forces from reaching Atlanta in spring and summer 1864. The Kennesaw mountains served as one flank of the seven-mile Confederate defensive line.[267] The Confederates established an artillery position referred to as Fort McBride atop Little Kennesaw. One of the natural features of Little Kennesaw Mountain, a formation of two boulders stacked on top of one another located at the south end of the peak, was used by the Confederates as a protected vantage point from which to observe Union troop movements. This feature, which survives today, is referred to as Observation Rock (LCS 090135).[268] Union artillery associated with the Twenty-Four-Gun Battery was positioned to fire on this position. During the park development period, the National Park Service established an interpretive walking trail along the summits of Kennesaw and Little Kennesaw mountains that continued to Pigeon Hill. Views from these peaks were open and available at the time of the battle but have increasingly become obscured by tree cover that has expanded over the mountain since the Civil War. The extent of tree cover and the addition of park interpretive and access features have diminished slightly the integrity of feeling associated with Little Kennesaw Mountain. The mountain otherwise retains sufficient integrity to

266. National Park Service, "Master Plan, Topographic Base Map, Sheet No. 3," 1941.

267. National Park Service, *Kennesaw Battlefield Historic Resource Management Plan* (Kennesaw, Georgia: Kennesaw Mountain National Battlefield Park, 1977), I:1.

268. Robert Hellman, *Kennesaw Mountain National Battlefield Park Archeological Overview and Assessment* (Tallahassee, Florida: National Park Service, Southeast Archeological Center, 2003), 120.

convey its historic associations, including location, setting, and association.

Pigeon Hill. Pigeon Hill is a rocky outcrop located south of Little Kennesaw Mountain that reaches a height of approximately 1,240 feet AMSL. Like the Kennesaw mountain landforms, Confederate forces established a strong defensive system of earthworks and artillery positions on the high ground of Pigeon Hill in June 1864. With its proximity to the lower terrace occupied by Burnt Hickory Road, Pigeon Hill was targeted by Union soldiers in an infantry attack during the Battle of Kennesaw Mountain. The rocky terrain served as both cover and concealment and an obstacle to troop movements during the battle of June 26, 1864. During the park development period, the trail leading along the summits of the Kennesaw Mountain and Little Kennesaw Mountain was extended to Pigeon Hill. During the early 1990s, a wooden interpretive platform and associated waysides were added to enhance interpretation for visitors and to protect the earthworks from erosion caused by trampling resulting from visitor access. These features, along with expansion of tree cover, have altered the historic character of the landform as compared with the Civil War period, and diminished slightly the integrity of feeling associated with Pigeon Hill. The landform otherwise retains sufficient integrity to convey its historic associations, including location, setting, and association with the battle and early park development periods.

Cheatham Hill. Located south of Pigeon Hill, Cheatham Hill is a low knoll that rises above the rolling terrain that characterizes the central portion of the park. This high ground was a critical component of the 7-mile-long Confederate defensive line designed to protect the Kennesaw Mountain ridgeline and saddle, and avenues the Union army might use to circumnavigate their position in order to continue toward Atlanta. This position was the focus of a Union attack on the morning of June 27, 1864, where several Union officers lost their lives. As such it was also considered a key location for battle commemoration by veterans after the Civil War. Since the late nineteenth century, the hill has been extensively visited by veterans. The establishment of commemorative markers, roads, paths, parking areas, and signage, as well as manipulation of vegetation have affected the integrity of the Cheatham Hill landscape for the battle period. However, it remains generally consistent in appearance with the early park development and commemorative period. Despite modest grading of the landform and changes to landcover, as well as the addition of the Illinois Monument and associated terrace, the Cheatham Hill landform retains integrity of location, setting, and association. Integrity of feeling is diminished for the battle and early park development periods by changes that have occurred since 1942, such as the placement of the Texas Monument, the addition of new signs, and continued expansion of woodland cover.

John Ward Creek. John Ward Creek was swollen by rains in June 1864, and became an appreciable military obstacle to Union forces attempting to attack the Confederate fortifications sited on the high ground above. The Confederates formed secondary lines of earthworks behind the stream corridors whenever practicable, which they used to fire on attackers slowed by the challenging terrain of the streams and their ravines.

After the Civil War, farmers began to cultivate cotton along the bottomlands associated with John Ward Creek. To establish larger fields, they channelized portions of John Ward Creek.[269] Associated post-war farming practices led to erosion of the lower slopes of the upland terrain and streambed degradation. In 1934, Forester A. Robert Thompson inspected vegetation communities and water resources within the park and filed a report on conditions at the Cheatham Hill site. He noted that the John Ward Creek bed was badly eroded. He recommended that the National Park Service initiate efforts to control the erosion and repair the stream channel.[270]

269. National Park Service, "Annotations for Kennesaw Historical Base Map."
270. Michael A. Capps, *Kennesaw Mountain National Battlefield Park Administrative History* (Atlanta, Georgia: National Park Service, Southeast Regional Office, 1994), 15.

Landscape architect Kenneth Simmons also inspected the site in March 1934. He suggested regrading the slopes of the stream corridor and the use of riprap to control erosion.[271] Based on review of historic photographs (refer to Figure 318), it appears that these recommendations were followed and stream channels were repaired and stabilized using riprap by the CCC. Thus the John Ward Creek channel may differ from that experienced by the combatants during the Civil War, but appears to retain integrity for the early park development period.

Noses Creek.[272] Like John Ward Creek, water levels associated with Noses Creek were high in June 1864, and the swollen stream corridor became an obstacle to Union forces attempting to attack the Confederate lines. The Confederates established fortifications on the high ground overlooking the stream corridor that proved formidable to Union forces.

At the time of the battle, Noses Creek flowed near the base of Bald Knob. After the Civil War, the stream bed was straightened and deepened to facilitate cultivation of the bottomlands, and moved to a position approximately equidistant between Bald Knob and the section of Confederate earthworks referred to as Horseshoe Bend north of the creek.[273] The CCC stabilized the stream bank in the 1930s, adding riprap in some locations. Noses Creek thus differs to a degree from the stream corridor experienced by Union and Confederate soldiers during the Battle of Kennesaw Mountain, but retains integrity to the early park development period.

Springs. As noted above, there are a few springs located within the park. Little is currently known about the historic uses of these springs. They were likely important to early settlement and to the troops stationed at Kennesaw in 1864. However, the only two mentioned in historic documents reviewed for this study include Drunkard Springs located north of Burnt Hickory Road and east of Pigeon Hill associated with the Eaton House site, and another spring near the former twentieth-century schoolhouse site between the rail line and Stilesboro Road. These features appear to survive intact with integrity to both the Civil War and early park development periods of significance.

Contributing Natural Systems and Features

- Kennesaw Mountain
- Little Kennesaw Mountain and Observation Rock
- Pigeon Hill
- Cheatham Hill
- John Ward Creek, and its tributaries
- Noses Creek, and its tributaries
- Springs, including Drunkard Spring

Non-contributing Natural Systems and Features

None

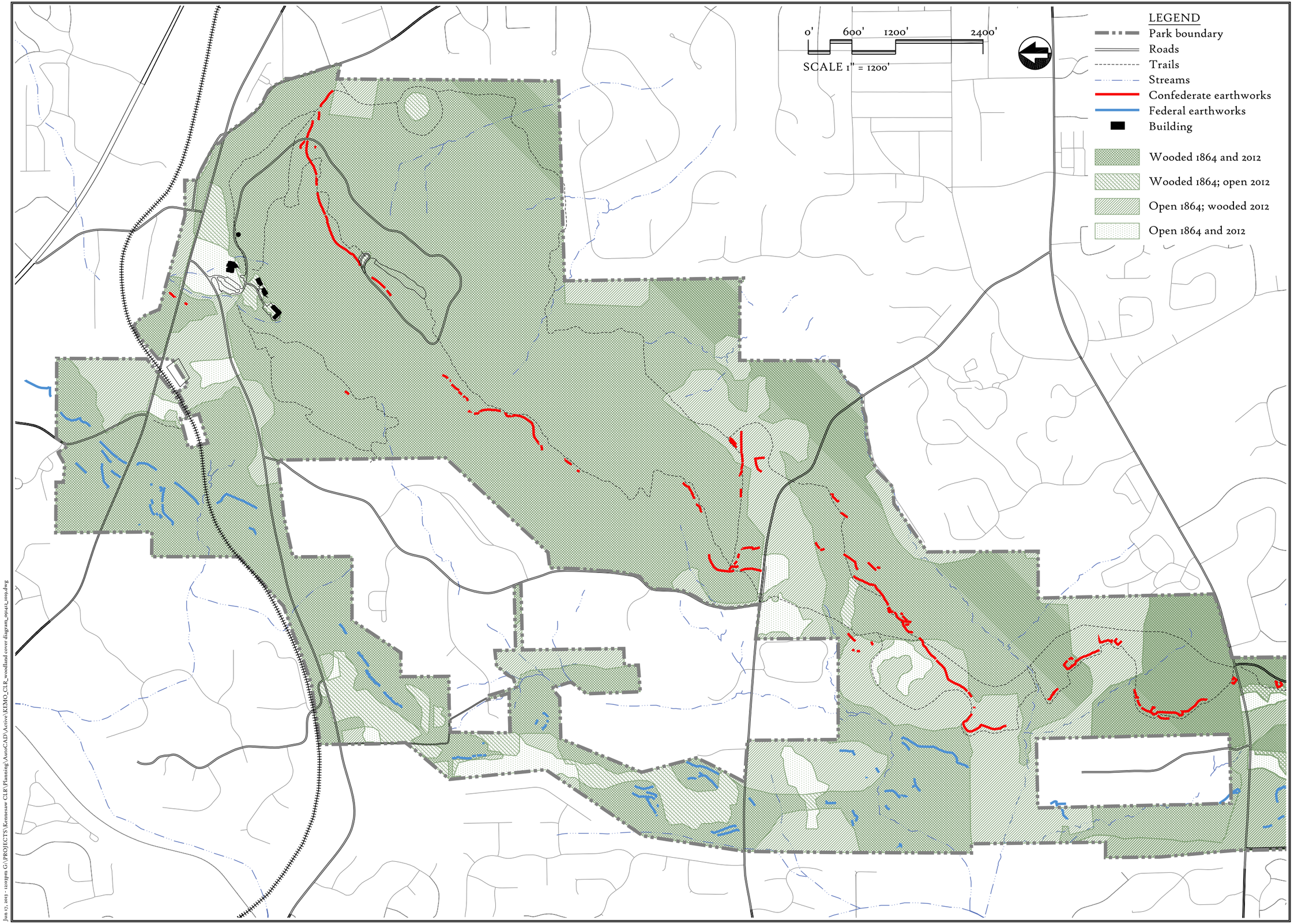
Missing Natural Systems and Features

None

271. Ibid.

272. It is possible that the stream is named for a pre-settlement Cherokee dweller nearby based on research conducted by Moore, Cooper, and Walker for their publication *1985–1986 Archeological Investigations at the Kolb Farm Battlefield Site*, 3. The study notes: "It appears that there had been relatively little Cherokee development in the west central part of the present Cobb County, for the 1832 survey map of District 19th, Section 2 of Cherokee County shows only one road 'Tennessee Road,' and only one developed area, that which had belonged to a Cherokee who was called 'Nose.' Nose's development was about 1-1/4 miles west of the Kolb farmhouse at Powder Springs Road. Development of the area may have occurred soon after the lottery for in March 1833 Cobb County held its first election."

273. National Park Service, "Annotations for Kennesaw Historical Base Map."



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Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Sources:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Emmet A. Nichols, "Historic Ground Cover – June 1864," 1978.

Figure 319.
Woodland Cover Diagram (1 of 2)

0' 600' 1200' 2400'

SCALE 1" = 1200'

LEGEND

- Park boundary
- Roads
- Trails
- Streams
- Confederate earthworks
- Federal earthworks
- Building
- Wooded 1864 and 2012
- Wooded 1864; open 2012
- Open 1864; wooded 2012
- Open 1864 and 2012

Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Sources:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Emmet A. Nichols, "Historic Ground Cover – June 1864," 1978.

Figure 320.
Woodland Cover Diagram (2 of 2)

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Responses to Natural Resources

Kennesaw Mountain has served as a local landmark for centuries. Rising hundreds of feet above the surrounding terrain, the mountain ridgeline remains the most recognizable topographic elements of Kennesaw Mountain National Battlefield Park. It was integral to the Civil War battle events of 1864, and continued to be the focus of developments intended to convey the battle story to visitors during the early park development period. Pigeon Hill and Cheatham Hill were also important topographic elements during the Battle of Kennesaw Mountain, and similarly were marked by commemorative monuments, trails, and interpretive elements during the early park development period. Character defining for the park landscape is the physical connection between the siting, design, and construction techniques of the Civil War earthworks and the terrain, including the elevated landform of Big and Little Kennesaw mountains and Pigeon and Cheatham hills, the Confederate occupation of high ground to establish their defensive military trenches, and use of these same positions to commemorate battle events.

Several responses to natural resources exist within the park to convey historic associations with the Civil War Battle of Kennesaw Mountain, its commemoration, and early park development. Of tantamount importance are the remnant earthworks constructed by Confederate forces to strengthen their elevated position atop Kennesaw Mountain and the rest of the seven-mile defensive line established to protect Atlanta in the spring and summer of 1864. The position of the Confederate line suggests the role of the high ground in military tactics. Kennesaw Mountain constituted key terrain for the military commanders seeking to control movement of Union forces toward Atlanta along avenues of approach that included roads, rail lines, and river corridors. The strong defensive position established by the Confederates along the high points of the Kennesaw Mountain saddle and other knolls such as Cheatham Hill would prove impenetrable to Union assault (Figure 321).

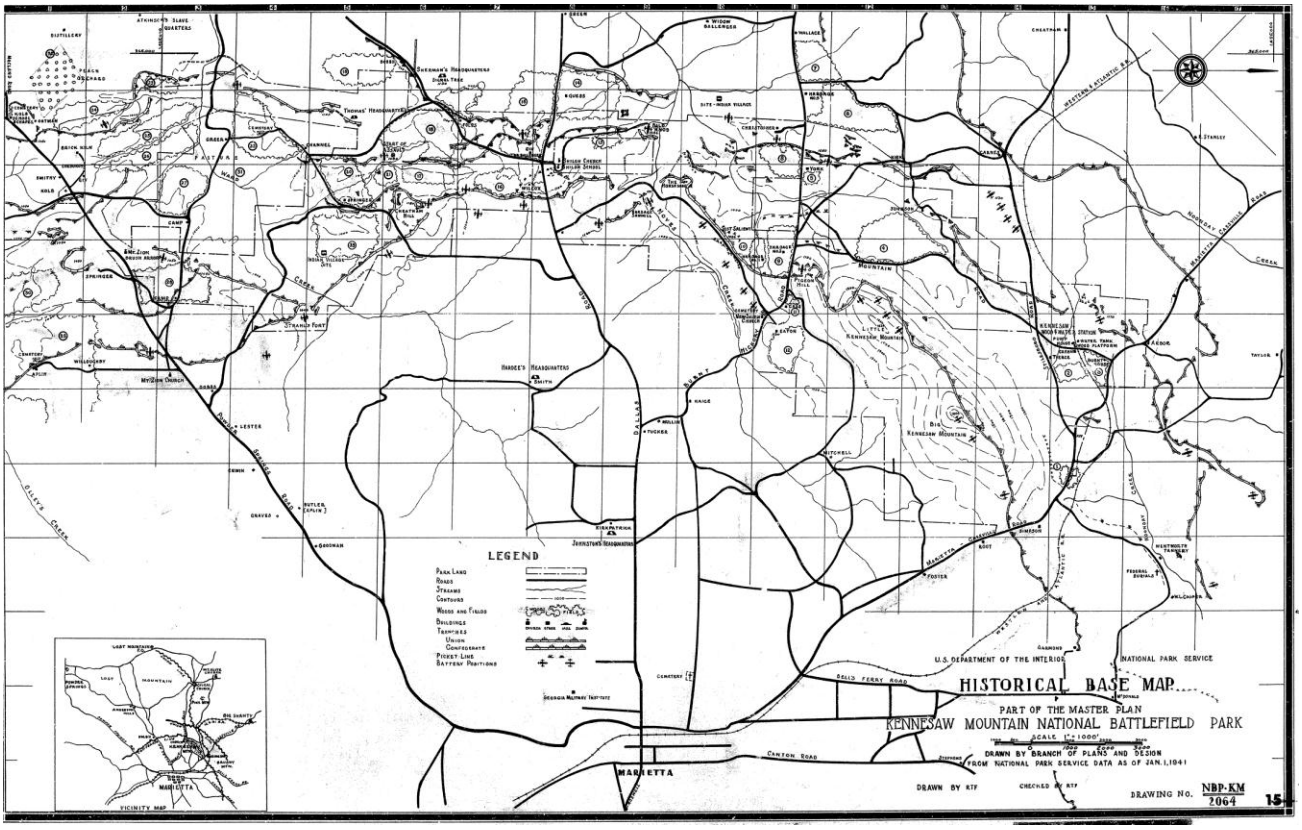

FIGURE 321. Historical base map.

The Confederate earthworks system was supported by clearings within the woody vegetation atop the rocky mountains that provided a natural field of fire of their artillery. Union earthworks occupied the rolling terrain below. The cleared agricultural fields afforded views of the enemy and an open field of fire for their artillery. Fields and road corridors served as prospective avenues of approach. Extensive evidence of the connections between military features, such as earthworks, and the role that terrain played in military tactics and battle events survive within the park today.

The Civil War Battles of Kennesaw Mountain and Kolb Farm were brief events that occurred within a cultural landscape of rural agricultural settlement characterized by primary road corridors and a rail line that followed level terrain and connected major commercial centers; small farmsteads comprised of cleared fenced fields, dwelling precincts, orchards, and outbuildings; and two church properties. Little of this antebellum farm community survives today to illustrate the rural vernacular use of natural features to support subsistence farming, such as the siting of secondary roads and buildings on relatively level areas; provision of access to drinking water; cultivation of soils in areas well suited to agriculture, and the use of local materials such as native wood and stone for the construction of buildings, structures, and fences. The Kolb and Wallis houses are the only surviving examples of localized agrarian lifeways associated with the park to convey these connections between the environment and human activities.. Both feature dwellings are built from locally-harvested hewn timbers and native stone foundations. Outbuildings and cultivated areas have generally been lost, however.

Surviving early park development features that suggest cultural responses to natural resources include the establishment of a road corridor to the summit of Kennesaw Mountain to interpret historic views, trails created to provide access to the key terrain of the military landscape, the conservation work of the CCC to restore stream corridors, revegetate the earthworks, and terrace eroded landforms. These features contribute to the ability of the park to convey its historic associations today.

The individual responses to natural features located within the park are discussed in more detail below.

Pre-battle landscape. Prior to the Civil War, Kennesaw was a region of small farms first settled by European-Americans in the 1830s. Dwellings were generally located along road corridors, which were sited to take advantage of relatively level terrain and avoid steep slopes and stream crossings as much as possible. Dwellings were often associated with level terrain that allowed for the establishment of cultivated fields, woodlots, and orchard plantings nearby. Woodlots were an important component of the antebellum cultural landscapes used as forage for livestock and to provide wood for fences and other construction materials. Fencing was used to enclose cultivated fields and house precincts and exclude the livestock foraged freely.

Agriculture was the primary land use within the area beginning with early settlement and continuing through the 1940s. Within the vicinity of the park, it is estimated that about three-quarters of the land has been in cultivation at some time since the 1830s. Prior to the Civil War, local farmers did not treat their fields using soil amendments or fertilizers; as the natural fertility of the soil was depleted by row crops, local residents abandoned exhausted fields and cleared new ground for additional crops.[274] Cultivation generally occurred on level upland areas, which offered the most fertile soils. The more steeply-sloped terrain, wet and low-lying areas, and other areas marginal for crop production were employed as pasturage or used as woodlots. In some cases, terracing was used on the steeper side slopes of the Kennesaw Mountain ridge to facilitate row cropping.

274. Ibid.

Antebellum properties were also tied to drinking water sources. The Eaton House, located east of Pigeon Hill along the north side of Burnt Hickory Road by the time of the war, was sited to take advantage of a fresh water spring.[275]

Many farms also featured fruit tree orchards planted to take advantage of fertile soils and terrain that allowed cooler air to pass through, but not settle into, the orchard. Both the Kolb and Hardage farms are known to have included orchards.[276] Cotton gins were a later addition to the landscape as cotton cultivation generally followed the war. The Kolb House is said to have included a cotton gin. None of these antebellum or postbellum landscape features survives today in the park landscape today.

Industrial activities were also tied to natural features. Saw mills and grist mills were an important industrial component of the agricultural landscape that depended on the development of appropriately configured stream corridors to generate power from the flow of their water. Some local properties included mills. For example, the Kolb House included a grist or saw mill, and the Hardage family maintained a sawmill along Noses Creek some distance from their dwelling (refer to Figure 309).[277]

Battle of Kennesaw Mountain. The topography, hydrology, and vegetative patterns of Kennesaw Mountain clearly influenced the composition of the military landscape. Confederate troops constructed defensive fieldworks to establish a comprehensive field of fire against any assault mounted by the Federal forces along anticipated avenues of approach, and maintain control over key terrain that included a tactical advantage of high points and ridgetops such as Kennesaw Mountain, Little Kennesaw Mountain, Pigeon Hill, and Cheatham Hill. The Kennesaw Mountain ridge that curved around Marietta to its north and west offered the severely outnumbered Confederates a strong natural fortification with exceptional views of enemy movements (Figure 322).[278]

FIGURE 322. Military engineer's survey of the Kennesaw Mountain area, circa 1864.

275. Hellman, 126.
276. Hellman, 128; Blythe, et al., *Historic Resource Study*, 35.
277. National Park Service, "Historic Ground Cover Study Map," 1980; and Hellman, 129; Blythe, et al., *Historic Resource Study*, 35.
278. National Park Service, "Master Plan, Topographic Base Map, Sheet No. 3," 1941. During the campaign, Sherman's Union forces totaled approximately 100,000 with 254 artillery pieces, while those under Johnston's command are thought to have numbered 65,000, with 187 artillery pieces. The engagement at Kennesaw Mountain is thought to have involved 5,500 Union soldiers and 5,000 Confederates. At Cheatham Hill, approximately 9,000 Union soldiers were engaged in the battle. The number of Confederates is not estimated, but included men associated with two divisions. During the battle, Union casualties totaled 3,000 men, and the Confederates 1,000.

It was considered key to the control of the region by both sides. The earthworks also offered cover and concealment to Confederate troops. One of the natural features of Little Kennesaw Mountain was incorporated into their earthwork system. As noted above, observation rock (LCS 090135), comprised of two boulders stacked on top of one another at the south end of the peak, was used by the Confederates as a protected vantage point from which to observe Union troop movements.[279]

In some locations, the Confederates needed to clear trees in front of their earthworks to provide a clear field of fire for their artillery. They also strengthened weaknesses in their line by placing obstacles to slow the movement of approaching enemy troops. These obstacles included felled trees, that sometimes had their branches sharpened, known as abatis and cheveaux-de-frise; the swollen creeks carrying weeks of heavy rain also served as obstacles to enemy attack.

To reach Atlanta, Maj. Gen. William T. Sherman would have to breach the Confederate defense at Kennesaw. After studying the terrain, Sherman devised a plan of coordinated attack aimed at perceived weak points in the Confederate line (Figure 323). Maj. Gen. James B. McPherson would feign an attack at the extreme right of the enemy line, but would make his real assault at a point south and west of Kennesaw Mountain at the gap between Little Kennesaw and Pigeon Hill along with the lower slopes of Pigeon Hill. Maj. Gen. John Schofield would establish a position to the right of McPherson and threaten the flank of the enemy with artillery. A second attack would focus on the dead angle at Cheatham Hill (Figure 324). The goal of these efforts was to break the Confederate line wherever possible, and eventually to gain the summit of Kennesaw Mountain as a way to reach Marietta and the Western & Atlantic Railroad rail line. Sherman would observe the attack from a lookout position on high ground that afforded telegraphic communication with all of his commanders. The lookout was referred to as Signal Hill. It was located atop Harriston Hill near the Wallis House along Burnt Hickory Road.

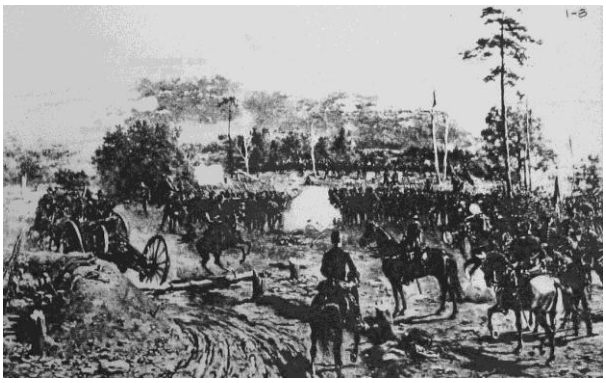

FIGURE 323. Artist's rendition of the Battle of Kennesaw Mountain.

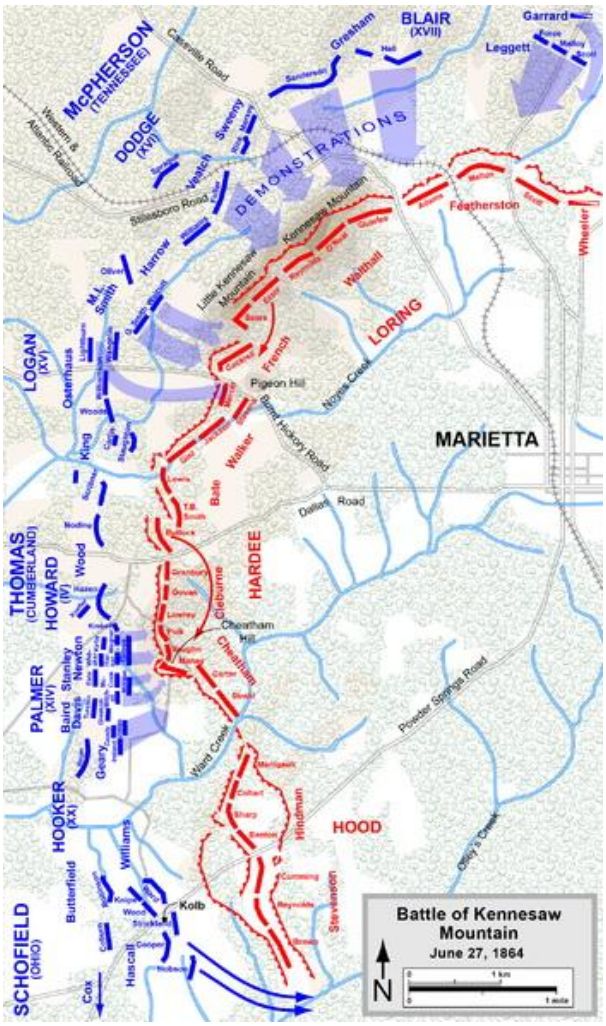

FIGURE 324. Diagram of the Battle of Kennesaw Mountain illustrating the position of Union and Confederate troops during the coordinated attacks.

279. Hellman, "Kennesaw Mountain National Battlefield Park Archeological Overview and Assessment," 120.

As part of the assault on the Confederate positions at Little Kennesaw and Pigeon Hill, the Union army faced a range of landform and vegetative cover conditions. North of Burnt Hickory Road, the terrain was covered by dense woods, while to its south, cleared agricultural fields were present as far as a tributary of Noses Creek. The creek formed a wooded ravine equidistant from the Confederate and Federal lines.[280]

During the coordinated assault, the brigade commanded by Union Col. Charles C. Walcutt was to charge toward the gap between Little Kennesaw and Pigeon Hill, with his left ascending the slope of Little Kennesaw and his right charging the slope of Pigeon Hill in concert with Gen. Morgan L. Smith's Brigade (refer to Figure 18 in the Site History chapter). Additional troops under the command of Gen. Joseph A. Lightburn would attack on the right. The Union soldiers would be at a disadvantage due to the dense thickets, steep and rocky slopes that characterized their approach route, and a lack of knowledge of the terrain.

As they approached the Confederate position, the troops charged forward through thick woods, capturing several Confederate pickets and reaching the base of the mountain almost undetected. Here, however, they were stopped by heavy fire. Some of the men were able to work their way up a spur of Little Kennesaw and to fire down on the Confederates on Pigeon Hill, using the rocky terrain for cover. Walcutt's Brigade halted in the woods at the base of the mountain and quickly constructed a line of earthworks for protection. Smith's Brigade formed in two lines within the woods north and east of the York House, and continued to move forward toward Pigeon Hill, protected from enemy observation and fire by heavy woods (refer to Figure 324). They crossed a stream corridor and ravine before reaching Pigeon Hill. The hill itself proved formidable due to steep slopes, rocky footing, and the complex of fortifications sited along the heights of the ridge from which the Confederates fired heavily upon them. Unable to move forward, Smith's Brigade threw up a line of earthworks in the woods near the base of Pigeon Hill. A few men had charged up the slope of Pigeon Hill. Unable to attack further, they were forced to remain hidden until dark, when they were able to escape.

Lightburn's Brigade attempted to break the Confederate line on the ridge south of Burnt Hickory Road. Lightburn faced a lack of cover along his avenue of approach, which was comprised primarily of cleared fields. The only cover was afforded by the low swampy ground around a tributary of Noses Creek. Lightburn's Brigade began by moving rapidly across one field and into the woods associated with the stream corridor. However, emerging from the woods into the next cleared field, they were assaulted by heavy Confederate artillery from positions atop Little Kennesaw Mountain. Those men who were able to reach the top of the hill used rail fencing and the Hardage orchard for cover and concealment (refer to Figure 309), but were eventually forced to fall back to the woods associated with the ravine formerly occupied by a Confederate picket line.[281]

At Cheatham Hill, the Federal assault was focused on a perceived weakness in the Confederate line, an apparent "dead angle"[282] south of Dallas Highway formed by a combination of landform and topography and a salient design that would permit only limited artillery crossfire. While the Confederate earthworks were generally well constructed and defiladed, as well as reinforced with headlogs and abatis, the dead angle salient appeared to have no abatis or secondary support entrenchments in front and thus weak and vulnerable to Union commanders.

The brigade of Major General Thomas was to assault the enemy at the center, while Gen. John G. Mitchell's Brigade formed the Federal right. Mitchell's Brigade was to sweep around Cheatham Hill and strike the salient from the side. Forced to

280. National Park Service, "Master Plan, Topographic Base Map, Sheet No. 5B," 1941.

281. Ibid.

282. Also a sector without fire, defined as an area in front of a salient angle into which the defenders cannot fire. A sector without fire was extremely vulnerable unless defended by fire directed from another part of the fortification.

move across an open field below the salient, his men were fired upon by soldiers bearing small arms and a ten-gun artillery battery emplaced behind protective earthworks on a ridge above the salient referred to as the dead angle (refer to Figure 21 in the Site History chapter). This fire, coupled with dense abatis, limited the forward movement of the brigade. Forced to fall back, the Union brigade established a line of entrenchments using their bayonets and tin cups where the slope of the hill afforded protection from the Confederate fire.[283] Col. Daniel McCook's Brigade, attacking from the west across the open field topographically below the Confederate earthworks similarly was forced to take cover under the crest of the hill. Both Colonel McCook and his replacement, Col. O. F. Harmon, were killed in the assault. Later, continuing the attack, Gen. Charles E. Harker would also be killed. Several of Harker's men were able to penetrate the abatis and approached the Confederate line: one Federal officer stated in his diary that he "lay so close to the fort behind the flag that every time a cannon in the battery was fired, he could feel the wave of heat on his face. When the order was given to retire from this perilous position he states that the men came back like an infuriated herd of buffaloes, several of them actually running over him in their haste."[284] The efforts of Brig. Gen. George D. Wagner on the left were slowed by an advance through dense undergrowth. Under heavy fire, they were forced to retreat into a nearby ravine as they neared the Confederate works.

The primary elements of landform and topography, water resources, and terrain conditions experienced by the troops during the engagement survive today and contribute to the significance of the historic landscape. The primary differences between the historic and contemporary landscapes involve the location and composition of several woodlands and fields and the loss of orchards (refer to Figure 319 and Figure 320).

283. NPS, "Federal Assault on Cheatham's Salient," part of the Master Plan, sheet no. 5-1, 1941.
284. Ibid.

Post-Civil War farming and community development. After the Civil War, the region returned to its former character as a rural community of modest homes and agricultural land uses. Farmsteads continued to edge local road corridors. Farming practices, however, shifted to cotton production and clearing of bottomland less well suited to cultivation (refer to Figure 22 in the Site History chapter). Slopes were often terraced to slow storm water runoff, but much of the area experienced soil loss and degradation of its tilth (Figure 325). Both Noses and John Ward Creeks were channelized to open up more bottomland for farming.

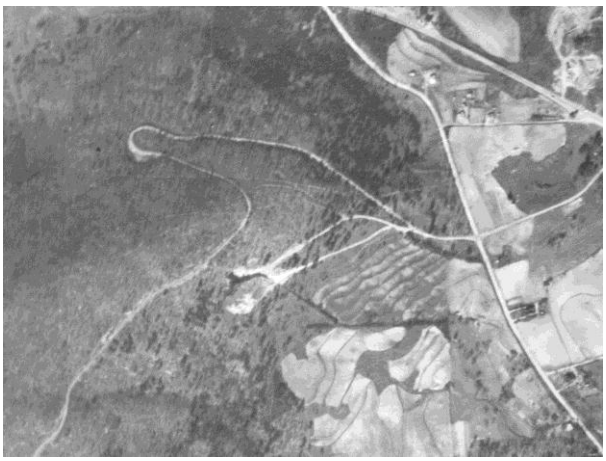

FIGURE 325. Aerial view of early twentieth-century terraces in the park.

During the early twentieth century, a schoolhouse was established near a small spring and an abandoned section of Old Mountain Road, perhaps intended to take advantage of the source of drinking water.[285] None of these features, with the exception of the spring, survives today within the park landscape.

Commemoration, park establishment, and resource conservation. When large tracts of land were acquired for the park in the 1930s and 1940s, those lands that had been in agricultural production for many years were in poor condition. Sheet erosion and gullies were prevalent. Park establishment thus involved restoration and conservation of soil and water resources, and protection of earthworks from further erosion, in

285. Hellman, 125–126.

addition to the marking of terrain that had been key to the events of the Battle of Kennesaw Mountain. but also. Other responses to natural resources associated with early park development included the establishment of a quarry on the east side of Kennesaw Mountain to extract gravel and stone for road work, and the use of culverts and bridges to convey park trails, paths, and roads across streams and drainages.

Soil conservation. After the Civil War, the land around Kennesaw Mountain was more extensively cultivated than prior to the war. Many acres were planted in cotton, which generally depletes soil fertility. Once the land was placed into federal ownership for inclusion in the park, and "because there was no provision for soil and moisture conservation at the time the land was acquired and transferred to public use, abandoned cotton fields commonly developed critical soil erosion."[286] In some areas, the park worked with the Soil Conservation Service to establish new terracing (refer to Figure 325). Civilian Conservation Corps enrollees helped to fill and grade areas exhibiting extreme erosion, and constructed 109 sod dams, totaling 537 linear feet, to check the movement of storm water.[287] National Park Service landscape architects also directed the planting of vegetation intended to cover exposed ground quickly and other soil conservation efforts. Fields were disked, limed, fertilized, and seeded; pine seedlings were planted on roadside banks. Seed, phosphates, and ground agricultural limestone were used to increase the fertility of the soil and expedite its recovery. Because the abandonment of agriculture had led to increased erosion, some lands were leased for farming, particularly around Cheatham Hill.[288] Although it is difficult today to discern evidence of these efforts, the work of the National Park Service and the Civilian Conservation Corps likely stabilized the terrain and protected park lands from further degradation. They contribute to the significance of the historic landscape.

Earthworks preservation. The most tangible surviving resource associated with the Civil War Battle of Kennesaw Mountain is the system of field fortifications and gun emplacements that survive on the battlefield. For many years the earthworks suffered from the effects of plowing, pedestrian traffic, vegetation encroachment, and erosion. Recognizing the importance of these resources, the National Park Service involved the CCC in earthworks stabilization efforts in the 1930s and 1940s that included adding leaf litter and other materials to the soil profile of the structures, planting Japanese honeysuckle as a ground cover, and directing visitors away from the parapet and ditch systems. Additional earthworks stabilization and restoration efforts were conducted by the park during the 1970s and 1980s. In 1982, the earthworks on Kennesaw Mountain, Pigeon Hill, and Cheatham Hill were fertilized and reseeded. In 1984, rehabilitation of the Kennesaw Mountain gun emplacements was completed, including selective tree removal and the addition of new soil where erosion had diminished the resources.[289] Earthworks preservation remains a high priority for the park. Although it is difficult to identify evidence of past earthworks stabilization and repair efforts today, these efforts contribute to the significance of the historic landscape.

Streambed restoration. In the 1930s, streambed restoration was conducted to repair erosion of Noses and Old John Ward creek banks. A large quantity of stone was used to stabilize stream bank erosion along Noses Creek.[290] In 1940, a park master plan also indicated that work was being done to address mosquito control: "Ward Creek and that branch of Noses Creek between the Burnt Hickory Road and the Dallas Highway have both had their channels altered and straightened since the time of the battle as a malarial control project."[291] Today, there is little evidence of these efforts within the park. However, like the efforts conducted to protect the earthworks, these contribute to the significance of the historic landscape.

286. National Park Service, "Annotations for Kennesaw Historical Base Map."
287. Capps, 16.
288. Ibid., 39.
289. Ibid., 40.
290. Ibid., 16.
291. National Park Service, "Topographic Base Map, Sheet No. 3," 1941 Master Plan.

Stone quarry. In 1939, to support park road work, the CCC began operating a small quarry and rock crusher on the east side of Kennesaw Mountain.[292] The quarry provided stone used for road fill and construction. Today, the quarry is overgrown but remains in evidence to the northeast of the former CCC camp site (refer to Figure 311). The quarry site retains integrity and contributes to the significance of the historic landscape.

Use of culverts to convey storm water. Today, there are several culverts located in the park that are used to convey storm water beneath circulation corridors. Some of these, which are located along the trail south of Burnt Hickory Road, include fieldstone headwalls, thought to have been established by the CCC (Figure 326). These culverts contribute to the significance of the historic landscape. Later examples of culverts, those that postdate the 1942 end date of the period of significance, perpetuate this practice but do not contribute to the significance of the historic landscape.

FIGURE 326. Culvert.

Trails. Trails were first established to afford visitors an opportunity to understand the events of the battle at Cheatham Hill in the early twentieth century. Little is currently known about the locations of these trail developments prior to National Park Service acquisition of the property. Beginning in 1939, the National Park Service established a new road corridor for visitors to the parcel from Dallas Highway. As part of the project, a parking area was established approximately 1/4 mile from the Illinois Monument. The National Park Service established a trail between the parking area and the monument that continues in use today. Trails were later added to connect the monument to the trails that extend the length of the park on both the eastern and western sides. The Cheatham Hill trail dates to the period of significance and contributes to the significance of the historic landscape. The eastern and western trail systems are generally later additions. The trails reflect a response to the natural character of the park landscape through a sensitivity to the terrain using low-impact design and construction methods.

Bridges. Several footbridges convey park trails across stream corridors and drainages. Only one of the existing bridges—a stone structure associated with the former CCC camp—appears to survive from the early park development period of significance (Figure 327). Later examples of bridges, typically wood plank structures, and the concrete and steel bridge crossing of Noses Creek constructed in 2011, do not contribute to the significance of the historic landscape although they do perpetuate a historic practice (Figure 328). There are no surviving bridges that predate park development. Little is known about bridges present before park establishment.

FIGURE 327. Stone bridge.

292. Capps, 17–18.

FIGURE 328. Wood plank bridge.

Utilities. Historically, local property owners used wells and privies for water and sewer needs. None of these features appears to survive within the park today.

During the early park development period, a large concrete water tank was established on Kennesaw Mountain in 1940 to store drinking water and for fire suppression. Oral histories conducted with CCC enrollees suggest that the concrete tank was also used to store explosives. The four concrete pads that supported the tank legs survive on the mountainside today.

Park buildings used septic systems until 2007 when the park was connected to the Cobb County sewer system. Over time, the park has also shifted to municipal water systems. Cobb EMC, a regional electricity provider, was founded in 1938. Prior to 1938, electricity for park buildings was either acquired through generators or by a local provider.

Contributing Responses to Natural Resources.

- Kennesaw Mountain as a prominent landmark
- Siting of primary roads on level terrain
- Confederate earthworks occupying the region's high ground and key terrain
- Union earthworks sited within view of targeted Confederate positions
- Signal Hill
- Battle events associated with terrain features
- Kolb House use of native wood timbers and stone for the foundation
- Streambed restoration by the CCC
- Soil conservation by the CCC
- Earthworks preservation by the CCC
- Design of trails to limit impact on the terrain
- CCC-era stone quarry
- Use of culverts to convey storm water beneath trails by the CCC
- Stone bridge associated with CCC camp

Non-contributing Responses to Natural Resources.

- Bridges and culverts used to convey trails across streams and drainages after 1942, including plank bridges and concrete and steel bridge crossing of Noses Creek

Missing Responses to Natural Resources.

- Farmsteads and associated cultivated fields on level knolls with access to fresh water
- Mills sited to take advantage of stream corridors for water power
- Post-Civil War cotton farming on less suitable terrain
- Wells, privies
- Septic system of early park developed area
- Water storage tank on Kennesaw Mountain associated with early park development

Patterns of Spatial Organization

The patterns of spatial organization that characterize the park today are only partially consistent with those present at the time of the Civil War due to changes in land cover that have affected field and woodland composition, the loss of most farmsteads, the development of extensive suburban residential subdivisions along park boundaries, the widening of historic road corridors, and the roads, parking area, buildings, and visitor services associated with park administration. Character-defining patterns of spatial organization include the landform of Kennesaw Mountain around which much of the cultural landscape revolves, the road and trail systems that generally follows east-west orientations, and the way the park boundary has influenced vegetative cover and development in the region.

Surviving landscape features that were present at the time of the battle and continue to influence spatial patterns within the park include landform and topography, particularly the hilly terrain and Kennesaw Mountain ridge that features a linear, north-to-south orientation; the historic road corridors of Stilesboro Road, Burnt Hickory Road, Dallas Highway, and Powder Springs Road, and the rail line; and several historic fields restored by the park.

Missing from the battlefield landscape are the farmsteads that featured clusters of buildings, fenced precincts, crop fields and meadows, and woodlots, many of which were used by soldiers for cover and concealment, or served as the field of fire for artillery, thus contributing to the events of the battle.

Patterns of spatial organization that survive from the commemorative and early park development period of significance include the open parade circle of the CCC camp site; the Cheatham Hill Drive, monument, open field, and trail complex; some field and woodland patterns; and much of the park boundary (refer to Figure 311, Figure 312, Figure 319, and Figure 320).

Today, the park's patterns of spatial organization are characterized by several conditions. The primary structuring element of the landscape is the linear Kennesaw Mountain ridgeline that spans the northern portion of the park in a northeast/southwest direction. This landform establishes a strong focal point within the landscape. The predominantly north and south trending landform is overlaid and reinforced by the park boundary as established between 1934 and 1942, which follows the Confederate earthworks designed to occupy the high ground, and opposing Union works. The park generally forms a rectangle, eight miles long from north to south. Because some of the land between the Union and Confederate lines was not acquired for the park due to financial and other considerations, the park contains large outparcel sections through its center that have been developed with residential subdivisions.

The long rectangular form of the park is also cut into a series of land bays from north to south by roads that traverse the landscape in an east-to-west direction. Within each land bay, patterns of spatial organization are derived from a combination of trees, open fields, roads, and landform.

Most of the park is currently forested by second-growth stands of pine and hardwoods that have colonized what had been open fields and pasture in 1864. The trees and associated understory vegetation restrict views. Woodlands form dense stands that are visually impenetrable. In contrast, open fields allow for long views across low-growing cover. Open spaces are typically contained or edged by forest or by upland or ravine terrain. The percentage of the landscape that is in open space is relatively low; the majority of the visitor experience within the park occurs under wooded conditions, forming an enclosed sense of space.

The park's interior spatial patterns are also affected by the clusters of twentieth-century housing that surround the park and occupy islands of private land within its boundaries. These clusters have created a distinct edge along the park boundary that offers a marked contrast to the

spatial quality in this area in 1864, which was an open rural landscape characterized by views of scattered small farmsteads. Much of the residential land is maintained in a suburban character that includes mown lawn and ornamental and maintained plantings that contrasts with the park's successional deciduous hardwood forest.

Another important consideration in the configuration of patterns of spatial organization associated with the park as first conceived are the four public road corridors oriented east-to-west that divide the landscape into three sub-sections. These were present by 1864 and remained integral to visitor access and use once the park was established.

The evolution of individual patterns of spatial organization located within the park is discussed in more detail below.

Pre-battle landscape. Patterns of spatial organization present at the time of the Civil War related to a combination of natural features and settlement practices that evolved between circa 1840 and the Civil War. Settlement of this region by European Americans did not occur until the second quarter of the nineteenth century. Before that, the land was part of Cherokee Indian territory. Prior to European settlement, it is thought that two American Indian villages may have been located in the vicinity of the park. These were located south of Burnt Hickory Road and northwest of Bald Knob outside of current park boundaries, and north of John Ward Creek and northwest of Strahl's Fort within park boundaries.[293]

This portion of Cherokee County, which later became Cobb County, was opened for Euro-American settlement in the 1830s. Settlement occurred slowly, however, with one of the first recorded properties being the Kolb Farm.

By June 1864, much of the area remained wooded with a few small subsistence-level farms scattered along roads and upland plateaus. A typical farming family consisted of the husband, wife, and several children, all of whom worked on the fields and gardens. Most small farmers did not own slaves because they could not afford to buy them. Their farms typically included between 40 and 80 acres of cleared land, a wood-frame house or log cabin with five rooms or less, and outbuildings like tool sheds and detached kitchens. Families owned livestock, including oxen to help pull a wagon or plow, a milking cow, a hen to lay eggs, a sheep or two for wool, and a few hogs. Rough-hewn worm-rail fences snaked around fields, prevented free-ranging animals from invading crops. Farmers grew wheat, maize, sweet potatoes, cotton, peas, beans, and oats. Some families also owned beehives for wax and honey. Many farmers sold excess production on the open market.

Despite limited settlement within the area, all of the primary road corridors present within the park today had been established by the 1860s, including Stilesboro, Burnt Hickory, Dallas, and Powder Springs roads, as well as Western & Atlantic Railroad rail line.

Little is currently known about the farmsteads that occupied the Kennesaw Battlefield landscape prior to the battle. However, it is generally known that farmers cleared only as much land as they were able to cultivate, and the fields were generally located near their homes. Hill tops were the first areas cultivated. The higher ground was easier to clear, contained less underbrush, and required little terracing to prevent erosion. Fields thus followed the contours of the hills to a great degree. Cattle were allowed to roam and graze in the woods.[294] These antebellum patterns do not survive to any degree today.

Farmsteads. Two surviving examples of antebellum farmsteads are located within current park boundaries. These include the Kolb House. The Wallis House is a property located to the west along Burnt Hickory Road that may be added to the park in the future.

293. Ed Bearss, "Historical Base Map; Part of the Master Plan; Kennesaw Mountain National Battlefield Park" Drawing No. NBP-KM 2064.

294. National Park Service, "Annotations for Kennesaw Historical Base Map," 1.

The Kolb House is located along the south side of Powder Springs Road. It was the focus of a major engagement fought on June 22, 1864, and later used briefly during the war as the headquarters of Federal Gen. Joseph Hooker.[295] Large expanses of open field were located southeast and southwest of the house, which was set within a fenced precinct. Dependencies and other outbuildings, including slave quarters, mill structures, and a blacksmith, as well as a possible orchard were located north of Powder Springs Road.[296] The property has changed a great deal since the war. Today, the Kolb Farm is composed of the original circa 1836 dwelling and a fenced yard precinct along Powder Springs Road. All of the dependencies and fields are gone. However, the surviving dwelling remains a crucial element to convey aspects of the antebellum and battlefield landscape to visitors (Figure 329).

The Wallis House is located along Burnt Hickory Road. It was used as the headquarters of Union Gen. O. O. Howard and the hillside behind as a signal station during the Battle of Kennesaw Mountain, and was later occupied briefly by General Sherman during the Battle of Kolb Farm. It is also thought to have served as a Confederate hospital. Today the parcel features several outbuildings. Little is currently known about the character of the property during the Civil War. Any associated fields are gone , and the land is now edged to the north and west by residential development that diminishes its integrity of setting. However, like the Kolb Farm, the Wallis House property provides a critical connection to the battle particularly due to the rarity of surviving antebellum properties.

Other farmsteads thought to have existed within the park landscape at the time of the battle are no longer extant. They include:

- **L. Green House.** The L. Green House site is located between the Western & Atlantic Railroad line and Stilesboro Road (refer to Figure 309). The house was owned by L. Green, who operated the wood and water station for the railroad.[297] The wood station is thought to have edged the rail line along the Mountain Road. The property was associated with a large area of open fields north of Stilesboro Road to the east of the wood station, which continued north of Marietta-Cassville Road.[298]

- **Tierce House.** The Tierce House was also located north of Stilesboro Road and south of the rail line at the intersection of Stilesboro and Marietta-Cassville roads.[299] Noonday Creek traversed the property. A large area of open field appears to have been located north and south of the house to either side of the intersection that may have been associated with family farming activity.[300]

- **Eaton House.** The Eaton House was located east of Pigeon Hill along the north side of Burnt Hickory Road. It was a wood-frame dwelling with five rooms and a veranda. Today, the former farmstead is marked by a large colony of English ivy near the area referred to as Drunkard Springs, located west of the house site.[301] A large area of open fields appears to have been associated with the Eaton House to its north and east along a former unnamed road that led north from Burnt Hickory Road.[302]

295. Hellman, 126.
296. National Park Service, "Historic Ground Cover Study Map."
297. Hellman, 125.
298. National Park Service, "Historic Ground Cover Study Map."
299. Hellman, 126.
300. National Park Service, "Historic Ground Cover Study Map."
301. Hellman, 126.
302. National Park Service, "Historic Ground Cover Study Map."

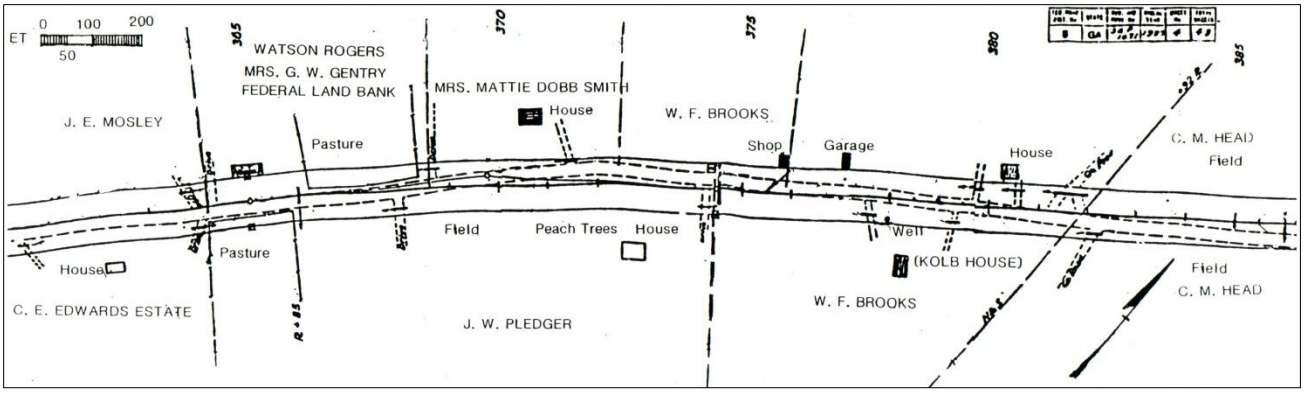

FIGURE 329. 1937 highway map showing location of structures along Powder Springs Road, including the Kolb House.

- **New Salem Baptist Church.** Located southwest of the Eaton House on a wooded hill south of Burnt Hickory Road is the site of the New Salem Church (also referred to historically as the Old Salem Church). The site is marked by a rectangular foundation and a cemetery site, marked by a ring of stones, thought to include twenty-four burials. The log church was standing at the time of the battle. The churchyard was used as an entrenchment by Confederate troops and for two weeks as a Confederate field hospital.[303] Troops used the wood of the church to build headlogs for their earthworks, destroying the building. Nearby stood the New Salem Academy, a neighborhood schoolhouse used by local families.

- **Shiloh Church and school.** The Shiloh Church associated with a Primitive Baptist congregation, is thought to have stood at the time of the battle along Dallas Highway across the road from the home of Dr. Bellinger.[304] The one-room frame building was set within a clearing within the generally wooded area north of Dallas Highway and was associated with a cemetery.[305] A two-room frame schoolhouse is thought to have been associated with the church property. It was located near the log doctor's office used for Dr. Bellinger's practice.

- **G. W. Hardage House site.** The nineteenth-century Hardage House was a log cabin located along Burnt Hickory Road. It was first settled by George Washington Hardage circa 1836, in a small community referred to as New Salem for the nearby church. The house was abandoned at the time of the battle, but had been occupied by G. W.'s brother John earlier in the year. An orchard is thought to have been associated with the house site used by Union soldiers for cover and concealment during the Battle of Kennesaw Mountain.[306] The house was surrounded to the east, south, and west by an expanse of open fields.[307]

- **Hardage's sawmill site.** The Hardage sawmill was located along Noses Creek at some distance southwest of the house. Built circa 1853, the sawmill took advantage of the water power of Noses Creek, and included a steam-powered sawmill. It was located along a road corridor that linked Dallas Highway and Burnt Hickory Road.[308] The sawmill was operated by John Hardage. The two men exchange houses before the war due to concerns regarding the wet conditions of the house with

303. Hellman, 126; Blythe et. al., *Historic Resource Study*, 50.
304. Hellman, 128; Blythe et al., *Historic Resource Study*, 52–53; and historical base map of the Kennesaw Mountain Historical Association, Inc.
305. National Park Service, "Historic Ground Cover Study Map."
306. Hellman, 128; Blythe et al., *Historic Resource Study*, 35.
307. National Park Service, "Historic Ground Cover Study Map."
308. Ibid.

the orchard after several of George's children came down with malaria. John's house was located approximately one mile to the west of Pigeon Hill on the north side of Burnt Hickory Road. Earthworks were sited on the wooded slope north of the sawmill in June 1864.

- **John Hardage House site.** When Gen. Joseph E. Johnston's Confederate army entrenched on the heights of Kennesaw Mountain, three of his subordinate generals headquartered at the Hardage house to the west of Pigeon Hill. The house was a two-story, six-room dwelling with a veranda. Lt. Gen. Leonidas Polk, who had first established a headquarters in the John Kirk House, later moved to a small room off the veranda of the Hardage House, but died before the battle. He was replaced by William Wing Loring. The Kirk House was located north of the York House. It was a two-room log cabin with a breezeway through the middle. A grist or cane mill was located nearby. Federal earthworks were constructed in the yard and fields prior to the attack on Pigeon Hill.

- **Cass House.** Another nineteenth century house site thought to have existed at the time of the battle along Burnt Hickory Road in the eastern section of the park was the Cass House. The property was edged to either side by roads, although a small extent of open field was found in association with the house.[309] It was the vacation home of Johanna Cass, a widow who owned and operated a hotel in Savannah, and sought to escape the threat of malaria along the Georgia coast during the summer months. The house was a small two-room frame dwelling with a large front porch.

- **Bellinger House site.** The Dr. John S. Bellinger House was located across from the Shiloh Church near the intersection of Dallas Highway and John Ward Road. Dr. Bellinger is thought to have maintained a log doctor's office across the Dallas Highway. Fields were associated with the property to the west. A twentieth-century house stood on the property until at least 1943.[310] On June 19, 1864, Union Maj. Gen. Joseph Hooker used the Bellinger House as a headquarters.

- **Wilcox House.** Thomas Wilcox and his wife Louisa lived to the east of Dr. Bellinger along Dallas Highway. Thomas Wilcox was also a doctor. The house fell within the Confederate lines. During the battle, Brig. Gen. Hiram Granbury's Texas Brigade occupied a line of fieldworks located to the east of the dwelling.

Beyond the current park boundaries were several additional farmstead properties, some of which were appropriated for use by the commanders of the Union and Confederate armies. These included the York House where Smith's Brigade formed up in two lines within the woods nearby. The York House was also used by Gen. Joseph E. Johnston as his headquarters between June 10 and June 19, 1864, and was a refuge for Union sharpshooters during the battle. It burned during the battle.

East-to-west road and rail line patterns. The primary road corridors present today, which cut through the park from east to west, survive from the battle period as well as the later commemorative and early park development period. Their alignments are generally consistent with those present during the period of significance, and they continue to form corridors of open space through the generally wooded landscape as they did historically. However, the degree of woodland cover is much more extensive, limiting longer views and visual connections to the surrounding countryside. Available views often encompass late-twentieth-century residential or commercial development that is not consistent with conditions present during the period of significance. These linear patterns of spatial organization otherwise retain integrity of location, but diminished integrity of feeling, association and setting, as well as design, workmanship, and materials.

309. Ibid.

310. Ibid.

Military Landscape Associated with the Battle of Kennesaw Mountain. As noted previously, the patterns of spatial organization associated with the military occupation of the Kennesaw Mountain landscape related primarily to the establishment of earthworks by the Confederates atop the high ground and along the edges of ravines, and Union works located on the lowlands facing Confederate positions. The Confederate earthworks formed a strong linear system along the military crest, or margin, of the Kennesaw Mountain ridgeline and other high ground. At the time of the battle, the ridgeline was relatively clear of hardwood cover or brush, facilitating the field of fire in front of their artillery. The Union earthworks were both linear systems and individual works composed of salient forms that faced the Confederate lines above. The Confederate system survives to a high degree with integrity today, while portions of the Union system have been lost to post-Civil War agriculture.

Commemoration and Early Park Development.

Park boundaries and ownership patterns. The first reservation of land associated with battlefield commemoration was a 60-acre parcel encompassing Cheatham Hill, and the area that was the focus of intense combat during the Battle of Kennesaw Mountain. The L-shaped parcel was purchased in 1899 on behalf of the Colonel Dan McCook Brigade Association, a veterans' group affiliated with the 86th Illinois Regiment that was interested in commemorating the site where the commander lost his life during the June 27, 1864, Battle of Kennesaw Mountain. An access road was established from Dallas Highway across private property using an easement (Figure 330). In 1914, several monuments were placed on the site to mark the fiftieth anniversary of the battle by the Kennesaw Mountain Battlefield Association of Illinois, a nonprofit organization incorporated by members of the Dan McCook Brigade Association in Illinois in 1901. The group lobbied the State of Illinois for financial support and received $20,000 in 1913. The largest of the commemorative markers—the Illinois Monument—occupied the brow of the hill overlooking the field across which Union soldiers advanced. The monument was set within a level terrace that conveyed a more formal character than had been previously present, and created a nexus for visitors.

In 1917, the federal government accepted the gift of 60 acres at Cheatham Hill from the Kennesaw Mountain Battlefield Association. In 1928, the property was officially deeded to the U.S. government for $10. Until 1933, the property was managed by the War Department. During this period, half of the property was farmed by a caretaker. Visitors arrived along the access road to the base of the Illinois Monument. Much of the landscape was wooded, but the understory was maintained relatively clear of brush in the vicinity of the monument.

In 1933, the property was transferred to the National Park Service. In 1934, proposals were made to fence the federal parcel. The land associated with the park and commemorative efforts contained only the original 60-acre reservation until 1935. One of the first proposed changes was the exercising of an option on a 39.5-acre parcel that would allow for development of an access road from Dallas Highway. Upon acquiring the parcel, the National Park Service subsequently established a new road into the property from Dallas Highway in 1939 and an associated parking area. A trail connected the parking area with the Illinois Monument and Confederate earthworks (Figure 331). The character of the area became more formal and manicured. As proposed in 1939, the National Park Service also restored the open field below the monument to approximate historic conditions.

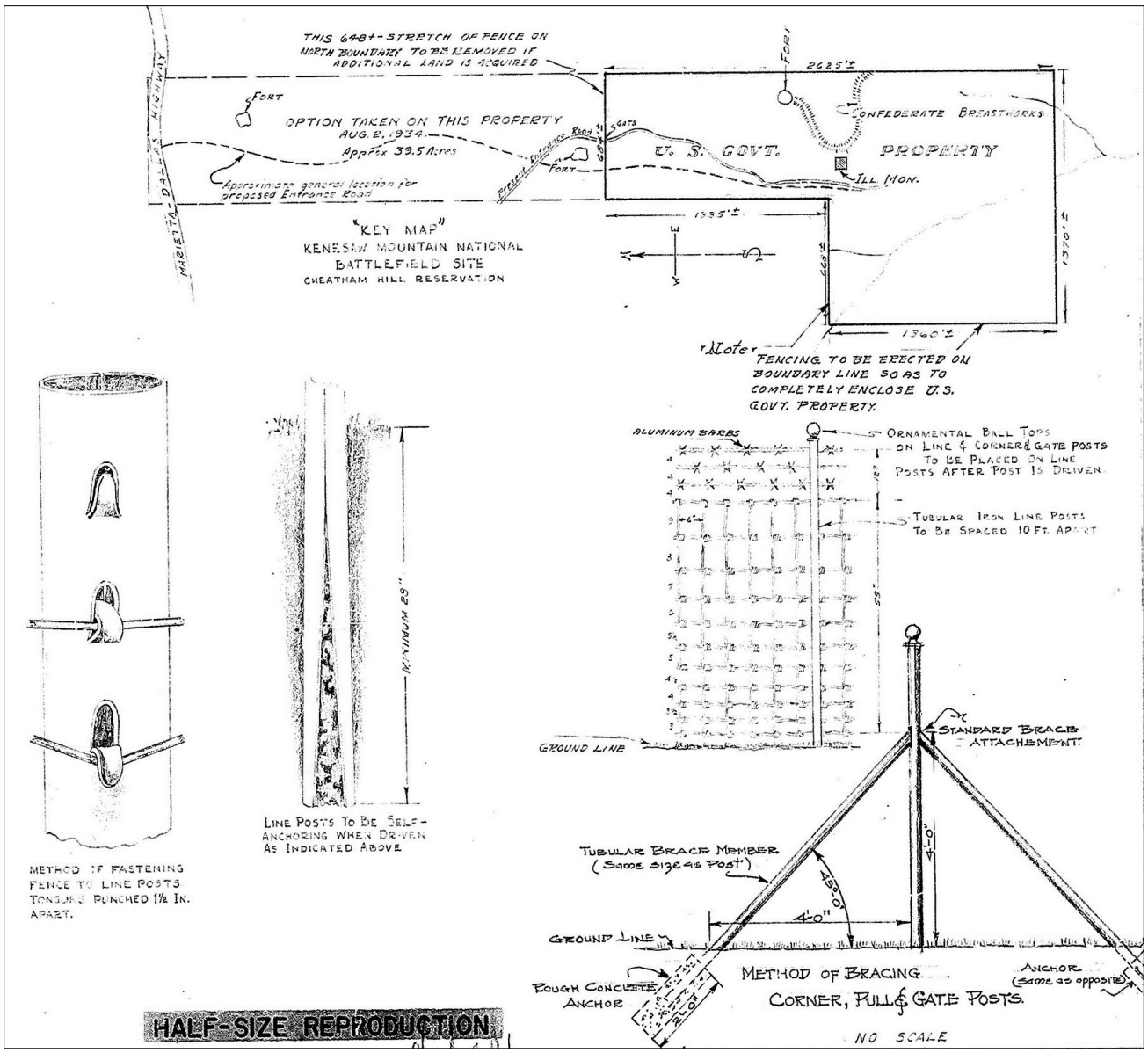

FIGURE 330. Suggested fence and site plan showing proposed entrance road from Dallas Highway to the Cheatham Hill parcel, 1934.

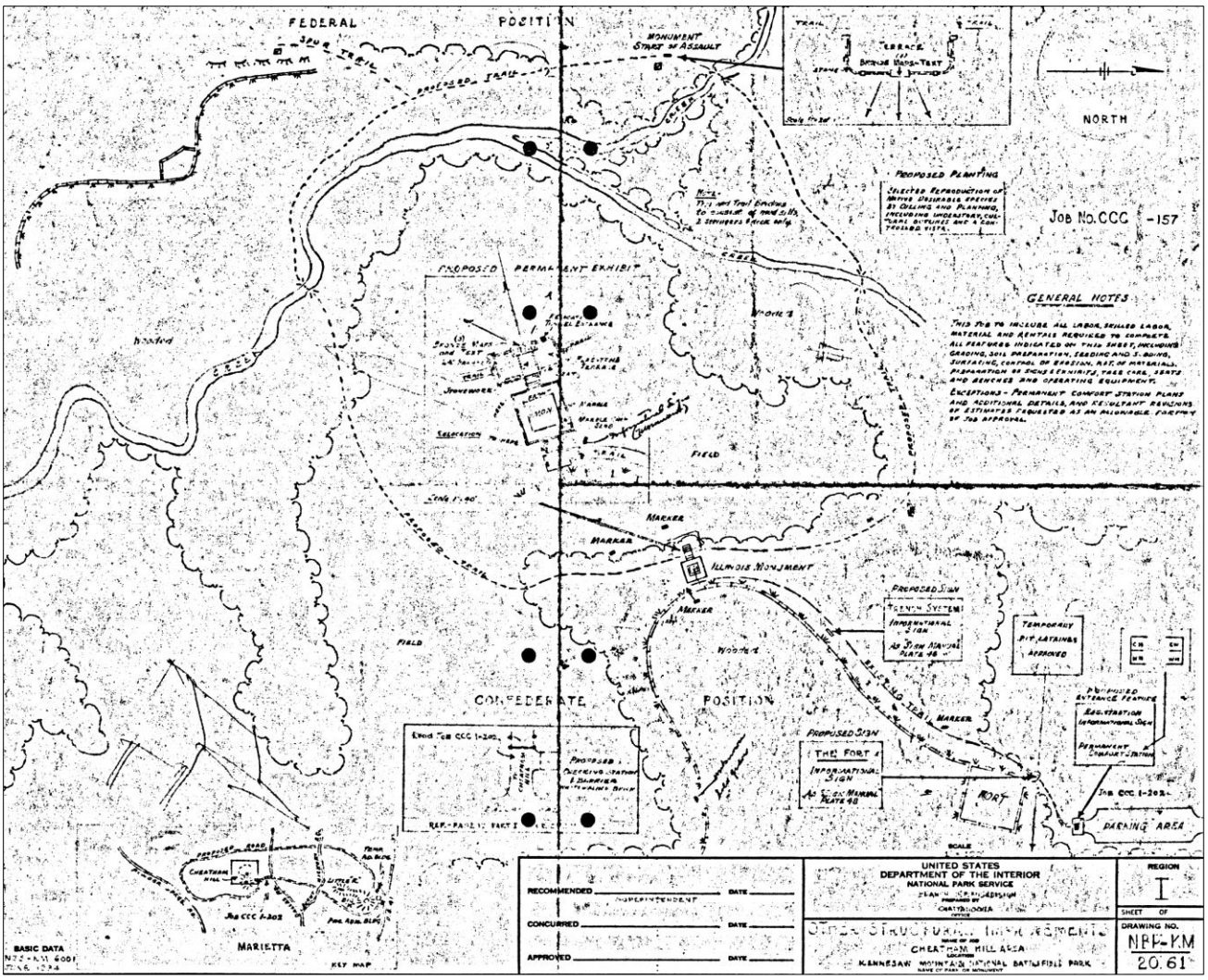

FIGURE 331. Proposed exhibit and trail at Cheatham Hill, 1940.

During the early 1930s, the National Park Service established a committee to study the establishment of a larger park at Kennesaw Mountain. The committee identified 1,050 acres of land that would be desirable to acquire to meet the proposed mission of the park to protect the battlefield landscape. Targeted were the lands associated with the crest of Kennesaw and Little Kennesaw mountains and the upland ridge or saddle between them. Land acquisition moved slowly, however, hampered by the Kennesaw Mountain Association which owned 450 acres on the mountain ridge where they intended to build a hotel and other developments.[311] Much of this land ultimately had to be acquired through condemnation.

The park quickly grew to include the originally proposed 1,050 acres, and more. By the time a master plan was prepared in 1941, the park contained a total of 2,105 acres, including Kennesaw Mountain and the Confederate lines running in general south of the mountain on a watershed, together with Federal lines which faced the position.[312] That year, the National Park Service used concrete posts to mark park lands, initiating the establishment of ownership patterns that would later influence woodland patterns and land development along the perimeter.[313]

311. Capps, 58.

312. "General Development Plan," part of the Master Plan, Sheet no. 7, 1941.

313. National Park Service, "Federal Assault on Cheatham's Salient, Sheet no. 5-1," 1941 Master Plan.

During World War II, land acquisition ceased. However, after the war the park continued to expand. By 1976, the authorized boundary encompassed 3,682.62 acres, with inholdings totaling 800 acres and 2,882.62 acres under federal control. Land acquisition has since continued through donation from friends groups, and the park now contains approximately 2,987 acres.

Once land began to be acquired in the 1930s, the National Park Service engaged the CCC to conduct land conservation and restoration efforts, planting woodlands in fields that postdated the battle and clearing tree cover to reestablish some of the open fields used by the Union army in their assault.[314] Once cleared, historic rail fencing was placed around the fields. Complete restoration of historic patterns has never been possible to achieve, however, due to funding considerations and a lack of clear knowledge regarding the composition and configuration of the landscape in 1864.

Views of nearby residential development have also been a consideration since the 1980s, requiring that stands of trees remain as visual buffers in some formerly open locations, such as at Pigeon Hill. Other activities that affect patterns of spatial organization by the National Park Service include selective vista clearing in 1963–1964 and the 1970s and 1980s, and the marking of park boundaries along with associated vegetation clearing during the 1970s and 1980s.

Land surrounding the park began to be heavily developed for residential subdivisions in the 1980s. This led to several encroachments on park land and the establishment of social trails. To deal with the problem, the park began a project to reestablish its boundaries with new and clearer markings.[315]

Patterns of spatial organization associated with the park therefore generally relate to the early park development period, but also involve its expansion, and the definition of its boundary due to residential development that increasingly forms an edge of a much different character than the park landscape. The integrity of the park's overall patterns of spatial organization varies to a great degree depending on the extent of perimeter development.

Field and woodland patterns. Present field and woodland patterns are not generally consistent with the conditions in evidence at the time of the battle (see Woodland Cover diagrams, Figure 319 and Figure 320). By 1864, farm fields tended to follow the contour of the hills.[316] Fields were located along Stilesboro Road in association with the Tierce House and another unnamed property near the intersection with Old Mountain Road. Along the western portion of the park, fields were located in association with the Carnes, Kirk, Johnson, and York properties, and along Burnt Hickory Road associated with the Hardage, Cass, and Eaton properties. There were also two fields located along the eastern edge of the current park boundary to the north of Burnt Hickory Road. Further south, large open fields were located to the north and south of Noses Creek to the southwest of the Hardage House, with another located along the eastern edge of the current park boundary. Along Dallas Highway, additional fields edged the road, including near the Shiloh Church and School, the Dr. Bellinger property, and the Gin property. Far more extensive open fields were present further south. West of Cheatham Hill, a large expanse of open fields extended nearly the entire distance to Powder Springs Road, with additional open fields, associated with the J. M. Springer House and the Camp property, located south and southeast of Cheatham Hill. The house site is marked along the trail east of Cheatham Hill. The Kolb Farm also featured open fields (refer to Figure 309 and Figure 310).

Today, open space occurs in association with the visitor center complex, the former CCC camp located to the south, and several restored farm fields and park recreation areas, as noted below.

The former CCC camp includes an open circular meadow and evidence of former tree plantings. A

314. Capps, 40.
315. Ibid., 53.
316. National Park Service, "Annotations for Kennesaw Historical Base Map," 1.

picnic area edges Stilesboro Road in the vicinity of the visitor center. To the west in the northern portion of the park there are several open fields, including Gilbert Field along Gilbert Road. The field system extends north to south along the western boundary. Recreation Area 1 is an open field located northwest of the visitor center and north of Stilesboro Road. Recreation Area 2 abuts the rail line and Old U.S. Highway 41. The only areas that were open in 1864 and remain open today include part of the area around the visitor center, the Recreation Areas 1 and 2 fields, and the field along the western edge of the park south of Gilbert field.

Within the central section of the park between Burnt Hickory Road and Dallas Highway, a large field edges Burnt Hickory Road to the south, marking the location of the Hardage property during the Civil War. Another field lies to the west, encircled by woodland. Two additional fields are located south of the field along Burnt Hickory Road. Fields that were present in 1864 that are still in open vegetative cover in this portion of the park include the three areas south of Burnt Hickory Road, including the Hardage House site, and a portion of the horseshoe shaped field further to the south.

The southern section of the park between Dallas Highway and Powder Springs Road contains two fields that edge Dallas Highway to its south, one large field within the vicinity of Cheatham Hill, and several fields located along the western boundary of the park now referred to as Recreation Area 3. Along the western half of the southern section of the park there are several additional fields, including the named Barfield Bottoms. Fields that were present in 1864 that remain in open vegetative cover include portions of the open areas south of Dallas Highway, the field below Cheatham Hill, and current day Recreation Area 3. Other modest open field areas that reflect historic fields are located along the western half of the park north and south of the Barfield Bottoms, and to the northwest of the horse trailer parking area.

CCC Camp T. N. Brumby and parade field. Between 1938 and 1942, the federal government maintained a CCC camp at the eastern base of Kennesaw Mountain near Kennesaw Avenue. It featured a central circular parade ground edged by rectangular barracks buildings (Figure 332). The central parade ground remains open and recognizable today, although all of the buildings that surrounded it have been razed. The parade ground retains integrity of location and feeling, but has lost integrity of association and setting, as well as design, workmanship, and materials and does not possess overall integrity as a landscape resource.

Park administration complex near Kennesaw Avenue and Old U.S. Highway 41 intersection. During the 1930s and 1940s, an area at the base of Kennesaw Mountain was developed for use as park administration, visitor contact, and maintenance facilities (Figure 333). The complex was developed on the site of a diversionary attack during the battle, in an area characterized as lightly wooded during the battle.[317] The park facilities, including a visitor contact and park administration offices, were housed in a late nineteenth-century residence known as the Hyde House. The building and a nearby maintenance yard were razed when the current visitor center was constructed in 1964. The existing visitor center complex postdates the period of significance, as does a pair of residences built between the visitor center and the maintenance yard in 1965.

317. National Park Service, *Historic Resource Management Plan*, II:1.

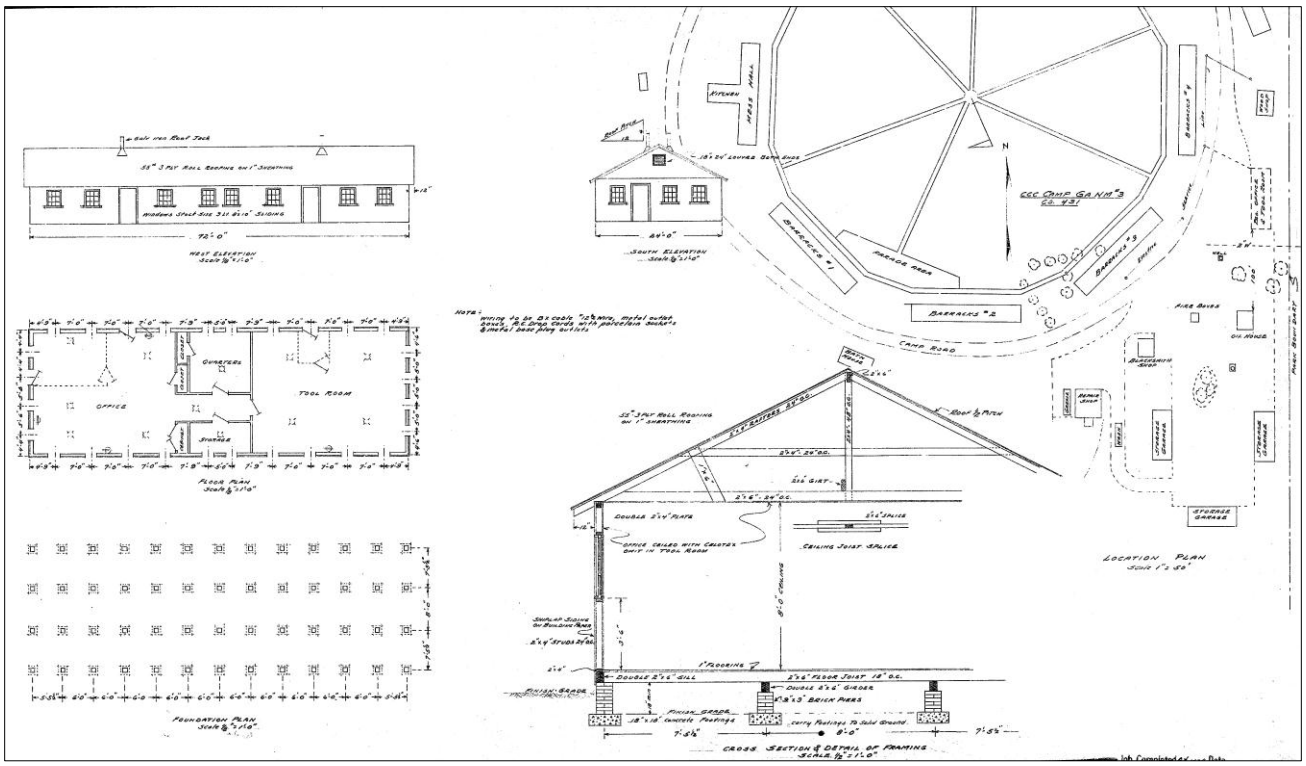

FIGURE 332. Buildings and site plan of the CCC camp, 1939.

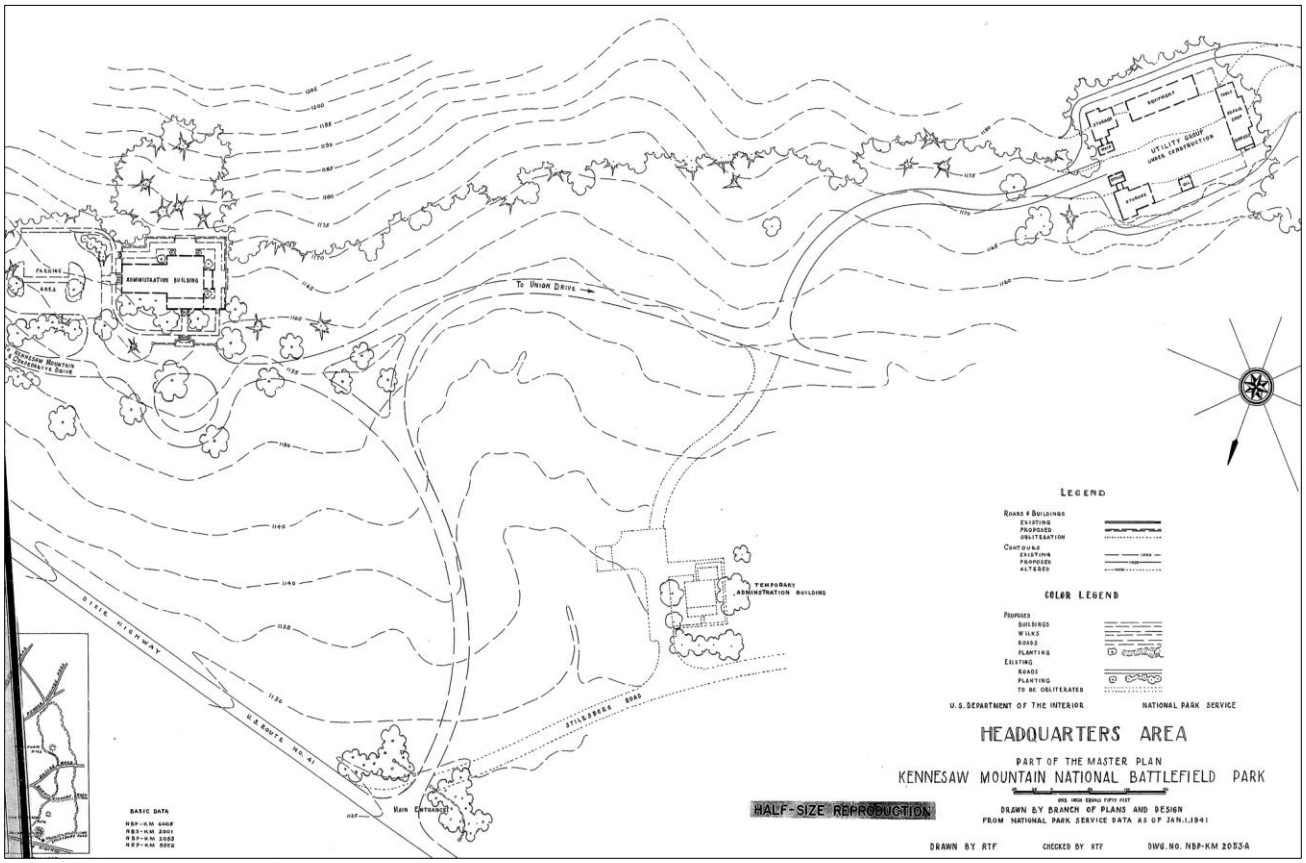

FIGURE 333. Headquarters area master plan, 1941.

The existing maintenance yard was built on a level plateau on a hill behind the Hyde House by the CCC in 1941 (Figure 334). It was designed as a series of buildings opening around a U-shaped central yard. In 1974, small additions were made to the buildings, and other shelters and utility equipment were added along the northwest side of the maintenance yard. These newer structures include an open wood-framed machine shelter with a sheet metal roof; a small concrete block storage building with a gabled roof covered with asphalt shingles; and a free-standing metal storage locker. The complex has, however, maintained the original three-sided spatial arrangement of buildings and structures surrounding a paved work yard.

Although some of the original buildings have been lost or replaced, the complex maintains the original spatial arrangement of a courtyard surrounded by buildings as originally designed. Although the buildings do not possess integrity as a complex, the pattern of spatial organization depicted by the yard does.

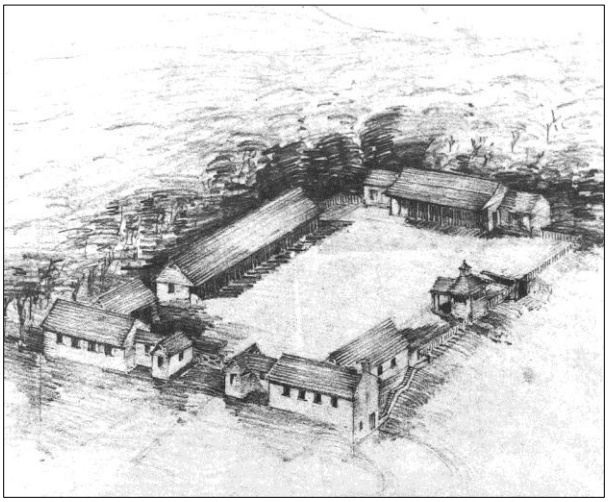

FIGURE 334. Sketch of proposed maintenance area, 1941.

Contributing Patterns of Spatial Organization

- East-to-west road and rail line patterns
- Confederate earthworks and relationship to Kennesaw Mountain/Little Kennesaw Mountain/Pigeon Hill ridgeline and Cheatham Hill
- Union earthworks in lower lying areas facing Confederate earthworks and artillery positions
- Cheatham Hill commemorative landscape and restored open field
- Kolb Farm (portion)
- Wallis Farm (portion)
- National Park boundaries and ownership patterns (portion)
- Restored or surviving open fields defined by woodland vegetation
- CCC camp parade ground
- Maintenance yard configuration

Non-contributing Patterns of Spatial Organization

- Park visitor center
- Park residences (converted to administrative offices)
- Clusters of twentieth-century housing along park boundaries
- Woodland encroaching on and obscuring historic open field patterns

Missing Patterns of Spatial Organization

- Antebellum farmsteads, including portions of Kolb Farm and Wallis House (see above)
- Clearings with commanding views of the landscape associated with infantry and artillery positions now obscured by encroaching vegetation
- Fencing and field patterns associated with antebellum farmsteads
- Hyde House and early park administrative complex

Topographic Modifications

Topographic modifications that are character defining for the park during the Civil War period of significance include surviving evidence of Confederate and Union earthworks. Additional character-defining topographic modifications associated with the early park development period include grading to establish built complexes, such as the maintenance area, and to establish roads and trails that follow a relatively gentle alignment and avoid wet areas.

Kennesaw generally features two types of natural topography, the lowlands and the mountains. Kennesaw Mountain is rocky and has been less conducive to cultivation, while the lowlands, which have been farmed, are more eroded. The naturally-occurring topography of the battlefield remains very similar to that present during the Civil War; the mountains, slopes, and ridges have not eroded sufficiently to change their appearance from the historic period. The three streams in the park—Noonday Creek, Noses Creek, and John Ward Creek—are still located in ravines between the ridges and generally follow their original alignments except where noted below.

Several cultural topographic modifications survive from the Civil War battle period of significance and contribute to the significance of the historic landscape. These include the eleven miles of Civil War earthworks located throughout the park, most of which are Confederate in origin. Notable groupings of earthworks include those that run along the upper western slopes of Kennesaw and Little Kennesaw Mountains and Pigeon Hill and those located leading up to, on top of, or on the eastern slope of Cheatham Hill. Union earthworks are located primarily along the western base of Kennesaw Mountain, along the western boundary of the central portion of the park facing the Noses Creek line, southwest of Cheatham Hill, and southwest of the southern end of the Confederate line.

Cultural topographic modifications associated with the commemorative and early park development period include terracing of the landform for erosion control, and park development activities such as road construction, quarrying to extract road fill material, stream corridor restoration, and erosion control efforts conducted by the CCC between 1938 and 1942. The stream channelization and erosion and mosquito control measures altered the character of some stream segments from the Civil War period, but are significant for their associations with early park development.

The evolution of individual topographic modifications within the park is discussed in more detail below.

Earthworks. Extensive systems of earthworks were associated with the Confederate position atop the high ground of Kennesaw and Little Kennesaw mountains and Pigeon and Cheatham Hills in spring 1864. Union earthworks occupied facing positions.

Most of the earthworks were constructed as linear parapets with borrow ditches to one or both sides. Rifle platforms or rifle pits were sometimes dug adjacent to or in front of the parapets. More complex earthworks form enclosed or partially enclosed polygons were also constructed to support artillery positions, and to ensure cross fire protection where the landform dictated, such as the dead angle salient built atop Cheatham Hill, or to protect likely avenues of approach, such as the Horseshoe built to protect the north-south road corridor extending south from Burnt Hickory Road. The complex system known as Strahl's Fort was sited on a rise overlooking several branches of John Ward Creek to protect the southeast quadrant of the line.

These earthworks systems, described in more detail in the structures section below, were generally between 4 and 12 feet in height, and between 4 and 16 feet in width. They were often reinforced with wooden logs, timbers, and stone. Although the earthworks structures have eroded over time, most Confederate trenches survive with a high degree of integrity today, while the Union trenches have been more negatively impacted by post-war farming, cultivation, and terracing. In generally, these topographic modifications survive with sufficient integrity to convey their historic

associations and contribute to the significance of the historic landscape.

Agricultural terraces. The slopes of Kennesaw Mountain are known to have been terraced for farming after the Civil War to establish level planting areas within the rolling terrain and protect against loss of the region's highly erodible soils. The terraces themselves had a minimal impact on the historic scene. They were often subject to erosion and therefore not long-lived.[318] It is believed that some Civil War earthworks, which typically ran parallel to the contours, were incorporated into the agricultural terrace system after the war. Woodland cover and grass lands generally obscure evidence of these efforts today. These terraces do not relate to identified historic contexts associated with the park's significance, and thus do not constitute contributing resources, although many were present at the time of park establishment.

Illinois Monument grading, terrace establishment. In 1914, on the occasion of the fiftieth anniversary of the Battle of Kennesaw Mountain, the State of Illinois funded a monument dedicated to state troops that had fought in the battle. The monument was set on a relatively level stone terrace accessed by stairs near the Union high water mark. Grading was needed to establish the relatively level terrace within the undulating terrain of the knoll. The monument and terrace and associated grading survive today from the commemorative period of significance and contribute to the significance of the historic landscape. Erosion is currently of concern along the margin of the terrace.

Soil conservation and erosion control measures. During the early park development period in 1934, National Park Service landscape architect Kenneth Simmons submitted a report based on inspection of the escarpments associated with Cheatham Hill, which were relatively steeply sloped but had long been cultivated, were in need of stabilization. He suggested establishing 40 acres of terracing at Cheatham Hill for erosion control.[319] The CWA is known to have conducted work on these terraces later that year. The CCC also constructed several features in the vicinity of Cheatham Hill intended to limit erosion, including filling and grading nearly 6,000 square yards of severely eroded land and building 109 earthen and sod check dams totaling 537 linear feet.[320] Although woodland cover generally obscures much of the evidence of these efforts today, they were instrumental in protecting park resources by establishing a layer of leaf litter that protected the soil resources from the erosive action of storm water. Surviving evidence of these efforts contributes to the significance of the historic landscape.

CCC quarry. In 1939, to facilitate road work, the CCC began operating a quarry and rock crusher on the east side of Kennesaw Mountain.[321] Evidence of this borrow site survives today and contributes to the significance of the historic landscape.

Road construction and grading. Several roads have been built to support park development, including Cheatham Hill Drive and Kennesaw Mountain Drive (Figure 335). Both involved grading to establish a smooth road corridor and associated shoulders and drainage ditches. Construction of these road corridors sometimes impacted nearby earthworks, particularly Kennesaw Mountain Drive, which cuts across the Confederate trench line and occupies a segment of the line at its terminus. The grading of these roads occurred primarily during the period of significance and contributes to the significance of the historic landscape.

318. Ibid., I:2.

319. Capps, 15–16.
320. Ibid., 16.
321. Ibid., 17–18.

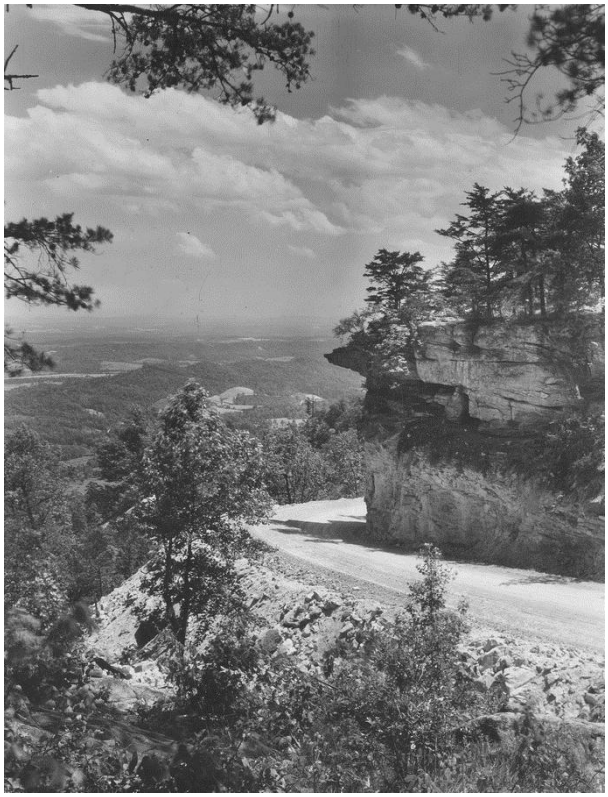

FIGURE 335. View of graded Kennesaw Mountain Drive corridor.

The current parking area near the summit of Kennesaw Mountain was completed to support access to the Kennesaw Mountain overlook in 1964. It is likely sited atop a portion of the Confederate earthwork line and associated grading may have obliterated surviving evidence of these historic resources. It postdates the period of significance and does not contribute to the significance of the historic landscape.

Powder Springs Road has been widened over the years, with associated grading to accommodate shoulders and drainage ditches. These changes postdate the period of significance and have contributed to a diminishment of the integrity of the road corridor.

Kennesaw Mountain Overlook. In 1964, a large stone terrace was built atop Kennesaw Mountain as an observation point for visitors. Construction of the overlook involved grading to accommodate the level platform near the summit of the mountain. The overlook and associated grading efforts postdate the period of significance and do not contribute to the significance of the historic landscape.

Visitor center, residences, and maintenance area grading. Construction of the maintenance area within the park in 1940–1941 required grading to establish a level yard and building site (refer to Figure 32 in the Site History chapter). The complex remains consistent with its early development except for the replacement of an original oil house in 1966 with a new concrete block structure, several small additions to some of the maintenance buildings, and the later construction of new storage structures. The original grading remains in evidence survives with integrity today and contributes to the significance of the historic landscape.

Later Mission-66-funded building projects, including the present-day visitor center, an associated parking area, and two park residences, were graded and landscaped between 1963 and 1966. At the entrance to the new visitor center, a terrace featuring walls and steps was constructed that required grading to establish a level platform. These efforts postdate the period of significance and do not contribute to the significance of the historic landscape.

Inholding development. Privately-held parcels that edge the park have been modified to accommodate residential development. This development has involved extensive modification of the historic landscape including grading and filling of sloping terrain to accommodate built precincts.[322] These changes postdate the period of significance and do not contribute to the significance of the historic landscape.

Parking area grading. Several parking areas have been developed to accommodate park visitors along the public road corridors through the park. These expanses of asphalt-paved roads and parking areas have been graded to comfortably accommodate cars and other vehicles. These parking areas postdate the period

322. National Park Service, *Historic Resource Management Plan*, I:2.

of significance and do not contribute to the significance of the historic landscape.

Contributing Topographic Modifications

- Civil War earthworks
- Illinois Monument terrace establishment
- CWA and CCC soil conservation, erosion control measures, and stream restoration efforts
- CCC quarry
- Grading to accommodate the maintenance complex
- Road construction and grading, Kennesaw Mountain Drive and Cheatham Hill Drive

Non-contributing Topographic Modifications

- Grading to accommodate the Kennesaw Mountain overlook structure, steps, and parking area
- Grading to accommodate the visitor center, terrace, parking, picnic area, and residences
- Parking lots establishment along public road corridors
- Agricultural terracing
- Inholding residential lot development

Missing Topographic Modifications

- Segments of Union earthworks
- Portions of the Confederate line lost to Kennesaw Mountain Drive and parking area development

Land Uses and Activities

The majority of the land uses present within the park today were established during the early park development period of significance, although agriculture, cemetery, and transportation uses were present at the time of the battle and continue to play a role in the park today. Character-defining land uses include park administration, transportation, cemetery, interpretation/museum, commemorative, and agriculture.

The land uses established during the commemorative and early park development period that remain present today include commemoration, interpretation/museum, maintenance, park administration, recreation, utility, and visitor services. These historic land uses continue to function as originally intended, and contribute to the significance of the historic landscape.

Land uses that were present at the time of the battle that are no longer extant, or have lost above ground representation include industrial, military, religious, and residential.

The only land use that postdates the period of significance is the commercial use of the visitor center, which includes a bookstore.

The evolution of individual land uses and activities located within the park is discussed in more detail below.

Agriculture. Due to the presence of fertile soils surrounding Kennesaw Mountain, agriculture was the primary land use in the area between early nineteenth century settlement and the mid-twentieth century, when the area began to change due to suburbanization pressures. Today, some parts of the park are still used for agriculture, primarily through special use permits and other agreements between the National Park Service and local farmers. This use generally supports land management goals as well as interpretive purposes. Agricultural land uses contribute to the significance of the historic landscape due to its connection with traditional activities.

Farming was one of the principal land uses associated with the area prior to and after the Civil War. Cleared agricultural fields were an important landscape feature of the battle, as they allowed for troop movements and provided a field of fire for artillery. However, open areas offered little in the way of protective cover for Union troops forced to attack Confederate positions, such as at Cheatham Hill, subjecting them to devastating artillery fire.

Farming continued to be a primary land use within the region after the Civil War (Figure 336). Cotton became the predominant crop after the Civil War, but had a devastating effect on local soils, leading to erosion, loss of topsoil, and depletion of tilth and fertility.

Farming continued during the commemoration and early park development period. The first resident caretaker of the Cheatham Hill monument parcel during War Department administration of the site between 1922 and 1926, Rev. J.A. Jones, was allowed to cultivate part of the reservation provided this did not interfere with visitor access to the monument.[323] The second caretaker, hired by the War Department, was Benjamin F. Jones, son of the Reverend. He was allowed to farm 30 acres of the site.[324]

FIGURE 336. Farming on the battlefield after the Civil War.

323. Capps, 6.
324. Ibid., 8

Commemoration. Commemoration is represented by the various monuments and markers throughout the park that recognize the contributions of soldiers during the battle. Commemorative land uses have been associated with the park since 1899 when a 60-acre reservation was acquired at Cheatham Hill to mark the site of the Union advance and attack on Confederate entrenched positions. This land acquisition followed several veterans' reunions on the site beginning in the 1880s. In 1914, several monuments were erected by the State of Illinois to recognize the contributions of their troops during the battle, and to honor Col. Dan McCook, who lost his life during the battle. The monument was dedicated on June 27, the fiftieth anniversary of the battle. The dedication of the Illinois Monument was attended by the United Daughters of the Confederacy, the Daughters of the American Revolution, the Marietta Chamber of Commerce, Governor of Illinois, and a large number of veterans. Several smaller markers were also erected to mark the site where Captain Neighbour, Captain Fellows, and Sergeant Coffee were mortally wounded, and where McCook's brigade had formed up for their assault on the Confederate dead angle. The Union tunnel was also marked at this time.[325] These monuments and associated visitor access and interpretive features that support the commemorative land uses on the site survive today with integrity, and contribute to the significance of the historic landscape.

Commercial. The Kennesaw Mountain visitor center currently features a bookstore, which constitutes a commercial land use. This land uses postdates the period of significance and does not contribute to the significance of the historic landscape.

Interpretation/museum. Today, interpretive/museum land uses are supported by the system of trails and interpretive signage located throughout the park, exhibits in the visitor center, and ranger-led tours. Interpretation/museum land uses have been present within the park since the 1930s, and have

325. Ibid., 6.

remained an important component of the park throughout its history. Interpretation/museum land uses survive from the period of significance and contribute to the significance of the historic landscape.

Interpretation of the battlefield began in the 1930s with CWA guides offering tours of the Cheatham Hill area on weekends. Money made available through the CWA program allowed for the hiring of a historical foreman by the National Park Service, who oversaw guides providing information about the battle to visitors. Several trailside exhibits were subsequently established, including a check-in desk, which included a station where visitors could register their visit and learn more about the history of the site (Figure 337). The park also attracted visitors by placing displays of relics and photographs and other images of the historic site in a Marietta hotel and a department store window in the 1930s.[326]

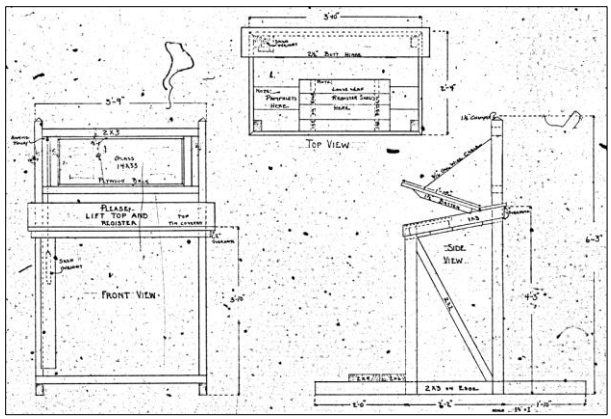

FIGURE 337. Drawing for CCC-era check-in desk.

In 1939, the Hyde House was converted for use as an administrative headquarters for the park. It also provided an introduction for visitors to the historic events and associations of the park. A display board that featured canister, cannon balls, shrapnel, bayonets, and other artifacts found on the field and a painting by L.L. Kelly were later placed near the administrative headquarters building. Also in 1939, trained CCC guides began providing interpretive programs. In 1942, a road established to the summit of Kennesaw Mountain, and a trail leading to Pigeon Hill also provided visitors with an understanding of the battle events.[327] Interpretive exhibits began to be placed around the park at key locations, including the Illinois Monument, Kolb House, and atop Kennesaw Mountain and at Pigeon Hill in the 1940s. In 1948, the Kennesaw Mountain Historical Association was formed for the purpose of assisting with interpretation at the park.[328]

In addition to interpretive signage placed around the battlefield, the visitor center forms the heart of the park's interpretive program. Conceived as part of the Mission 66 initiative, the Kennesaw Mountain National Battlefield Park Visitor Center was designed to include a museum, library, literature, and audio-visual devices and a personnel-based information service. Constructed in 1964, the visitor center replaced the use of the Hyde House, which was subsequently demolished. The visitor center featured interior exhibits and living history programs conducted in the field outside the building. To supplement the interpretive programming available at the visitor center, the National Park Service designed two tours that began at the visitor center and ended at Cheatham Hill. Paintings interpreting the events of the battle were commissioned by Sidney King, and located along primary interpretive routes. The living history programs continued outside the visitor center until 1984, when they were shifted to Cheatham Hill due to overcrowding and the more historically accurate nature of Cheatham Hill's setting. Today, interpretive programming remains an important part of park management, and is focused at the visitor center and in the form of limited waysides located at primary trailheads and parking areas within the park. This land use survives from the period of significance and contributes to the significance of the historic landscape.

Lodging. The Kolb House is often used to house park visitors and interns for short periods. This constitutes a lodging land use. The use postdates the period of significance and does not contribute to the significance of the historic landscape.

326. Ibid., 27.

327. Ibid., 35.

328. Ibid., 60.

Maintenance. During the late 1930s and early 1940s, the National Park Service established a maintenance complex on the knoll above Old U.S. Highway 41 near the Hyde House. The complex survives today in the same location, with many of the original buildings extant. This land use survives from the period of significance and contributes to the significance of the historic landscape.

Park administration. The National Park Service established an administrative headquarters in an existing late-nineteenth-century dwelling, the Hyde House, in the 1930s. Offices and other administrative uses were housed in the former dwelling until construction of the visitor center in 1964. The park residences now accommodate this function. Although the location has changed, administrative uses have been continuously provided within the park since the period of significance and contribute to the significance of the historic landscape.

Recreation. Recreation is an important land use of the park today; because of the increase in residential development in the area, many local residents, lacking other resources, use the park for walking, running, hiking, and nature study. These recreational activities have also been associated with the park since its establishment. These uses continue today and thus contribute to the significance of the historic landscape.

Recreational uses have been curtailed within the park since the 1960s. During the 1970s, the growth of residential developments nearby led to increasing use of the park as a local recreational facility. Picnicking, kite flying, sunbathing, and other recreational activities were pervasive within the park, especially during the weekends.[329] In the 1980s, recreational use of the park had become of serious concern to park rangers, leading to traffic problems, overcrowding, abuse of the landscape, and vandalism. The park, hoping to emphasize its historical mission, shifted recreational uses to designated areas, and restricted certain activities in others. These designated recreation areas were located along Cheatham Hill Road just south of Dallas Highway, off Old U.S. Highway 41 east of the headquarters, and off of Stilesboro Road east of the headquarters.[330] Camping was discontinued in 1972. A picnic area established at Cheatham Hill was also moved in the late 1970s or early 1980s to its present location along Cheatham Hill Road. This land use survives from the period of significance and contributes to the significance of the historic landscape.

Transportation. Several primary road corridors, as well as the Western & Atlantic Railroad rail line, extended through the Kennesaw Mountain National Battlefield Park landscape by June1864. These primary roads and the rail line generally followed east to west alignments and provided access to larger communities some distance away. These travel corridors, including the rail line, survive today and continue to convey their important historic associations, although they have been altered through widening and resurfacing. This transportation-related land use contributes to the significance of the historic landscape.

Utility. Park utility land uses have included the collection and distribution of potable water, the establishment of sewer lines and systems, and the extension of electrical lines, telephone, and more recently gas and cable service to park buildings. A 20,000 gallon water tank was developed on the side of Kennesaw Mountain to support park needs in 1940. Septic systems were used in association with park buildings until 2007, when the park was connected to the Cobb County sewer system. Electrical lines were extended from public road corridors to park buildings beginning in 1938 when regional electricity provider Cobb EMC was established. These utility systems have continued to support park and visitor uses and activities since the 1930s. This utility land use survives today within the park, although some individual systems have been replaced. Utility land uses contribute to the significance of the historic landscape.

Visitor services. Visitor services available at the park include ranger-led tours, drinking fountains, picnic areas, and restrooms. Tours have been

329. Ibid., 50.

330. Ibid., 51.

offered to visitors since the 1930s, and other services have been made available as part of park facilities since adaptive reuse of the Hyde House as a park administration building beginning in 1939. Today, many of these services are offered in the visitor center. This use therefore survives from the period of significance, although the specific programs and venues have mostly changed since the early park development period of significance. Visitor services land uses contributes to the significance of the historic landscape.

Missing Land Uses.

Military. The Civil War battles that occurred at Kennesaw Mountain relate to military land uses. These activities were short-lived, and occurred between June 19 and July 2,1864.

Education. During the late nineteenth and early twentieth century, a schoolhouse is known to have existed near Stilesboro Road. The schoolhouse and associated educational land uses do not survive today.

Industry. At the time of the Civil War, there were several industrial sites present within the Kennesaw Mountain landscape, including Hardage's Mill and a saw or grist mill associated with the Kolb Farm. These uses do not survive today.

In 1939, to facilitate road work, the CCC began operating a quarry and rock crusher on the east side of Kennesaw Mountain.[331] This quarry is no longer in use. There are currently no industrial land uses associated with the park.

Religion. Two churches present within the battlefield landscape at the time of the battle—the Shiloh Church and the New Salem Church—are no longer present on the site today. It is not known whether there were other churches associated with the site after the war. In 1951, the Cobb County Ministerial Association and the Marietta Chamber of Commerce inaugurated the Easter sunrise service on Kennesaw Mountain.[332] In general, this land use, which was part of the landscape during the period of significance does not survive.

Residential. Although two park residences were built near the visitor center in 1965, these buildings currently serve as administrative offices. The Kolb House is infrequently used to house special park guests. Otherwise, the residential land uses that were present and associated with homesteads scattered throughout the region at the time of the Civil War and at the time of park establishment are no longer extant and this land uses is no longer a component of the historic landscape.

Contributing Land Uses and Activities

- Agriculture
- Commemoration
- Interpretative/museum
- Maintenance
- Park administration
- Recreation
- Transportation
- Utility
- Visitor services

Non-contributing Land Uses and Activities

- Commercial
- Lodging

Missing Land Uses and Activities

- Education
- Industry
- Military
- Religion
- Residential

331. Ibid., 17–18.
332. Ibid., 61.

Circulation

Several public roads, park drives, and trails survive within the park from the period of significance, contribute to and are character-defining for the historic landscape. Of the four primary road corridors that pass through the park, all were present at the time of the Civil War Battle of Kennesaw Mountain. Three retain integrity and contribute to the significance of the historic landscape They include Stilesboro Road in the northern part of the park, Burnt Hickory Road just south of Pigeon Hill, and Dallas Highway located to the north of Cheatham Hill. Powder Springs Road, located along the southern edge of the park, has been realigned and widened and has lost integrity. The Western & Atlantic Railroad rail line that passes through the park's northern section was also present at the time the battle was contested, survives with integrity, and contributes to the significance of the historic landscape. Also character-defining is the general east-west orientation of these primary road corridors.

Several secondary roads also pass through the park that can be traced to origins within the mid nineteenth century. These include Gilbert, Old Mountain, and Ridenour roads. Additional nineteenth century road traces are present, or have been assimilated into park trails and fire roads. These include Old John Ward Road and Big Kennesaw Antebellum Road. These corridors retain sufficient integrity to contribute to the significance of the historic landscape.

Two roads were established during the early park development period that also contribute to the significance of the historic landscape. These include Kennesaw Mountain Drive and Cheatham Hill Drive. Changes have been made to both roads and their associated parking areas since the end of the period of significance, but they otherwise retain sufficient integrity to continue to convey their historic associations.

Minor circulation patterns include pedestrian and equestrian trails, some of which follow the traces of old roads, which generally lead in a north-south orientation through the park, and maintenance area access roads. Many of these trails were established by or developed during the early park development period of significance. Trails that survive from the period of significance, including the trail along the Kennesaw Mountain Ridge and between the Cheatham Hill parking lot and the Illinois Monument, contribute to the significance of the historic landscape.

Post-dating the period of significance are the access road and parking area associated with the visitor center and nearby park residences, the several large parking facilities located along primary road corridors, the Kennesaw Mountain overlook parking area, and the equestrian trailer parking facility near Powder Springs Road. There are also several minor roads that edge the park and provide access to the many residential subdivisions along the park's boundaries that postdate the period of significance, such as Greymont Circle, Parkside Trail, Ward Creek Drive, and Early Winter Drive.

At the time of the battle, a network of secondary or smaller roads crisscrossed many portions of the landscape within contemporary park boundaries.[333] Except for those that have been incorporated into existing pedestrian trails, most of these do not survive.

The evolution of individual circulation features located within the park is discussed in more detail below.

Primary Roads.

Stilesboro Road. (LCS 090149; park structure HS-24). Stilesboro Road is a two-lane asphalt-paved state road that extends for 1.5 miles in an east and west direction within the park's northern section. Stilesboro Road is thought to have been constructed circa 1840. It facilitated troop movements during the Battle of Kennesaw Mountain. Historic accounts indicate that Federal troops and earthworks were positioned to either side of Stilesboro Road in spring 1864. As the Federals prepared to initiate their mountain

333. National Park Service, "Historic Ground Cover Study Map."

diversion, they moved across the road toward the entrenched Confederates.[334]

CCC workers were later involved in erosion control measures along the road corridor in the early 1940s that involved grading the shoulders and back slopes and planting vegetation along its margins.

Today, Stilesboro Road extends through a large stretch of the park's northern section. It generally parallels the Western & Atlantic Railroad rail line. Much of the road corridor is heavily wooded through the park. The road does not offer views of adjacent development, although its character is affected by views of the park's Recreation Area 1 and associated parking facilities, as well as the open land cover and fields around the visitor center , and the area near its intersection with Gilbert Road. Within the park, Stilesboro Road generally possesses integrity of location and association, but has diminished integrity of feeling, setting, design, materials, and workmanship. Nonetheless the road possesses sufficient integrity through the park to convey its historic associations and it contributes to the significance of the historic landscape.

Burnt Hickory Road. (LCS 090148; park structure HS-23). Burnt Hickory Road is a two-lane asphalt-paved state road that extends through the middle of the park for 2 miles in an east to west direction. Burnt Hickory Road was present by the Civil War and was associated with troop movements during the Battle of Kennesaw Mountain. It is thought to have been constructed circa 1840. Earthworks are located within proximity of the road or within its right-of-way. In the vicinity of Pigeon Hill, CCC workers were involved in erosion control measures along the road corridor in the early 1940s that involved grading the shoulders and back slopes and planting vegetation along its margins (Figure 338 and refer to Figure 23 in the Site History chapter). Today, Burnt Hickory Road travels along the base of Kennesaw Mountain through a mixture of wooded and open areas. Outparcels edge the road to the west and southwest of Pigeon Hill. These outparcels have been developed with residential lots, visible from the road, and in the historic viewshed of the earthworks located on the knoll. A large field is maintained in open vegetative cover south of the road and below Pigeon Hill to interpret the historic Hardage House property across which Brig. Gen. Joseph Lightburn's brigade approached Confederate positions on Pigeon Hill. Additional open fields are located north of the road near the western park boundary. Burnt Hickory Road possesses integrity of location and association, but has diminished integrity of feeling, setting, design, materials, and workmanship due to changes in the road surface and the visibility of residential properties along the corridor. Development along the road remains the primary threat both to its condition and integrity. Nonetheless the road possesses sufficient integrity through the park to convey its historic associations.

FIGURE 338. Burnt Hickory Road, 1941.

Dallas Highway. (LCS 090145; park structure HS-21). Dallas Highway is another two-lane asphalt paved state road that extends 0.5 miles in an east to west direction within the southern half of the park. Dallas Highway is believed to date to circa 1840. The road facilitated troop movements associated with the Battle of Kennesaw Mountain. Historic accounts suggest that Union troops moved along the road prior to and during the battle. Several earthworks are located within the road's right-of-way.[335] CCC workers were involved in erosion control measures along the

334. Blythe, Carroll, and Moffson, Section 7, page 7.

335. Ibid.

road corridor in the early 1940s that involved grading the shoulders and back slopes and planting vegetation along its margins.

In 1985, the Georgia Department of Transportation announced plans to widen Dallas Highway from the Cobb-Paulding line east into Marietta. The two-lane section through the park was proposed to be widened to four lanes. The National Park Service refused to grant the state an easement on park land that would facilitate the road widening project due to the negative impact it would have on historic resources. The National Park Service recommended that the Georgia Department of Transportation consider funneling traffic away from Burnt Hickory Road and Dallas Highway north onto Old U.S. Highway 41 and I-75 to relieve pressure on the local roads. The proposal to widen the road remains unresolved. The road corridor as it passes through the park today is generally wooded. There are no residential developments visible from the road as it passes through the park. Two open fields are maintained south of the road by the park to interpret historic conditions associated with the Dr. Ballenger and Gin properties. Dallas Highway possesses integrity of location, setting, feeling, and association within the park boundaries, but has diminished integrity of design, materials, and workmanship. Development along the road remains the primary threat both to its condition and integrity. Nonetheless the road possesses sufficient integrity through the park to convey its historic associations, and it contributes to the significance of the historic landscape.

Powder Springs Road. Powder Springs Road is a three-lane asphalt-paved state road that runs 0.75 miles through the park along its southern boundary. Like the primary road corridors described above, Powder Springs Road is thought to have been established through the area by 1840. It was instrumental in military troop movements during the Civil War, and involved in the skirmish known as the Battle of Kolb Farm contested on June 22, 1864. The Kolb House is sited along, and integrally linked to the road corridor. Today, residential subdivisions edge the southern margin of the road, while the park forms its northern edge. There road developments have affected the setting of the Kolb House.

In the 1930s, Powder Springs Road was realigned and paved. It has been gradually widened over the years and aligned away from its historic roadbed. Cobb County proposed widening the road to four lanes in 1984. Although the County owns enough land within the right-of-way to widen the road, it requested an additional easement across park lands to accommodate construction of road shoulders, safety slopes, and drainage channels. The National Park Service agreed to grant the easement to protect the character and historic scene around the Kolb House because, without it, the road would have required curbing, vertical concrete retaining walls, and guard rails that would have served as a visual impairment.[336] Powder Springs Road has been sufficiently altered sufficiently that it has lost its historic integrity. Planned road improvements will further diminish its historic associations. Powder Springs Road thus does not contribute to the significance of the historic landscape.

Old U.S. Highway 41. Old U.S. Highway 41 crosses the northern portion of the park. When built, it replaced the Marietta-Cassville Road, a trace of which survives across Stilesboro Road north of the of the visitor center. Old U.S. Highway 41 was established through the area in the 1940s. CCC workers were involved in erosion control measures along the road corridor in the early 1940s that involved grading the shoulders and back slopes and planting vegetation along its margins.[337] Construction of Old U.S. Highway 41 made access to the park difficult, and despite developing plans to create a designated park entrance road or a loop road that would facilitate passage among the parcels separated by major arterials, funding was not forthcoming and these plans were never implemented. Although the Georgia Department of Transportation has proposed widening the road to four lanes, including through the park, this has not been accomplished. Cobb County has built a multi-use trail along the road corridor, however. As part of

336. Capps, 54–55.
337. Ibid., 18.

trail development, the roadside parking associated with Recreation Field 1 was eliminated, and the county acquired properties from the CSX Railroad to build a larger parking area. The county completed construction of the new parking lot on the property with space for more than 270 cars in 2011. The lot is in the process of being transferred to the park. This road has been sufficiently altered that it no longer possesses integrity and does not contribute to the significance of the historic landscape.

Secondary Roads.

Old John Ward Road. (LCS 090146, Park structure HS-20). John Ward Road led south from Dallas Highway at the time of the Civil War. The road is thought to have been established as early as 1840, with alterations conducted in association with military activities in 1864. The road remained unimproved until Cobb County paved it in 1963. The northern section of the road falls within the park and has been incorporated into the western trail system. The trail that follows the former road alignment contributes to the significance of the historic landscape

Gilbert Road. (LCS 090147, Park structure HS-22). Gilbert Road is a one-and-one-half-lane-wide gravel county road that extends for one mile in a north to south direction between Stilesboro Road and Old Mountain Road, and for 600 yards within the park. It is also thought to have been built circa 1840, and possibly improved in 1864 by the Confederate army to facilitate troop movements. The surface of the road has been graded or graveled since at least 1974, but historically was hard-packed earth.[338] Erosion is the primary threat to the road within the park. The road passes through residential subdivisions east of the park, and a combination of woodland and fields within the park; few residential developments are currently visible from the road. Gilbert Road possesses integrity of location, setting, feeling, and association within the park, and contributes to the significance of the historic landscape.

Old Mountain Road is a two-lane asphalt-paved state road that runs 1.4 miles north-to-south along the lower slope of Kennesaw Mountain, Little Kennesaw Mountain, and Pigeon Hill between Stilesboro and Burnt Hickory roads. It passes through a very short segment of the park near Stilesboro Road, and otherwise forms the boundary of the park along the base of Kennesaw Mountain. The road was present at the time of the Civil War and survives in a similar alignment today, although it has been widened and paved since the nineteenth century. Large lot residences have been built along the road since the 1980s that are visible from the park. Old Mountain Road nonetheless retains sufficient integrity to contribute to the significance of the historic landscape.

Ridenour Road. Ridenour Road extends north from Old U.S. Highway 41 through a small section of the park. Remnant Union earthworks are located along the eastern margin of the road. A similar road appears to have extended from the Marietta-Cassville Road during the mid-nineteenth century. The alignment appears on a 1937 plat associated with a residential property and is indicated as a public road. Originally an unimproved hard-packed earth road, Ridenour Road was paved by Cobb County in 1963. It appears to survive from the period of significance and contribute to the significance of the historic landscape.

Park Roads.

Kennesaw Mountain Drive. Kennesaw Mountain Drive is a 22-foot wide, asphalt-paved road that leads from the visitor center to the summit of Kennesaw Mountain. The road cuts across the main line of Confederate entrenchments in several locations (refer to Figure 33 in the Site History chapter), and the parking lot sits atop 200 yards of trenchlines near the mountain summit.[339] The Kennesaw Mountain Drive replaced an earlier road to the mountain summit constructed by the Kennesaw Mountain Association in the 1920s to facilitate resort

338. National Park Service, "List of Classified Structures."

339. National Park Service, *Historic Resource Management Plan,* II:1.

development (refer to Figure 325). The original road was rough and dangerous. After 1935, the National Park Service improved it for use as a work road but it remained closed to the public and was eventually abandoned. This road is no longer extant within the landscape today, except in some places as a trace.

In 1939, National Park Service engineers began to consider options for improving the road. Plans to construct a loop road proved too intrusive and, as a result, construction began in 1941 on a new two-lane road that terminated 100 feet below the crest to accommodate parking and a turnaround. The onset of World War II and the associated termination of the CCC program left the road incomplete in 1942. The National Park Service continued to maintain the road as possible, and it was used by hikers and as a fire road. The road was finally completed in 1950 when then upper portion was widened and a fifteen-car parking lot was constructed.[340] The Georgia Hall of Fame Committee Memorial (Kennesaw Mountain) Overlook was constructed in 1964 at the terminus of the road. To support access, the parking area was enlarged to accommodate 33 cars.

During the 1970s, the road became very popular and was heavily used. By 1974, an average of 1,000 cars traveled the road on a busy Sunday. With only enough parking for thirty-three cars at the top, people began to park along the road, further interfering with traffic. As a result, private auto use was restricted on the weekends and visitors were offered bus service. This eliminated the congestion and parking problems. The increased presence of park personnel also served to diminish looting and littering.[341] Although not completed until 1950, the Kennesaw Mountain Drive was substantially completed during the period of significance and contributes to the significance of the historic landscape. The parking area postdates the period of significance and does not contribute.

Cheatham Hill Drive. (LCS 090156; park structure HS-26). Cheatham Hill Drive is a 3,400-foot-long, 22-foot wide, asphalt-paved road that leads from Dallas Highway to the summit of Cheatham Hill. Cheatham Hill Drive was constructed from Dallas Highway to the hill north of the Illinois Monument by CCC labor housed at the park between 1939 and 1941. In March 1940, fifty CCC workers began construction of the gently curving entrance road from Dallas Highway to Cheatham Hill that skirted the Confederate earthworks, before culminating in a parking area north of the Cheatham Hill redoubt adjacent to Mebane's Battery.[342] The road was graded and surfaced with six inches of rolled stone from the nearby quarry, which is still located within park boundaries today. Culverts with stone headwalls, as well as drainage swales, were also constructed. The Old War Department Road to the southeast was abandoned in favor of the new connection to the north. By December 1940, the CCC had also completed a 160-by-100-foot parking area. The road was officially opened in March 1941. Work, however, continued after the official opening, as CCC workers conducted additional grading and fill projects, as well as seeding and sodding of the roadsides. In June 1941, the road was repaved by a road crew from Great Smoky Mountains National Park.[343] The road has been repaved since the 1940s, with the current asphalt constructed with Mission 66 funding in July 1963.

The road replaced an earlier three-quarter-mile access drive developed by the War Department from John Ward Road past the Channell House and barn that is no longer extant within the landscape today (Figure 339). The original road extended across the adjacent Channell property through a dedicated easement. The earlier road circumnavigated one of the Confederate fortifications to its east, before entering the property through a gate along its northern margin. The original road continued south to the Illinois Monument, ending just west of the monument. The proposed new road was originally designed to extend to the monument base. In its final form, the road ended some distance to the north of the monument to protect its setting.

340. Capps, 18.
341. Ibid., 51.
342. National Park Service, "List of Classified Structures."
343. Capps, 18.

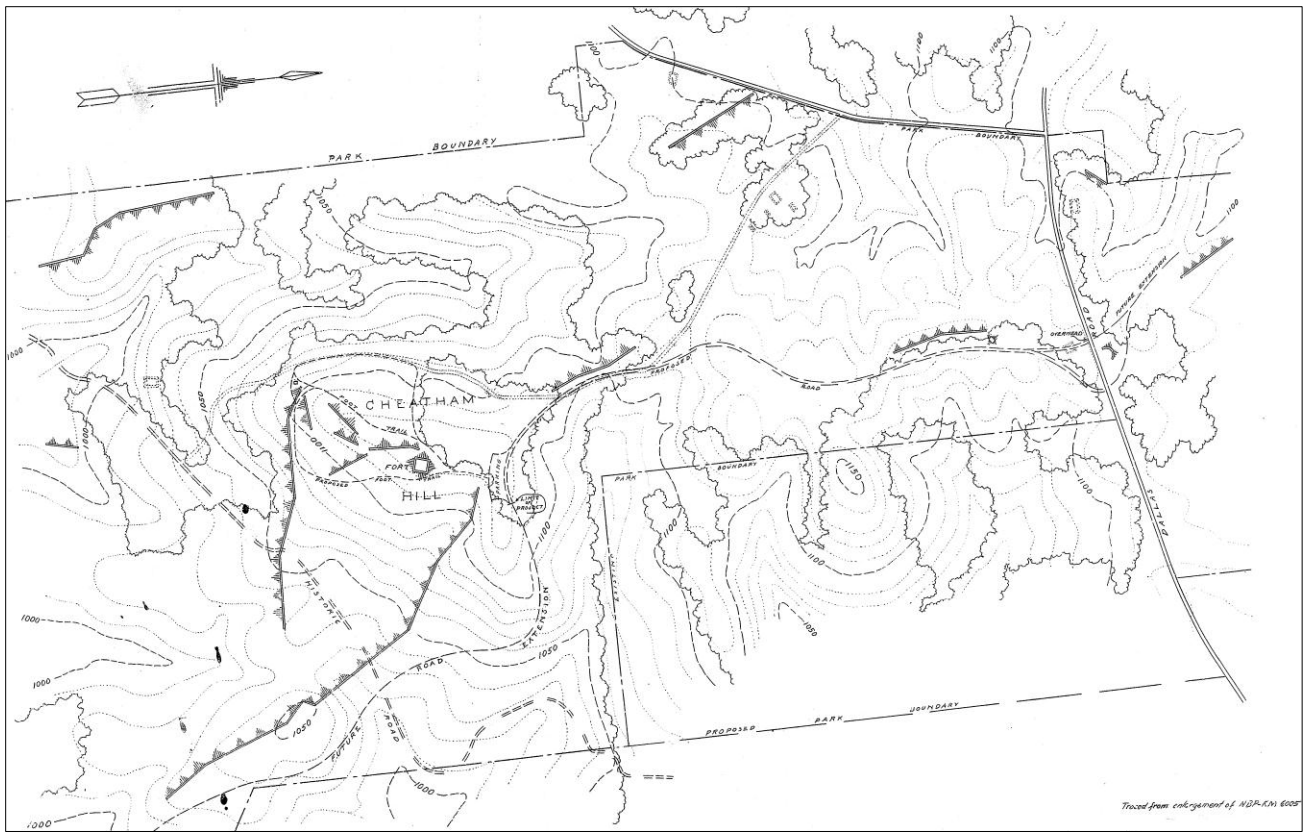

FIGURE 339. Existing and proposed roads at Cheatham Hill, 1939.

The new road was suggested shortly after transfer of the Cheatham Hill parcel from the War Department to the National Park Service in 1933. Monies were requested from Congress for the purchase of approximately 12 acres through which the road would be built. Drawings of the property and the proposed road indicate that a larger parcel totaling 39.5 acres was under consideration by 1934 for this access route. During this time, Cobb County also worked on improving Dallas Highway.[344]

In 1963, the drive was treated with asphalt and rock. It was repaved in 2001.[345] The road survives with integrity from the early park development period and contributes to the significance of the historic landscape.

Access road to the maintenance area. The park's maintenance area was built during the early park development period using CCC labor. The current access road and paved yard were completed as part of the development. These circulation features survive from the period of significance and contribute to the significance of the historic landscape (refer to Figure 333).

Access road to Cobb County Youth Museum. In 1966, the Cobb County Youth Museum, which owns a parcel adjacent to the Cheatham Hill tract, requested that the park grant them an easement for an access road arising from Cheatham Hill Drive. The park eventually granted the easement to the museum, and the access road was built from Cheatham Hill Drive to the museum under the terms of a special use permit.[346] This road postdates the period of significance and does not contribute to the significance of the historic landscape.

344. Ibid., 15.
345. National Park Service, "List of Classified Structures."
346. Capps, 50.

Visitor center access road. The access road associated with the visitor center was completed in 1966 to accommodate use of the new building completed in 1963–1964. The visitor center access road modified the earlier configuration of the park entrance road and its connection to Kennesaw Mountain Drive and the Hyde House, which served as the visitor contact station beginning in 1939. This access road postdates the period of significance and does not contribute to the significance of the historic landscape.

Terrace, steps, and stepping stones around the visitor center. Access to the visitor center, which sits above the parking area, occurs via flights of steps that lead to a stone terrace at the entrance into the building. The slate, concrete, and brick entrance terrace, steps, and stepping stones around the visitor center were completed circa 1966 by Scott's Landscaping and Grading Company.[347] In the 1970s, a ramp was added between the parking area and the terrace to provide universal access to the visitor center entrance. These features postdate the period of significance and do not contribute to the significance of the historic landscape.

Road to the administrative offices. The two administrative office buildings on the hillside overlooking the visitor center were built as residences during Mission 66 in 1965. To provide access to the buildings, a short spur road and shared parking area were built from the road leading to the maintenance yard. This road and parking area was completed circa 1966 by H&H Construction Company of Marietta.[348] These features postdate the period of significance and do not contribute to the significance of the historic landscape.

Parking Areas.

Visitor center parking area. The visitor center parking area, which arises near the intersection of Stilesboro Road, Old U.S. Highway 41, and Kennesaw Avenue, and also services the nearby picnic area, was established in 1966. It accommodates eighty cars. The parking area postdates the period of significance and does not contribute to the significance of the historic landscape.

Recreation Area 1 parking area. In 1984, a General Management Plan prepared for the park delineated several recreation areas to be developed for the use of local visitors. Parking areas were developed along the roadside to support the recreation areas. Recreation Area 1 was served by a parking area located along Old U.S. Highway 41. After Cobb County installed a multi-use trail along Old U.S. Highway 41, the roadside parking area was eliminated and the county acquired property from the CSX Corporation. The county constructed a new parking lot on the property for more than 270 cars in 2010. This lot is slated to be transferred to the park. It postdates the period of significance and does not contribute to the significance of the historic landscape.

Recreation Area 2 parking area. Also located along Old U.S. Highway 41 is a large parking area that serves Recreation Area 2. This parking area was developed in 2010 based on proposals included in a 1984 General Management Plan (GMP) prepared for the park. It postdates the period of significance and does not contribute to the significance of the historic landscape.

Recreation Area 3 parking area. Located west of Cheatham Hill Road is a large parking facility for visitors to the park. An unpaved parking area was developed after 1984 to serve Recreation Area 3 based on proposals included in the GMP. The parking area was paved in 2006 and further improved circa 2009. It postdates the period of significance and does not contribute to the significance of the historic landscape.

Gilbert Field parking area. Located along Gilbert Road in the northwestern portion of the park is the Gilbert Field Parking area. This parking area includes three non-marked roadside spaces developed circa 1974. It postdates the period of significance and does not contribute to the significance of the historic landscape.

347. Ibid., 23.
348. Ibid.

Burnt Hickory Road parking area. Visitor parking that provides access to Pigeon Hill and the trails within the middle section of the park follows the southern margins of Burnt Hickory Road near its intersection with Old Mountain Road. The date that this parking area was established is not currently known, although records indicate that it was and paved in 1979. It appears to postdate the period of significance, and thus does not contribute to the significance of the historic landscape. The parking lot was expanded to include seventy-two parking stalls in 2011.

Horse trailer parking area. This parking area is located near the southern end of Cheatham Hill Road near its intersection with Powder Springs Road. The parking area was added circa 1987 to accommodate equestrian use of park trails. It postdates the period of significance and does not contribute to the significance of the historic landscape.

Kolb House circulation. In the late 1970s, the park replaced an earlier parking area providing visitors with access to the Kolb House property.[349] The exiting parking area thus postdates the period of significance and does not contribute to the significance of the historic landscape. A grounds improvement plan dated 1965 illustrates the location of the extant drive, as well as an old road bed leading east of the house from Powder Springs Road, a proposed service road leading to a shed south of the dwelling, and a stepping stone path leading to the back door.[350] The circulation features present on the site today appear to be based on this plan and therefore do not contribute to the significance of the historic landscape.

Illinois Monument Parking Area. The primary parking area for visitors to the Illinois Monument is the Cheatham Hill parking area located at the end of Cheatham Hill Drive north of the monument. The first road built by the War Department to access the property led nearly to the base of the monument. The parking area was relocated in 1935 north of the monument by the National Park Service, and updated in 1940 as part of the construction of Cheatham Hill Drive. Over the years, signage and bollard systems have been added along the margins of the parking area, diminishing its integrity of feeling. Otherwise, the parking area survives from the early park development period with integrity, and contributes to the significance of the historic landscape.

Road Traces.

Big Kennesaw Antebellum Road. (LCS 090198; park structure HS-19). The Big Kennesaw Antebellum Road currently survives only as a trace in the landscape, but can be viewed from Kennesaw Mountain Drive, the CCC camp road , and the hiking trail that extends from the visitor center to the summit of Kennesaw Mountain. The Big Kennesaw Antebellum Road is thought to have been constructed circa 1840, and possibly completed in 1864 by the Confederate army, which used it to gain access to the top of the mountain. It is approximately 1,500 feet long and ascends the mountain beside a line of Confederate earthworks. Visitor access has led to erosion and deterioration near both the crest and the toe of the mountain. The road trace was assessed in poor condition in 2010 due to neglect and these erosion problems. Dense woody vegetation is now growing within and around the road trace.[351] As a historic resource, primarily archeological in nature, the trace contributes to the significance of the historic landscape.

Trace of the Marietta-Cassville Road. Directly across Stilesboro Road from the visitor center is a segment of the sunken historic trace of the Marietta-Cassville Road, which was present at the time of the battle and was a major nineteenth-century thoroughfare along which several dwellings were located. Evidence of this trace, which is primarily an archeological resource, contributes to the significance of the historic landscape.

349. Ibid., 25.
350. National Park Service, "Kolb House Grounds Improvement," part of the Master Plan, drawing NBP-KM 3002C, January 15, 1965.
351. National Park Service, "List of Classified Structures."

Little Kennesaw military trace road. A trace of a route used by Confederate forces to convey their cannon to the crests of Kennesaw Mountain during the battle exists in the park today, although it is overgrown with vegetation.[352] To arm the forts atop Little Kennesaw Mountain, Confederate soldiers had to haul cannon up the steep side slopes to support the line. Maj. Charles Storrs commanded the artillery on that section of the line. Evidence of this trace, which is primarily archeological in nature, contributes to the significance of the historic landscape.

CCC camp road. The CCC camp road enters the park from Kennesaw Road and encircles the former CCC parade ground. It is gravel paved. The road trace serves as a trailhead for the eastern park trail system. Evidence of this trace contributes to the significance of the historic landscape.

CCC road to Kennesaw Mountain. In 1939, the CCC built a work road from their camp site to the top of Kennesaw Mountain.[353] The upper part of the road follows and is located beneath the current paved road. Another portion has been incorporated into the trail between Kennesaw Avenue and the mountain summit. A small section of the CCC road is not currently in use. Evidence of this trace, which is primarily archeological in nature, contributes to the significance of the historic landscape.

Rail line.

Western & Atlantic Railroad. In 1842, the Western & Atlantic Railroad, which crosses the northern section of the park, was built south from Chattanooga, passing through Marietta and Cobb County into what is now Atlanta. The rail line was built to serve an area of increasing agricultural and industrial production.[354] The rail line was a focus of a Union sabotage effort in 1862 when raiders stole a locomotive and used it to destroy track and military features along the line to the north of Kennesaw.[355] Today, the Western & Atlantic railroad, which extends along a right of way through the park, is owned by the State of Georgia and leased by the CSX Corporation. Although the steel track and creosote-soaked cross-ties are replacements, the rail line follows the historic alignment present during the Civil War and retains sufficient integrity to contribute to the significance of the historic landscape.

Trails.

Hiking and equestrian trails. Sixteen miles of walking and equestrian trails exist within the park. The earliest trails associated with the park are located at Cheatham Hill and are of CWA construction. Some trails associated with Kennesaw Mountain also date to the CCC period. Other trails within the park appear to date to later periods, but sometimes follow the traces of old roads, such as the section of the western trail south of Dallas Highway that follows the historic alignment of Old John Ward Road. The park's eastern trails are wider and more improved. These trails accommodate equestrian use and maintenance vehicle access. The trails associated with the western side of the park are more narrow. These unimproved footpaths are surfaced with hard-packed earth. While most of the trails are surfaced with gravel, mulch, or hard-packed earth, a few of the more heavily-used and universally-accessible trails are paved in asphalt. For example, the trail leading from the Kennesaw Mountain overlook to the summit of the mountain is asphalt-paved.

In 1975, the National Park Service entered into an agreement with the Youth Conservation Corps (YCC) to provide labor for trail stabilization, erosion control, and footbridge construction.

The trails have been improved over the years, often using YCC labor, to address erosion control problems through grading, the addition of water bars, and resurfacing. Many of the trails incorporate stair sections. These are constructed of a variety of materials, including wood and gravel, stone, and concrete. All of the stair features appear to postdate the period of significance.

352. National Park Service, *Historic Resource Management Plan*, I:6.
353. Capps, 59.
354. Ibid., 1.
355. Moore, Cooper, and Walker, 6.

More specific information about individual trails is provided below.

Cheatham Hill trails. In 1934, a trail was constructed from the Cheatham Hill access road parking area to the Illinois Monument by the CWA. This trail was specifically designed to avoid impacting the earthworks. Additional trails were soon proposed by park Superintendent Randolph, and by 1935, 537 linear feet of trails had been built within the area (Figure 340).[356] It appears that many of the existing trails within the Cheatham Hill area were completed during this period of early park development period and thus contribute to the significance of the historic landscape.

FIGURE 340. Trail at Cheatham Hill.

Kennesaw Mountain trails. After the acquisition of Kennesaw and Little Kennesaw mountains for inclusion in Kennesaw Mountain National Battlefield Park, the National Park Service began constructing trails in the early 1940s to provide access to the site and its resources. A hiking trail and road were built to provide access to the summit of Kennesaw Mountain. The trail was then extended along ridge to Little Kennesaw and Pigeon Hill. The Kennesaw Mountain Trail is a steep, 10- to 15-foot wide, nearly 1,500-foot long unpaved path that winds up the east face of Kennesaw Mountain. Some sections of the trail were part of the road used by the Kennesaw Battlefield Association and the CCC to access the mountain. Access to a portion of the Little Kennesaw Mountain trail occurs via a set of concrete steps with a metal handrail added after the period of significance.

In June 1964, a 0.20 mile section of trail from the Kennesaw Mountain overlook parking lot to the summit was paved with asphalt. Between 1965 and 1968, the trail between the visitor center and the summit and from Kennesaw Mountain to Little Kennesaw Mountain was improved. Timber and brush was cleared, the trails were marked, and erosion control devices were installed. The trails located atop Kennesaw Mountain date to the early park development period and contribute to the significance of the historic landscape.

Boy Scout trails. A 6-mile-long hiking trail was built in 1963 for use by the Boy Scouts of America. In 1964, the trail was improved and extended to include a second 14-mile section. The trail incorporated existing roads, fire trails, and foot trails.[357] In 1966, the 20-mile trail was rerouted wherever possible to eliminate 10 miles of vehicular road use.[358] The existing Boy Scout trail system postdates the period of significance and does not contribute to the significance of the historic landscape.

356. Capps, 16.

357. Ibid., 61.
358. Ibid., 62.

Contributing Circulation.

- Western & Atlantic Railroad rail line
- Stilesboro Road
- Burnt Hickory Road
- Dallas Highway
- Gilbert Road
- Old Mountain Road
- Old John Ward Road (portions)
- Ridenour Road
- Cheatham Hill Drive
- Kennesaw Mountain Drive
- Old Antebellum Road (trace)
- Military road to the crest of Little Kennesaw Mountain (trace)
- Marietta-Cassville Road trace
- CCC camp road
- CCC road to the summit of Kennesaw Mountain
- Maintenance yard access road and courtyard
- CCC and CWA trails at Cheatham Hill, Kennesaw Mountain

Undetermined Circulation.

- Burnt Hickory Road parking

Non-contributing Circulation.

- Powder Springs Road
- Old U.S. Highway 41
- Visitor center paths, terrace, ramp, stairs, picnic area; administration buildings access road and parking
- Kolb House parking area, gravel driveway, stepping stone path, hard-packed earth path
- Post 1942 park trails
- Concrete steps and metal tube rail at the start of Little Kennesaw Trail
- Boy Scout Trail
- Old U.S. Highway 41 parking area
- Old U.S. Highway 41 sidewalk
- Parking areas along public road corridors (Recreation Areas 1, 2, 3, Gilbert Field)
- Horse trailer parking

Missing Circulation.

- Early road to the top of Kennesaw Mountain
- War Department access road to Cheatham Hill
- Initial parking lot at Cheatham Hill
- Old John Ward Road (portions)

Vegetation

Vegetation is the landscape characteristic that has changed the most since the Civil War period. Post-Civil War agricultural activities, followed by National Park Service conservation and management practices, have contributed to a vegetative composition and character that contrasts to a great degree with the antebellum landscape. Today, the slopes and summits of Kennesaw Mountain, Little Kennesaw Mountain, Pigeon Hill, and Cheatham Hill are heavily forested with stands of second growth hardwood, including chestnut oak, blackjack oak, scarlet oak, shortleaf pine, and loblolly pine, species typical of those found in the Piedmont transition zone between the South Georgia pinelands and the upland Appalachian hardwoods. This patchwork of successional forest stands is not entirely consistent with the character of the landscape at the time of the battle, which was comprised primarily of small subsistence farms with fields that had been carved from a relatively undisturbed mature forest community. Because pine is better adapted to growth on impoverished soil, it is present in pure stands on some former fields as a result of cotton farming.[359] Past land uses have thus affected vegetative composition. In addition, because undergrowth is not being controlled by natural fire or by foraging wildlife, it is denser than that which was present historically. Today, dead and downed trees are allowed to deteriorate naturally, while such timber was likely collected historically for use as firewood, fencing material, or other construction purposes.[360]

In 1977, these differences between the historic and contemporary vegetation patterns were noted by one of the park's ranger as follows:

> Changes in vegetative cover have provided the greatest impact upon the immediate scene. The historic hardwood forests on the mountains were destroyed by farm clearing and disease and have been replaced by a regenerative mixture of pine and immature hardwoods. Much of the lower slopes, historically described as 'lightly wooded' are now occupied by pine thickets and dense stands of immature hardwoods laced with exotic Japanese honeysuckle (*Lonicera japonica*). Historically, open areas have been gradually forested by a combination of natural forest encroachment and early conservation species.
>
> Contemporary photographs and descriptions reveal that the crest and upper slopes of Little Kennesaw were naturally devoid of trees and provided an outstanding panoramic view of the countryside. Today, this area is covered with small hardwoods which have cancelled the once-impressive vista. Pigeon Hill, a onetime bare rocky prominence on the southern slope of Little Kennesaw, is now hidden by unmanaged pine encroachment. The surrounding lowlands exhibit a similar contrast to the historic period. Some historic woodlands are now clear, but the major alteration is that forests have gradually encroached upon fields until some fields have been drastically reduced in size or even eliminated. Extensive ground cover changes have taken place in the suburban inholding and boundary developments. Overall, the changes in vegetative cover have had the most serious impact upon scenes in relation to the interpretation of the battle because ground cover had such importance in the positioning and maneuvering of the attacking forces and in the fields of fire available to the defenders.[361]

Other changes that have affected the composition of park forests include the loss of one of the dominant forest tree at the time of the Civil War—the American chestnut—due to an Asian blight, and the colonization of native communities by non-native plants. The undergrowth within the park includes several exotic species such as kudzu, privet, tree of heaven, and mimosa in addition to native species. Japanese honeysuckle, planted by the CWA in 1934 on Cheatham Hill, is now a problematic invasive species and efforts are being made to eradicate it. Today, park policies suggest

359. National Park Service, "Annotations for Historical Base Map."
360. National Park Service, *Natural Resource Management Plan*, 1976, 43.
361. National Park Service, *Historic Resource Management Plan*, I:2-4.

that only native species are to be used in new or replacement plantings.[362]

In addition to these changes in forest composition, many historically open fields are now overgrown. Both the Union and Confederate earthworks are primarily found under wooded conditions, with successional forest present that was not part of the 1864 landscape. There are also historically wooded areas that are now open.

Unlike the Civil War period, there are no fields under cultivation. Fields managed in open vegetative cover today are mown for hay, generally through historic leases held by local farmers.[363] These fields replicate patterns of open space but are not consistent in character and texture to the antebellum landscape.

Lawns and fields today surround the visitor center, are located below the Illinois Monument, at the center of the CCC camp site, at the intersection of Old Mountain Road and Burnt Hickory Road, along Stilesboro Road, and west of Cheatham Hill Drive. These fields have been either preserved or restored to provide a sense of the historic landscape at the time of the Battle of Kennesaw Mountain. The open space associated with the CCC camp, however, was wooded at the time of the Civil War battle.

Another missing component of the historic agricultural landscape are the orchards thought to have been associated with several of the homesteads

The evolution of vegetation features within the park is discussed in more detail below.

Early settlement. This portion of Cherokee County was not opened for settlement until the 1830s. The number of farmsteads associated with the area by June 1864 remained few and were widely spaced. At the time of the battle, the landscape was characterized by extensive native deciduous hardwood woodlands interrupted by a few modest farms. Local residents cleared and fenced small areas for cultivation, and raised livestock that were left free to roam and graze in the woods. Fields were generally located where the soils were less subject to erosion. Rail fences were built to contain the crop fields and prevent incursions by livestock. Because of the nature of the terrain, the first fields to be cleared were near the homesteads and along low hill tops. As only minimal terracing was required to prevent erosion, it was easier to clear and cultivate these lands. There was little in the way of underbrush within the existing woodland on the uplands, possibly due to American Indian use of fire prior to Euro-American settlement.

Civil War. At the time of the Civil War, vegetative cover played an important role in military tactics. The Confederate earthworks atop the Kennesaw Mountain ridge were afforded long views and a relatively clear field fire due to a lack of woodland cover on the rocky upper slopes. Union forces, in planning their assault on the thin Confederate line, elected to locate sections of their artillery batteries at the edges of wooded areas where they were afforded some cover but could fire across open agricultural fields. Woodland areas were described in accounts of the battle as used for protective cover for purposes such as forming up ranks and retreating from artillery fire. These areas included the dense woods north of Burnt Hickory Road and a wooded ravine associated with a creek south of Burnt Hickory Road.[364] At Cheatham Hill the woods that edged the open field below the Confederate earthworks were used for cover and concealment by approaching Union troops.

Post-war farming. The park's current vegetative character is partially due to late nineteenth and early twentieth-century farming practices led to severe soil erosion. The immediate aftermath of the battle and the Civil War was destruction of many acres of productive farmland. Economic conditions prevented many farmers from immediately reestablishing crop fields and pastures. Later, as the area returned to productive

362. National Park Service, *Natural Resource Management Plan*, 39.

363. National Park Service, *Historic Resource Management Plan,* II:3.

364. National Park Service, "Master Plan, Topographic Base Map, Sheet No. 5B," 1941.

agrarian uses, many farmers began to adapt their land for the cultivation of cotton. Development of fields on erodible soils to grow this crop led to a loss of topsoil and tilth.

NPS conservation efforts. The brush and grasslands that characterized the upper slopes of Kennesaw and Little Kennesaw mountains at the time of the battle have been replaced with stands of hardwood and pine forest. In some cases these can be attributed to land management programs conducted by the CWA in the early 1930s. The CWA is known to have planted tree seedlings in 1934 as an erosion control measure. The lower slopes and level terraces at the bases of the mountains and hills currently contain stands of hardwood and pine derived from secondary succession, although some areas have been restored to fields and continue to be mown for hay; an example is the fields south of Burnt Hickory Road and Dallas Highway.

Initial National Park Service management of the park was concerned with soil conservation and stabilization of the heavily eroded landscape. The soil conservation and vegetation management programs were guided by foresters and landscape architects.

In 1934, landscape architect Kenneth Simmons recommended seeding, fertilizing, and planting the area around Cheatham Hill to restore vegetative cover and prevent erosion. A small amount of native plant material was collected and planted in the woods near the Illinois Monument.[365] In 1934, a report on the condition of the property indicated that all 60 acres had been cleared of refuse, stumps, and other fire hazards; sod erosion check dams had been installed; 158 pine seedlings, 3 cedar seedlings, 78 sweet shrubs, 3 black haws, and 8 sumacs had been transplanted; and 925 linear yards of Confederate earthworks had been planted in honeysuckle.[366] Although some of these efforts, such as the planting of honeysuckle, would today be considered ill-advised, the work of the National Park Service in concert with the CWA and CCC helped to stabilize the Cheatham Hill battlefield landscape, and as such are significant.

That same year, forester A. Robert Thompson inspected the landscape at Cheatham Hill and found that the central ridge of the Cheatham Hill was covered by sparse forest with no undergrowth. He reported that the predominant species were broom sedge, Johnson grass and loose stands of loblolly pine, where the forest floor had been swept clean of virtually all topsoil and forest litter. He recommended that the CWA conduct projects at Cheatham Hill that included forest clean up, grubbing out the broom sedge, disposal of the rocky litter, and soil erosion control measures. Poor and dead trees were to be cleared but no forest litter was to be removed. To further prevent erosion, leaves and pine needles were recommended to be scattered over the site.[367]

National Park Service field restoration. Over the years, the National Park Service has conducted ongoing efforts to convert non-contributing woodlands to fields that match their original size and appearance beginning with the CWA and CCC at Cheatham Hill in the 1930s.[368] In addition to field restoration, the park also periodically clears trees to maintain designated vistas, such as from the Kennesaw Mountain overlook, and removes trees and branches that may be hazardous to visitors adjacent to parking areas, trail heads, and other primary use locations.

To rehabilitate the fields, including the 30 acres previously cultivated by a War Department caretaker near Cheatham Hill in the 1930s, the land was plowed, harrowed, fertilized, and seeded to cowpeas. Later, the cowpeas were plowed under, the fields were harrowed again, and the old terrace system was completely replaced. In 1935, the fields were harrowed a third time before a permanent stand of grass was established.[369]

Second-growth mixed pine and hardwood forest. As the park grew through the 1930s, the National Park Service determined the need for

365. Ibid., 16.
366. Ibid.
367. Ibid.
368. Ibid., 64.
369. Ibid.

more specific land management practices. In a 1941 master plan prepared for the park, the document indicated that a "large portion of the battlefield was in woodland in 1864, but has since been cleared and cultivated. The woodland which has not been cultivated has been cut over to a large extent so that there is second growth timber rather than the original virgin stand of timber."[370]

Second-growth mixed hardwood and pine forest constitutes the prevailing vegetative community present on the park's mountains and ridges. Forest-rimmed open fields and hardwood stream bottoms generally characterize the lower elevations within the park.[371] Woodland that today occupies similar locations as that present during the Civil War contribute to the significance of the historic landscape. However, the integrity of feeling of these wooded areas is generally diminished due to their altered character and composition. Woodland that occupies land maintained in open fields, orchards, and crop lands during the Civil War constitutes a non-contributing resource of the battle period, although these conditions may be consistent with those present during the commemorative and early park development period.

Open fields. As indicated on several historic base maps prepared by the National Park Service to interpret the landscape at the time of the Civil War, there were at least twenty fields associated with the park landscape at the time of the battle. The park has worked to restore many of these, although they are not necessarily consistent in terms of size and composition with nineteenth century features. In 1976, park planning documents suggested that: "Fields are mowed to maintain their present appearance, not necessarily their historic appearance."[372] Open fields that are consistent with historic conditions contribute to the significance of the historic landscape, at least as patterns of spatial organization (refer to Figure 319 and Figure 320). The integrity of feeling and association for these fields is diminished by the change in plant material from crops to hay, and integrity of setting is diminished where components of historic farmstead are also missing.

Some currently open areas were wooded at the time of the battle as well (refer to Figure 319 and Figure 320).

National Park Service ornamental plantings. In addition to naturally-occurring woodland vegetation, the park includes several locations where ornamental plantings have been added as an amenity for visitors. The primary example is found in the vicinity of the visitor center, residences, and maintenance area complex near the park entrance. The landscape surrounding the visitor center includes several large oak trees that may date to the Civil War era. While these were retained, the National Park Service also planted trees in the 1940s along Old U.S. Highway 41 to screen electrical lines that extended along the road corridor right-of-way.[373]

Most of the existing plantings date from the Mission 66 period or later and are associated with the visitor center. The grounds of the Mission 66 visitor center, completed in 1964, was carefully landscaped with native trees plantings circa 1966. Species planted include sourwood, flowering dogwood, American holly, Southern red oak, white oak, white pine, black gum, arborvitae, and redbud. Red maple trees also edged the parking area, building, and walks (Figure 341). Non-native species such as nandina (*Nandina domestica*), dwarf juniper (*Juniperus communis montana*), Japanese holly (*Ilex crenata*), and liriope (*Liriope* spp.) were also planted. Beds were established around the stone entrance terrace, flagstaff, and parking area. Much of the work was completed in October 1966 by Scott's Grading and Landscaping Company and Green Brothers Nurseries of Decatur, Georgia. It appears that plants have been added over the years, likely by the park's friends group.

370. National Park Service, "Master Plan, Topographic Base Map, Sheet No. 5B," 1941.
371. National Park Service, *Historic Resource Management Plan*, I:1.
372. National Park Service, *Natural Resource Management Plan*, 37.
373. Capps, 50.

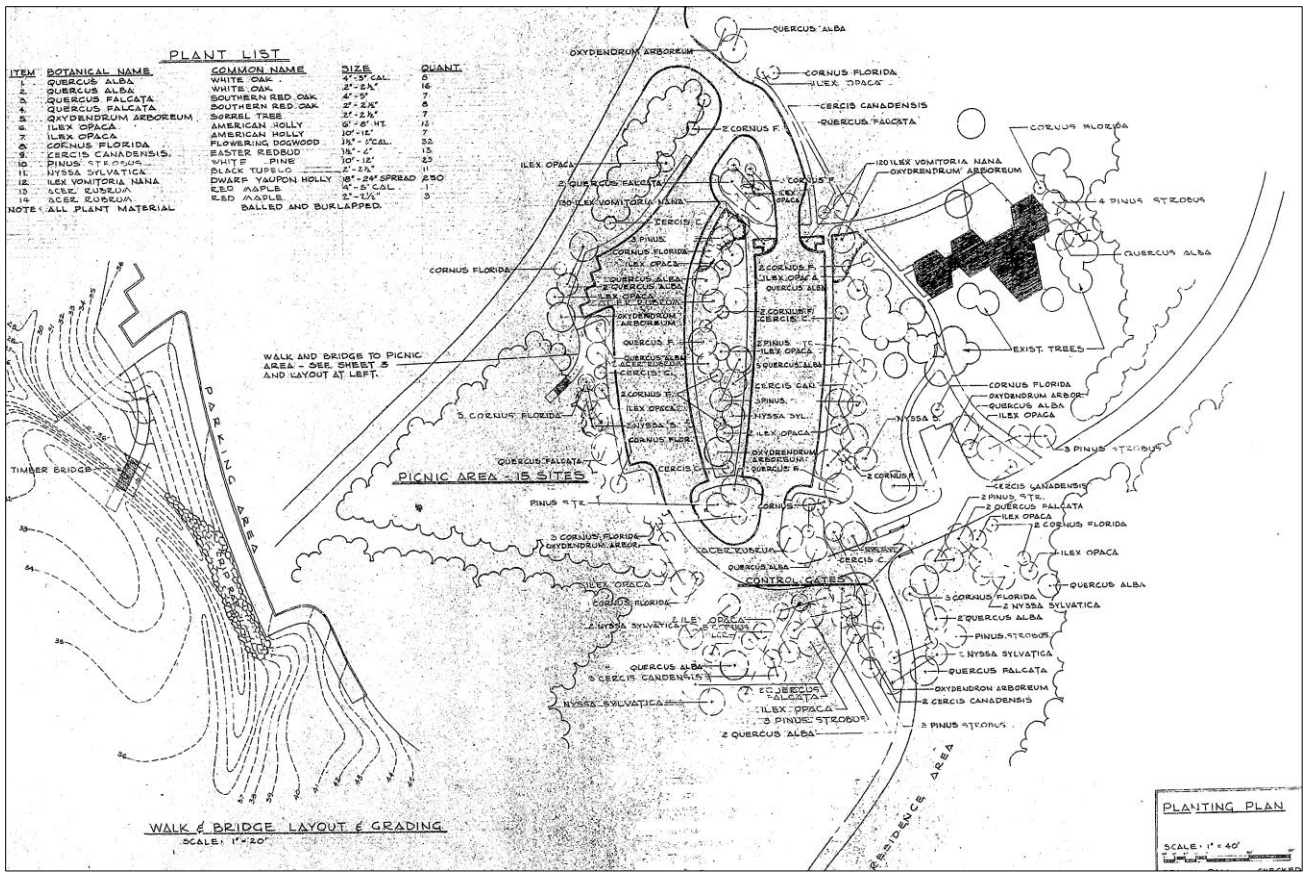

FIGURE 341. Planting plan for visitor center and parking lot, 1966.

The ornamental plantings associated with the visitor center postdate the period of significance and do not contribute to the significance of the historic landscape.

More recently, the park has planted the margins of some of the new parking areas along public road corridors with rows of deciduous shade trees, such as the one located along Cheatham Hill Road at Recreation Area 3 that is edged by oaks.

CCC camp ornamental plantings. The CCC camp that operated at Kennesaw between 1938 and 1942 was designed to include a formal arrangement of buildings sited around a circular parade and access road. The geometry of the camp arrangement was reinforced with plantings of eastern red cedar trees. Several of these trees appear to survive today.[374] In addition, the CCC camp site is dotted with large oak trees that may date to the Civil War era. These surviving trees contribute to the significance of the historic landscape, although the camp complex has generally lost integrity as a resource.

Invasive species. As early as May 1952, the park recognized a growing problem involving colonization of the park's native vegetation communities by exotic plants. A 1952 master plan for the park indicated there were ten acres of kudzu that should be eradicated.[375] By 1976, the list of problem species had grown to include Japanese honeysuckle, princess tree, chinaberry, mimosa, kudzu, and tree of heaven. Today, there are several additional species that constitute a threat to native plant communities and are actively treated by the park such as garlic mustard and privet. These non-native invaders were generally not introduced to the landscape before the Civil

374. Blythe, Carroll, and Moffson, Section 8, page 53.

375. National Park Service, "Master Plan Development Outline, Forestry, page 5 of 5, May 1952."

War, and did not become problematic until the second half of the twentieth century. As noted previously, the CCC is known to have planted Japanese honeysuckle in the park as a soil conservation measure during the 1930s. Much of this Japanese honeysuckle has been removed from the earthworks, but it continues to colonize woodlands and field margins areas. Invasive plants do not contribute to the significance of the historic landscape.

Missing Vegetation.

Orchards. Orchards are known to have been present in association with several farmstead properties in 1864. Orchards were described in soldier accounts of the battle in association with the Hardage House along Burnt Hickory Road as well as the Pledger property.[376] The Kolb farm is also thought to have included a fruit orchard. The Hardage House orchard was used for cover and concealment by soldiers during the battle. Today, there are no examples of orchards within the park, although it is possible that some individual trees survive.

Crop fields. As described above, crop fields were associated with many of the farmsteads present within the park landscape at the time of the battle. There are no cultivated crop fields within park boundaries today.

Contributing Cultural Vegetation

- Woodland consistent in location with that present during the Civil War
- Fields present during the Civil War
- Loblolly tree plantations and other woodlands established by the CWA and CCC to conserve soil and limit erosion
- Large oaks at the visitor center
- CCC camp plantings including eastern red cedar tree circle and oaks

Non-contributing Cultural Vegetation

- Woodlands not present in 1864
- Fields not present in 1864; 1942
- Plantings around the visitor center
- Invasive plant species

Missing Cultural Vegetation

- Orchards
- Crop fields

376. National Park Service, "Historical Base Map Annotations."

Buildings and Structures

The cultural landscape of Kennesaw Mountain National Battlefield Park presently contains five clusters of buildings: the Kolb House, Wallis House, visitor center, administration complex, and maintenance yard. There are also several structures present. These include monuments and markers, bridges, the Kennesaw Mountain overlook, and eleven miles of Civil War earthworks.

Buildings and structures that are character-defining for the battlefield landscape are the vernacular farmhouse dwellings constructed of native materials, the Civil War earthwork structures that mark Confederate and Union artillery positions during the battle, and the formal masonry commemorative monuments erected at Cheatham Hill in the early twentieth century.

Only two buildings survive from the Civil War battle period: the Kolb and Wallis houses. Structures surviving from the Civil War period include earthworks associated with both the Union and Confederates armies. These buildings and structures constitute contributing resources.

Buildings that survive from the commemorative and early park development period include elements of the maintenance yard. Several structures, monuments, bridges, and culverts, survive from the commemorative and early park development period. These buildings and structures constitute contributing resources.

All other historic dwellings, outbuildings, and industrial structures have been lost over the years, and are discussed below as missing resources.

The park visitor center, two residences now used by park personnel for housing and administrative offices, and several maintenance yard structures postdate the period of significance, as do all other structures located within the park, including most bridges and the Kennesaw Mountain overlook. These constitute non-contributing resources.

The evolution of individual buildings and structures located within the park is discussed in more detail below.

Buildings.

Kolb House. (LCS 012175; park structure HS-1). The Kolb House is one of only two buildings present at the time of the battle to survive within the park. The Kolb House is also the only remaining building associated with the historic Kolb farmstead, which was established during early settlement of the region by European-Americans in the 1830s and is thought to have included several dependencies. Located adjacent to Powder Springs Road, the house has historically served as a local landmark. It is mentioned in primary accounts of the battle as Kolb's House, the Kolb House, and the Widow Kolb's house, and was used as a reference in describing troop positions. It also served temporarily as a headquarters for Union Gen. Joseph Hooker following the battle.[377] The house was acquired for inclusion within the park in 1941. In 1963, the National Park Service restored the exterior of the house to its appearance during the Civil War. The house is currently vacant but is sometimes used by the park for special housing needs.

Recent repair projects have included replacement of the underlying beam on the south face that supported the superstructure, conducted in 1999–2000. The exterior trim was repainted in 2001–2002. Although assessed in good condition in 2008, threats to the structure remain, including termite infestation.

The house is thought to have been built in 1836 on land acquired in 1833 by William Gibson of Newtown County, Georgia, as part of a state-organized land lottery. Gibson sold the property to P. Valentine Kolb in September 1845. Although the existing Kolb House may have been built by Gibson, it has been known as the Kolb House since the mid-nineteenth century.

During the Civil War, Union earthworks were established to the east of the house that played an

377. Moore, Cooper, and Walker, 11.

important role in the Battle of Kolb Farm on June 23, 1964. Archeological investigations of the property have revealed no Civil War artifacts in the area adjacent to the remnant Union entrenchment. However, artillery shell fragments, canister shot, bullets, and minie balls have been found in association with the dwelling's parking area.[378]

Based on archeological study, additional features on the property may have included a mule lot or long row of pens located across Powder Springs Road from the house; a well, barrel factory, and tenant house north of Powder Springs Road; and Pledger's gin house west of Powder Springs Road. It is also likely that there would have been a dam, sluice or flume, and mill pond if the property included a saw mill, grist mill, and gin house as surmised.[379]

The Kolb House possesses integrity of location, feeling, and association. Restoration work performed in the 1960s affected the integrity of materials, workmanship, and design by altering some historic fabric to accommodate contemporary uses. The building has also lost integrity of setting due to the establishment of a nearby residential subdivision, the loss of all its dependencies, and changes to the road intersection nearby. Overall, however, the house retains sufficient integrity to the Civil War period to convey its historic associations.

Wallis House. The Wallis House was built circa 1853 by Josiah Wallis, who arrived in Cobb County around 1850, purchased 400 acres of land, and built the extant farmhouse for his residence. The Wallis family returned to their native Newton County in 1864 in anticipation of Sherman's advance toward Atlanta. The house was appropriated for use as the headquarters of Union Gen. O. O. Howard during the Battle of Kennesaw Mountain in June 1864, and was also used as a Confederate hospital. General Sherman was based at the Wallis House during the Battle at Kolb Farm. The Wallis House is located adjacent to Harriston Hill, which was used by the Union army as a signal station during the Battle of Kennesaw Mountain. At the time of the battle, the house offered a clear view of Kennesaw Mountain.

The dwelling is located approximately 1/2 mile from the park boundary on Burnt Hickory Road. The parcel includes several outbuildings, an entrance drive, stone wall, and ornamental plantings. A Georgia State historical marker is located along the road corridor, but is partially obscured by vegetation.

The hill and the house were threatened in 2003 by the proposed construction of a forty-three-unit residential subdivision nearby. The house remained in the family at the time, but the descendants were interested in selling the property. The Cobb Land Trust negotiated with the developer to acquire a 1.3 acre parcel, while the county subsequently purchased an adjacent 6 acres, to protect the Wallis House and Harriston Hill.

A ten-space parking lot was built on the Cobb Land Trust property to facilitate access to dedicated green space and the Wallis Farm subdivision entrance. A sidewalk is planned to connect the parking area with the Wallis House property once it is incorporated into Kennesaw Mountain National Battlefield Park.[380] Cobb County plans to retain ownership of the property until Congress authorizes the National Park Service to accept the property as part of the park; this will require a change to the authorized park boundary.[381] The park is particularly interested in

378. Ibid., ii.
379. Meier, *Archeological Study, Kolb House*, 3–5.
380. The Cobb Land Trust, "Wallis Farm," http://www.cobblandtrust.org/html/wallis.htm (accessed September 28, 2011).
381. Cobb Landmarks and Historical Society, "Wallis House; Burnt Hickory Road, Marietta," http://www.cobblandmarks.com/wallis.php (accessed September 28, 2011). Cobb Landmarks and Cobb County's Historic Preservation Commission partnered with Georgia State University's Heritage Preservation Program, whose graduate students provided a conditions assessment report on the property including recommendations for short term maintenance.

the property as a Union position, as it would offer balance to the preponderance of Confederate-based sites within the park. The house appears to possess integrity and contribute to the significance of the park.

Visitor center. At the base of Kennesaw Mountain along its eastern slopes is a cluster of buildings that support park administration, visitor service, and maintenance needs. The cluster is reached from an access road that leads into the park from Stilesboro Road near its intersection with Old U.S. Highway 41 and Kennesaw Road. The Kennesaw Mountain National Battlefield Park Visitor Center is located northwest of the access drive and adjacent to an 80-car parking area. Beyond the visitor center to the southwest are two small brick buildings that house administrative offices, and further west is a complex of brick, wood, and metal maintenance buildings and structures.

The visitor center is edged by a raised terrace that is connected to the parking lot by concrete sidewalks. The entrance terrace, which faces west, is paved with colored concrete in a geometric pattern and edged on one side by a fieldstone seat wall. The entrance terrace extends around the building to its south side where a broad stairway provides seating for outdoor programs held on the adjacent lawn.

The current Kennesaw Mountain National Battlefield Park Visitor Center opened in 1964 and was renovated and expanded in 1997–1999 (Figure 342 and Figure 343).

In the mid-1950s, as part of the Mission 66 initiative, the park identified a need to enhance its interpretive program. To present interpretive information to the visitor, a new visitor center was envisioned as the nucleus of the program. Initial designs for a 7,500-square-foot facility were scaled back to 6,000 square feet. The Mission 66 visitor center included an audiovisual auditorium, a display room, an information desk, and administrative officers. It reflected the Park Service Modern design style in its low horizontal form and use of brick banding. There were no changes made to the building until 1979, when the roof was replaced.

FIGURE 342. The visitor center upon its completion in 1964.

FIGURE 343. The visitor center in 2011.

During the 1990s, the park determined that the building was too small to accommodate planned interpretive needs. In January 1997, the original building was closed and gutted. The interior of the original building was redesigned, and additions were added to expand the building. These additions included the existing entrance corridor and public restrooms, the lobby and information desk area, the education room, most of the current sales area, and about two-thirds of the museum space. The auditorium maintained the same footprint but the entrance and exit spaces were changed as well as the seating pattern. The interpretive office space, association director's office, chief ranger's office, staff restrooms, and library were created from the area of the old visitor center. The employee break room was also part of another addition. The exterior was altered through the addition of steel framing that conveys a more contemporary appearance. These changes

extensively altered the original Mission 66-era visitor center. As such, the building has lost integrity and does not contribute to the significance of the park.

Residences/park administrative office buildings (2). In 1965, two residences were constructed near the new visitor center to accommodate park housing needs. The design of these brick, one-story ranch-style buildings that have a long, close-to-the-ground profile, and include the minimal use of exterior and interior decoration, is consistent with contemporary or Modernist residential architecture of the period, and standardized Mission 66 housing designs. They are generally undistinguished in their composition or use of materials. Although these buildings have been only modestly altered and survive with integrity from the Mission 66 period, they postdate the identified period of significance and therefore do not contribute to the significance of the historic landscape.

Maintenance complex. To the southwest of the visitor center is a small, U-shaped complex of buildings and structures that houses maintenance offices, shops, equipment, and utilities. The complex was constructed in 1941 by CCC workers enrolled in the camp nearby (refer to Figure 32 in the Site History chapter). Planning documents from the period indicated that:

> In this same area there will be needed a utilities group to provide for the storage and repair of vehicles and equipment. The construction of two units of this group is already underway. The location as shown is convenient since it is readily accessible from the administration building, yet it will be screened by planting from public view, and cannot be seen from the crest of the mountain.[382]

As originally conceived, the buildings were to house trucks and equipment, a blacksmith and auto repair shop, and storage facilities. The garage building was designed in the Colonial Revival style. In 1966, a concrete block oil house was constructed by R.C. Powell Construction of Smyrna using Mission 66 funding. The oil house replaced an existing wood-frame building, which was subsequently demolished.[383] In 1974, small additions were made to the buildings. Since 1974, additional shelters have been added to the complex.

Assessment of the complex for inclusion in the National Register of Historic Places nomination prepared in 1995 indicated that the buildings were neither architecturally significant nor representative of National Park Service design traditions, and that changes made after 1965 had diminished its integrity. The main complex was indicated as non-contributing in the nomination. Today the complex continues to include a garage, oil house, and shop and to form a tight grouping around a central open space. Several of the buildings individually retain integrity and contribute to the significance of the historic landscape, while patterns of spatial organization also contribute as noted earlier.

Missing Buildings.

CCC Camp T. M. Brumby site (also referred to in historic documentation as Camp NM-3 and Camp Georgia NP-4). At the base of the hill, to the northeast of the Kennesaw Mountain overlook, are the remains of a CCC camp that operated at the park between 1938 and 1942. Several concrete foundations are present, including the floor and walls of a canteen building. At one time there were as many as twenty-two buildings associated with the camp. Further investigation is needed to determine its archeological information potential.

The concrete foundations and brick piers of the CCC camp buildings originally supported paneled walls that were bolted together to formed the camp buildings. The buildings included a mess hall, four barracks, army and National Park Service offices, and a welfare building sited in an orderly arrangement around a central open circle used as a parade ground that included a flagpole and was edged by a roadway (Figure 344 and refer to Figure 28 in the Site History chapter). Many of the structures were completed in 1938; by June

382. National Park Service, "Headquarters Area," 1941 Master Plan, sheet no.9.

383. Capps, 23.

1938, the camp was staffed with 110 CCC workers.[384]

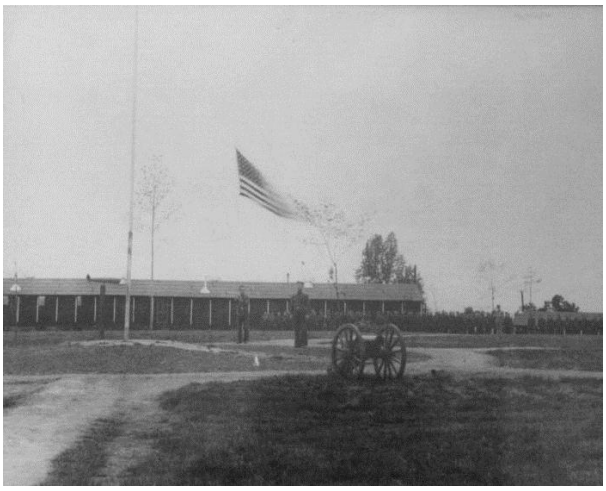

FIGURE 344. The CCC camp.

Although the camp was dismantled shortly after the corps disbanded in 1942 due to the involvement of the United States in World War II, the buildings were not demolished and removed until 1960.[385]

The park's National Register nomination, prepared in 1995, indicates "the camp site is not considered contributing to the context of the CCC and park development because other examples of intact CCC architecture are extant elsewhere within the NPS, and, as foundations, the camp buildings lack architectural integrity. As a cultural landscape the camp site also does not possess integrity. The remaining ruins represent only a small percentage of buildings once present."[386]

Hyde House. Located at the base of Kennesaw Mountain, the Hyde House was a late-nineteenth-century two-story wood-frame private residence that was adapted for park use as a museum and headquarters in 1939 (refer to Figure 34 in the Site History chapter). The Hyde House featured a hip roof with a triangular dormer and porch along the principal façade. The porch was supported with columns that included Victorian detailing and a railing. The house also featured a pair of interior chimneys. CCC workers were involved in renovations made to the building to accommodate adaptive reuse as a visitor contact facility.[387] A fee collection booth was built alongside the building. The Hyde House was demolished circa 1964, using funding provided by Mission 66, once the visitor center was completed.

Farmhouses. At the time of the battle there were some fifty buildings (dwellings, barns, outbuildings, mills, churches) located within the current park boundary.[388] The Kolb and Wallis houses are the only two to survive. Several of the dwellings known to have existed in 1864 are discussed above under patterns of spatial organization.

Several post-bellum farmhouses also existed on the battlefield land as the park was being developed. CCC workers were involved in renovating several of these residences for use as employee quarters beginning in 1939.[389] Other buildings were razed. Two mentioned in historic documents include:

- **George Channell House.** Located along the Cheatham Hill reservation entrance road built by the War Department, the George Channell House was first used by the park as the superintendent's residence.[390] A barn was also associated with the property.

- **Gilbert House.** In 1978, the non-historic Gilbert House was razed and the site was graded and seeded to restore its 1864 appearance.

Pit toilets. Dry pit toilets were installed at the crest of Kennesaw Mountain and in the Cheatham Hill area by the CCC for visitors.[391] The pit toilets were removed in the 1970s or 1980s.

384. Ibid., 17.
385. Ibid., 61.
386. Blythe, Carroll, and Moffson, Section 8, page 53.
387. Capps, *Administrative History,* 17.
388. National Park Service, *Historic Resource Management Plan,* I:4.
389. Capps, 17.
390. Ibid.
391. Ibid.

Ranger building, Cheatham Hill. In 1935, a ranger building, which had been constructed near the original War Department parking lot, was moved and improved (refer to Figure 27 in the Site History chapter). This building was likely removed after the Hyde House was adapted for park use in 1939.

Temporary tool house and office. In 1934, a temporary tool house and office was built in the Cheatham Hill area to facilitate site administration and maintenance by the National Park Service.[392] It was a wood frame structure with tar paper or fabric siding. The date of removal of this structure is not currently known.

Caretaker (custodian) residence. Plans of proposed park expansion and development prepared between 1939 and 1942 indicate the presence of a caretaker residence north of Dallas Highway and west of the entrance drive to the Cheatham Hill portion of the battlefield. Little is known about this building.

Temporary interpretive exhibits. Beginning in the 1980s, temporary interpretive exhibits housed within rustic shelters were installed along Burnt Hickory and Old Mountain roads and at the Kolb House to orient visitors to each location and explain the battle action that took place there.[393]

Structures.

Earthworks. (LCS 012176, Park structure HS-2). Kennesaw Mountain National Battlefield Park features the remains of both Confederate and Union earthworks dating to spring and summer 1864. These earthworks include approximately eleven miles of infantry trenches, batteries, forts, and gun positions variously constructed of earth, wood, and stone. Confederate fortifications are located on the high ground and side slopes of the northeast to southwest trending ridges. Their locations were used to define early park boundaries. The locations of some Federal earthworks were later included in land acquisition plans.

Currently the park interprets approximately one-third of the extant earthworks. Some have been stabilized with grass seed and are marked with signs that direct the visitor to stay off of the fragile structures. Others edge park trails. Many of the earthworks, however, are obscured from view in wooded areas, covered with understory growth consisting of briars, honeysuckle, and wild grasses, trees, and years of forest debris, such as leaves and fallen limbs not present at the time of the battle.[394]

The earthworks were generally assessed as being in good condition in 2010, with threats to their condition posed by theft or looting, inappropriate and inadequate preservation or rehabilitation activities, vegetation, visitation, and erosion. Most of the earthworks are currently in stable condition, with tree cover and leaf litter checking erosion. The condition and historic integrity of individual earthworks segments varies, however, with some sections retaining a more distinct profile than others. The more intact earthworks contain their original front and rear ditches and a well-defined parapet wall.[395] Segments exhibiting a greater degree of erosion have lost soil from the parapet through the effects of gravity and storm water washing particles downslope to fill the ditch, or have been affected by post-Civil War cultivation and plowing.

The earthworks were originally constructed based on the design of military engineers according to the principles espoused in training programs at schools such as the United States Military Academy at West Point. Engineers followed manuals like professor Dennis Mahan's *A Complete Treatise on Field Fortification with the General Outlines of the Principles Regulating the Arrangement, the Attack, and the Defence of Permanent Fortifications*, published in 1836, and updated in 1845, in designing and constructing earthworks at the time of the Civil War.

The earthworks included infantry trenches as well as artillery positions. They were composed of earthen ditches located to the front or back, or

392. Ibid., 16.
393. Ibid., 35.
394. Blythe, Carroll, and Moffson, Section 7, page 6.
395. Ibid., Section 8, page 34.

both, and earthen parapet walls built between 4 and 12 feet tall and 8 to 16 feet thick. These 150-year-old structures, originally built as temporary defensive features, have been subject to deterioration due to erosion caused by storm water, tree fall, visitor access, and cultivation. Trenches on the mountains and in the more accessible lower areas are remarkably intact, while many of those located in farmed areas have been plowed, leveled, and filled. Today, erosion is more prevalent in high visitor use areas such on top of Kennesaw Mountain and at Cheatham Hill. The park has built fences to limit access to some of the most popular structures.

In 2010, volunteers from the Greening Youth Foundation trimmed saplings and brush on the earthworks in an effort to render the earthworks more visible. Loss of protective leaf litter or duff resulting from such efforts may further threaten the earthworks.

As one of the only physical features linking the significant military events of June 1864 to the park, the surviving earthworks are one of its most important contributing resources. They generally possess a high degree of integrity of location, setting, feeling, association, design, and workmanship, although integrity of materials is diminished due to the loss of wooden components and fine details originally associated with the works. Integrity of setting has also been diminished due to changes to vegetative composition and the loss of historic farmsteads and fields.

Individual elements of the earthworks systems are described below. The Confederate earthworks are generally located within the eastern half of the park on the high ground composed of Kennesaw Mountain, Little Kennesaw Mountain, Pigeon Hill, and Cheatham Hill, and extending south to Powder Springs Road in a nearly continuous line that culminates in the impressive collection of trenches and fortifications referred to as Strahl's Fort at the southern end of the park. Federal positions are primarily found within the western half of the park. They are more scattered and less continuous, due to the original character of the lines and the loss of some segments to post-war farming. The most impressive formation is the Federal Twenty-Four-Gun Battery aimed at Little Kennesaw Mountain near Gilbert Road.

Individual Earthwork Segments.

- **Confederate battery, Kennesaw Mountain.** The battery positions located along the crest of Kennesaw Mountain may have been at least partially reconstructed. Traditional accounts suggest that the original gun emplacements may have been obliterated by artillery practice conducted during World War I. The date of these reconstruction efforts is not currently known. However, due to the popularity of these earthworks, it is possible that they have been rehabilitated several times over the years to replace eroded parapet soil associated with visitor access, a practice begun in the 1980s. Four of the rebuilt artillery positions were stabilized by the National Park Service in 2010 to arrest erosion. The trail to the top of the mountain is located adjacent to the earthworks so they are subject to heavy visitation and frequent foot traffic. Fencing has been placed around the gun emplacements to limit visitor access.

- **Confederate trench lines.** Trench lines located along the slopes and crest of Kennesaw Mountain have been negatively impacted by road and parking lot construction.

- **Confederate battery, Little Kennesaw Mountain.** (LCS 090135; park structure HS-14). Atop the crest of Little Kennesaw Mountain lies another Confederate battery position edged by infantry trenches originally constructed in 1864 out of a combination of earth, stone, and wood. There is some discrepancy as to whether these are the original gun emplacements or reconstructions, although park historian Willie Ray Johnson notes that he does not believe there has been any reconstruction or rehabilitation of the artillery positions on Little Kennesaw

Mountain.[396] One of the artillery positions is referred to as Fort McBride. Vegetation is especially dense in this area, obscuring portions of the earthworks from view along the trail. In 2010, volunteers from the Greening Youth Foundation removed saplings and brush from the earthworks.

- **Pigeon Hill earthworks.** (LCS 090136; park structure HS-15). The continuous earthen parapet of the Confederate infantry line at Little Kennesaw ends along the mountain's steep southern slope. As Little Kennesaw merges with Pigeon Hill, a line of earthworks continues northeast to southwest below the crest. These earthworks were constructed from a combination of earth, stone, and wood by Confederate forces in 1864 (refer to Figure 16 in the Site History chapter). The Confederates created obstacles in front of the line by felling trees. The earthworks were fortified with 2-foot-high stone walls used as shields and rifle supports.

  Portions of the line were stabilized by the National Park Service in 1982. They were assessed in good condition in 2010, with threats posed by erosion, visitation, and vegetation. In 2010, volunteers from the Greening Youth Foundation trimmed saplings and brush from the Pigeon Hill earthworks. Fencing and an observation platform were added on the lower slopes of Pigeon Hill by the National Park Service in the early 1990s to mitigate visitor access impacts. Fencing was placed around some infantry positions as part of an Eagle Scout project in 2000.

- **Cheatham Hill earthworks.** (LCS 090133; park structure HS-12). The Cheatham Hill earthworks are located between Dallas Highway and John Ward Creek. The earthworks are composed of two infantry lines (1,299 and 1,947 feet respectively) with a 4 to 6-foot-high parapet, a front and rear trench, and traverses extending back from the front line that formed the salient known as the dead angle. These positions were associated with Maj. Gen. Benjamin F. Cheatham's Division. They were first constructed of earth and wood in 1864. One of the redoubts and a section of the forward line were rehabilitated in 1982 by the National Park Service, including Mebane's Tennessee Battery position.[397] They were assessed in good condition in 2010, with threats posed by visitation, vegetation, and erosion. In 2010, volunteers from the Greening Youth Foundation removed saplings and brush from the earthworks, rendering them more recognizable, but also more susceptible to erosion. These earthworks are in a high visitation area and are topped by logs and brush designed to dissuade visitors from walking on them. Scrub is cleared annually to present a more historically-accurate appearance but enough low vegetation is retained to prevent serious erosion.[398]

- **Cheatham Hill battery.** (LCS 090138; park structure HS-17a). Also known as Granbury's Brigade site, these Confederate earthworks were first constructed of earth and wood in 1864, and stabilized by the park in 1982. Mebane's Tennessee Battery is the first artillery position encountered by visitors to Cheatham Hill walking between the parking area and the Illinois Monument. It was likely a two-gun position centered on a 488-foot infantry line beginning south of Dallas Highway. It features four earthen parapets that are badly eroded with the embrasures no longer in evidence. In 2010, volunteers from the Greening Youth Foundation removed saplings and brush. An Eagle Scout project placed tree branches on top of the emplacements to discourage visitor access.[399]

- **Strahls' Fort.** Strahl's Fort is one of the best preserved Confederate artillery complexes within the park. It is located along the

396. Ibid., 120, author's communication with Willie Ray Johnson, Kennesaw Mountain Battlefield Park, August 2012.

397. Ibid., 122, citing Rodgers, 32.

398. National Park Service, "List of Classified Structures."

399. National Park Service, "List of Classified Structures."

southwesterm boundary of the park. As noted earlier, the structure includes several gun emplacements, including an L-shaped parapet and a C-shaped parapet that together supported two batteries. These features were associated with Brig. Gen. Otho F. Strahl, commanding officer of a brigade in Maj. Gen. Benjamin F. Cheatham's Division. They are in good condition.

- **Federal Twenty-Four-Gun Battery.** (LCS 090137; park structure HS-16). The Federal Twenty-Four-Gun Battery is located in the woods near Gilbert Road in the park's northwestern sector. The artillery position, which is visible as a series of four groups of six gun emplacements characterized by horseshoe-shaped earthen berms and pits located behind the parapet walls, is aligned to face Little Kennesaw Mountain. The battery was erected in 1864 by Federal troops to fire on Confederate entrenched positions on the mountain above. The remote location of these emplacements and their wooded condition diminishes visitation. In 2007, a Project Management Information System (PMIS) project statement proposed installation of four cannon and carriages at the Twenty-Four-Gun Battery. In 2010, volunteers from the Greening Youth Foundation trimmed saplings and brush from the emplacements, making them more recognizable, but more susceptible to erosion.

Missing Earthworks.

- **Kolb House earthworks.** In a wooded area east of the house were Union trenches that ran south to and across a hill nearby where the Aenchbacher house was formerly located. The trenches were described during the twentieth century as approximately 4 feet high. It is believed that earth from the trenches was used for construction projects around the Kolb Farm property, and thus destroyed. They would have been associated with the 14th Kentucky of June 22, 1864, supported by the main Union lines located west of the Kolb House and on both sides of Powder Springs Road. Several artillery positions were placed along the main line.

Other Structures.

Illinois Monument. (LCS 012177; park structure HS-3.) Cheatham Hill features three commemorative structures. The most prominent is the Illinois Monument, designed by architect James B. Dibelka, executed by artist J. Mario Korbel, and constructed by the McNeel Marble Company of Marietta. The monument is composed of a 25-foot battered marble shaft rising from an 8-foot-square base. It is sited on the crest of Cheatham Hill and overlooks a small plaza paved in marble. Two flights of marble steps lead down the western slope of the hill. The monument is overall in good condition. Threats to its condition include erosion, vandalism, and structural deterioration.

The Illinois Monument was unveiled on June 27, 1914, the fiftieth anniversary of the battle. It was erected by the Kennesaw Mountain Battlefield Association, with financial assistance provided by the State of Illinois, to mark the location where the Federal assault had peaked (refer to Figure 25 in the Site History chapter). In 1931, the War Department's Acting Inspector General visited the site and ordered improvements made, including cleaning and repair of the Illinois Monument, which had suffered damage from vandals.[400] The Illinois Monument was cleaned again in the 1970s or 1980s. In 1986, cultural resource specialists determined that the base, which had become split and was crumbling, was threatened due to poor drainage. Proposals were made to replace the base with a structure that was properly crowned to allow adequate drainage.[401]

In 1984, the west elevation was struck by lightning and damaged. In 1991, the marble eagle was broken by a falling tree.[402] The pieces were taken to Georgia Marble Company, which had sculpted the original eagle in 1914. The company replicated

400. Capps, 7.
401. Ibid., 40.
402. Blythe, Carroll, and Moffson, Section 7, page 8.

the original sculpture, and the new piece was used to replace the damaged original.[403]

Union Tunnel Marker and stone wall. (LCS 090142; park structure HS-9). The second structure at Cheatham Hill is the Union Tunnel Marker, a 5-foot-wide by 3-foot-tall marble arch with an inscribed keystone flanked by a dry-stacked stone wall. It was built to mark the location of the tunnel begun by Federal troops attempting to undermine the Confederate trenches during the Battle of Cheatham Hill in 1864. The tunnel marker was erected at the same time as the Illinois Monument (refer to Figure 25 in the Site History chapter). The stacked stone wall was added to either side of the arch in 1960 to stabilize the slope of the hillside.

The arch was assessed in fair condition in 2010. It has been damaged by vandalism, but is also threatened by vegetation, weather, and structural deterioration. According to park historian Willie Johnson, the inscription on this monument has steadily deteriorated since 1974. Visitors appear to be chipping away written characters. The monument also has gouges and is discolored.[404]

Bridges. Bridge crossings of Noses and John Ward creeks were proposed for construction as part of a 1937 work plan for the park. Plans prepared in the 1940s indicate a proposed bridge crossing of Noses Creek. This bridge was likely constructed. The bridge was replaced in 2011 with a substantial steel and concrete structure. Park documents also mention the construction of new bridges in association with park trails in 1972.[405] The existing plank footbridges are likely associated with this effort. All of these bridges postdate the period of significance and thus do not contribute to the significance of the historic landscape.

Stone and brick footbridge at CCC camp. One of the surviving features of the CCC camp site is a brick and stone bridge crossing of an intermittent drainageway south of the circular camp road trace. Little is known about the origin of this bridge, but it conveys an appearance and quality of construction consistent with the CCC. This bridge likely dates to the period of significance and therefore contributes to the significance of the historic landscape. Further study of its history is recommended.

Georgia Hall of Fame Committee Interpretive Memorial (Kennesaw Mountain) Overlook. The Kennesaw Mountain overlook is a concrete and masonry structure built in 1964 by the Georgia Hall of Fame Committee and donated to the National Park Service. It sits at the terminus of Kennesaw Mountain Drive. The overlook was intended to provide a vista of the setting for the Battle of Kennesaw for visitors. The vista encompasses the view of historic downtown Marietta and Stone Mountain, the site of another Civil War battle.

The Kennesaw Mountain overlook is dedicated to the fourteen Confederate generals from Georgia who participated in the Battle of Kennesaw Mountain. The overlook also originally included interpretive programming in the form of a taped message repeater. The recordings were later removed when they were found to be difficult to maintain in good working order. The National Park Service later added informational and directional signs, installed safety barriers, stabilized the rock wall, and planted shrubs.

Unfortunately, poor construction, lack of rigid specifications, and pressure to complete the structure on schedule resulted in structural conditions that posed a safety hazard to visitors. By June 1966, approximately 40 percent of the terrace was closed due to movement of the retaining wall. Temporary repairs consisting of installing reinforcing rods and placing fill material under the flagstone flooring were conducted, but it soon became apparent that the memorial would require extensive repair.[406] The overlook was rebuilt in 1981 by the National Park Service.[407] The overlook postdates the period of significance and

403. Capps, *Administrative History,* 40.
404. National Park Service, "List of Classified Structures."
405. Capps, 24.
406. Ibid., 23–24.
407. Ibid., 25.

does not contribute to the significance of the historic landscape.

Service structure and communications tower. Set into the east slope of Kennesaw Mountain, adjacent to the Kennesaw Mountain overlook, stand a service or equipment storage structure and a communications tower that serves Cobb County and the park. These features were established after September 11, 2001, to provide a secure location for these transmission towers. The facility is maintained by a sub-contractor for the county.

The Civil Aeronautics Administration/Federal Aviation Administration (CAA/FAA) airplane beacon was removed from Big Kennesaw Mountain in 1984. Between 1984 and construction of the present communications tower, transmission occurred using antennas on three telephone poles located on the site of the present-day communications tower. Although the communications tower is visible from many locations, the service building is notched into the slope of the mountain and is relatively unobtrusive. These features postdate the period of significance and do not contribute to the significance of the park landscape.

Culverts and Storm Water Management Structures. Within the park there are several types of culverts that convey storm water beneath roads and trails. Those with stone and brick headwalls likely date to CCC development at the park and contribute to the significance of the historic landscape.

A large concrete flume located near the Georgia Monument postdates the period of significance, as do steel drainage inlets at the Kennesaw Mountain overlook parking lot and the drainage pipes exposed at the base of the Illinois Monument stairs.

Missing Structures.

CAA/FAA Airplane Beacon. The CAA maintained an airplane beacon atop the southwestern end of Kennesaw Mountain for many years. In 1939, the CAA requested permission to construct a new, taller tower. The National Park Service rejected the request for the negative visual impact it would have on the park, but allowed the CAA to increase the candlepower of the existing beacon. As new cable was required to support the beacon, the National Park Service insisted that it be placed underground.[408]

In 1941, construction began on a fire lookout within the beacon tower. Through a cooperative agreement with the Georgia Department of Forestry, a state employee was subsequently stationed on Kennesaw Mountain as a fire lookout in the tower located within the airplane beacon. Use of the steel, orange and white, FAA beacon tower atop Kennesaw Mountain was discontinued in 1984 and the structure was removed.

Utility Structures. Utilities associated with the original park administration building located in the Hyde House included a shallow well with pump and a pressure tank. The sewage disposal system consisted of a 600-gallon septic tank and tile field. An overhead power line and telephone line extend across the park a short distance to reach the temporary administration building. These systems are no longer in use.

Water tank. To provide the water pressure needed for fire protection within the headquarters area, a 20,000 gallon tank was constructed 200 feet up on the north side of the mountain circa 1940. The tank included a dividing wall so that it could house two 10,000 gallon units. This allowed one to be cleaned and repaired while the other could continue in use.[409] The CCC is said to have stored explosives used in road construction in part of the structure during the early 1940s.

408. Capps, 59.
409. National Park Service," Headquarters Area," 1941 master plan, sheet no.9.

Contributing Buildings and Structures.

- Kolb House
- Wallis House
- Maintenance buildings (garages and offices)
- Confederate and Union earthworks
- Illinois Monument
- Union Tunnel Marker
- Stone and brick footbridge at CCC camp

Non-contributing Buildings and Structures.

- Visitor center
- Park Headquarters and Park Rangers/Law Enforcement buildings
- Kennesaw Mountain overlook
- Pigeon Hill platform
- Maintenance buildings (machine shelter, storage building, metal storage locker)
- Trail footbridges
- Fire road bridge crossing of Noses Creek
- Union tunnel stone walls

Adjacent buildings and structures.

- Communications tower and service structure

Missing Buildings and Structures.

- Antebellum buildings and structures (considered to be approximately 50 total dwellings, barns, outbuildings, mills, churches located within the current park lands)[410]
- CAA/FAA beacon
- Water tank
- CCC camp structures
- Hyde House
- Farm houses
- George Channell House
- Gilbert House
- Pit toilets
- Ranger building, Cheatham Hill
- Utility structures associated with original administration building
- Temporary tool house and office
- Temporary interpretive exhibits
- Caretaker residence north of Dallas Highway

410. National Park Service, *Historic Resource Management Plan*, I:4.

Views and Vistas

Changes in vegetative cover have had the greatest impact upon the character of the historic battlefield and ability of visitors to view the landscape as it was seen at the time of the Civil War. Views of the battlefield are, for the most part, limited today by the extensive tree cover that extends over much of the park; formerly the high ground associated with the mountains and hills afforded views across the landscape due to limited tree cover and the open character of agricultural fields. Tree cover atop Kennesaw Mountain has increased substantially since the Civil War, impeding these character-defining views, and, as noted earlier, fields are less prevalent and often smaller in size today than those present historically also contributing to a loss of views.

From the Kennesaw Mountain overlook, it remains possible to experience expansive views to the surrounding countryside. These are maintained through tree and limb clearing conducted by the National Park Service. Views from the overlook and other high points have been affected by twentieth-century residential and commercial development along the park's boundaries and in association with the town of Marietta, Georgia, nearby. Tree growth also limits many of the views formerly afforded from high ground. For example, beyond the overlook, views from the Kennesaw Mountain ridge are limited by the extent of tree growth. Trees have also grown up to obscure the key visual connection between the Union and Confederate earthworks.

Views are now afforded where old fields have been restored to interpret the battlefield landscape. One example is the view across the open field below the Illinois Monument, which was cleared by CWA workers in 1934 for interpretive purposes. Another sweeping view is afforded from the Texas Monument into the fields beyond. The open area historically associated with the Hardage House below Pigeon Hill has also been maintained through mowing, indicating where troops moved during the battle. The CCC camp site has also been kept open by the National Park Service through mowing.

Road corridors and trails otherwise offer linear views through a generally wooded landscape. This experience is more consistent with landscape conditions present since park establishment than the Civil War period when there was a much greater extent of open vegetative cover.

Other non-historic views include the visitor center complex that postdates the period of significance and includes parking, ornamental plantings, and buildings on the lower slopes of Kennesaw Mountain, which are located within an area that experienced combat during the battle.

The evolution of individual views located within the park is discussed in more detail below.

Confederate views, historic field of fire. Kennesaw Mountain forms a long, curving ridge that extends northeast to southwest through the park. This ridge, which edges Marietta to its north and west, offered the Confederates a natural fortification of great strength with unmatched visibility of enemy troop movements.[411] At the time of the battle, the crest and upper slopes of Little Kennesaw were devoid of trees and afforded a panoramic view of the countryside, affording Confederate artillery positions a clear field of fire on potential Union avenues of approach. Today, the mountain slopes are covered with small hardwoods which interfere with and block historically important views. Pigeon Hill, also formerly a rocky prominence with few trees or underbrush is now cloaked by pines and other woody growth. The woodland cover today is important to screen views of adjacent residential development.

Historic field of fire from trenches and batteries. The hardwood forests that characterized the lower slopes of the mountains during the antebellum period were later destroyed to support farming. These fields were abandoned when the park was established. Forest composed of pine and immature hardwoods regenerated on these mountain slopes. Historically described as 'lightly wooded' or open, these areas are now

411. National Park Service, "Master Plan, Topographic Base Map, Sheet No. 3," 1941.

occupied by pine thickets and dense stands of young hardwoods. Additionally, some historic woodlands are now clear. These changes in vegetative cover have had the most serious impact on the interpretation of the battle due to the importance of ground cover in the positioning and maneuvering of the attacking forces and in the fields of fire associated with artillery positions.[412] Of particular importance were the clearings that the Union forces used to establish fields of fire for their artillery in order to aim at Confederate positions on the hillside above. The Federal Twenty-Four-Gun Battery, which now stands in a woodland, was arranged to fire on Little Kennesaw Mountain. Today, some of the Federal targets atop the ridge are visible from the meadow along Gilbert Road, but not from the gun emplacement structures themselves.

Kennesaw Mountain Overlook. As noted above, the Kennesaw Mountain overlook terrace affords views of the distant landscape from the perspective of Confederate artillery positions during the Civil War. This viewing position and perspective are important for understanding Kennesaw Mountain as key terrain, critical to the strategy of the Confederate army. This view extends across the broader landscape, past downtown Marietta toward Stone Mountain several miles to the east and survives with sufficient integrity to contribute to the significance of the historic landscape. The overlook feature, however, postdates the period of significance and does not contribute to the significance of the historic landscape.

View from Kennesaw Mountain. Atop Kennesaw Mountain, there are areas where the vegetation opens up, allowing visitors to view the landscape beyond the mountain from its rocky crest. Within view of the mountain summit today is a much greater extent of urban and suburban development associated with the town of Marietta. These features diminish the integrity of feeling of the view. However, in several locations, visitors are afforded commanding views that help to suggest the value of the mountain summit for military purposes as a lookout and artillery position capable of firing upon potential avenues of approach toward the city of Atlanta. This view constitutes an important historic resource that survives with sufficient integrity from the period of significance to contribute to the significance of the historic landscape.

View from Little Kennesaw. Little Kennesaw Mountain is far more wooded today than it was historically (refer to Figure 18 in Site History chapter). Artillery has been placed on the locations of historic battery positions, but views from these guns today are partially obscured where historically they were open to allow a clear field of fire. The integrity of the military view from Little Kennesaw is diminished, but could be reclaimed with clearing.

View from Pigeon Hill. Similarly, Pigeon Hill is far more wooded today than it was historically. An observation deck has been built to help visitors understand the advance of Union troops on the Confederate positions during the battle and to protect the earthworks. However woody growth now blocks key views but also helps screen views of adjacent residential development within the historic field of fire. The integrity of this view is thus also diminished. However, it does possess sufficient integrity to convey its historic associations and contributes to the significance of the historic landscape.

View from Cheatham Hill. As noted above, the field below the Illinois Monument, which marks the site of the dead angle, has been maintained in open vegetative cover by the National Park Service to interpret the avenue of approach used by Union troops to advance on the Confederate earthworks. The resulting sweeping vista into the open field also enhances the view from the Illinois Monument. This important view possesses sufficient integrity to contribute to the significance of the historic landscape.

Federal fields of fire and associated views across open fields. Some views are important for their connection to historic Federal fields of fire. Where historically open fields have been

412. National Park Service, *Historic Resource Management Plan*, I:2-4.

maintained or restored, it is possible to recall the views that characterized the landscape and were integral to the military actions of the Battle of Kennesaw Mountain. In many cases, however, the connection between historic accounts of these views and contemporary conditions have been lost due to the extent of missing antebellum farmsteads, fences, orchards, and crop fields. In others, the spatial configuration is not consistent with that historically due to growth or encroachment of woodland. The park continues to work toward a goal of more closely approximating historic land cover patterns in support of restoring these views. To that end, selective vista clearing was conducted in 1963-64 as well as in the 1970s and 1980s to enhance historically important views, or to support interpretation of battle events. Surviving examples of Federal fields of fire contribute to the significance of the historic landscape.

Views to residential lots. In several locations, public road corridors cross through the park. Many of these roads are edged by residential developments located just beyond park boundaries. Views of these subdivisions postdate the period of significance and do not contribute to the significance of the historic landscape.

Residences are also visible in several locations from park parcels, although the park carefully screens these views as possible. Views of residential development are most apparent from within park boundaries along Burnt Hickory and Powder Springs roads. These views do not contribute to the significance of the historic landscape.

Utility lines. Power companies began attempting to route utility lines through the park in 1938. Park officials quickly determined that allowing power lines to cross the park would diminish the integrity of the battlefield landscape, and worked with the Cobb County Rural Electric Administration to locate routes that would avoid park lands. Park planning documents also noted as a goal that power and telephone lines traversing the park should be carried in underground cables. In 1940, a right-of-way was granted to AT&T for the placement of overhead telephone lines, but the lines were directed to an area that would not be visible from primary visitor use locations. Electrical lines placed along Old U.S. Highway 41 were screened by the park using tree plantings.[413] Exceptions were the lines needed to provide electrical power to park administration and maintenance functions at the base of Kennesaw Mountain. Although these lines were unavoidable, the park endeavored to render the lines as unobtrusive as possible or have them placed underground. These efforts to control incompatible views of utilities within the park contribute to the significance of the historic landscape. The Civil Aeronautics Board, which operated an airplane beacon on the crest of Kennesaw Mountain, placed an underground cable to carry current from the temporary administration building to the beacon."[414]

Contributing Views and Vistas.

- Views from Kennesaw Mountain
- Views from Little Kennesaw Mountain (portion)
- Views from Pigeon Hill (portion)
- View from Cheatham Hill
- Views across open fields (portion)
- Views along road corridors (portion)
- Views across CCC camp parade ground

Non-contributing Views and Vistas.

- Views across some open fields
- Views to residential subdivisions
- Views of development from Kennesaw Mountain overlook
- Views into woodlands where fields were present at the time of the battle

413. Capps, 50.
414. National Park Service, "Headquarters Area," 1941 Master Plan, sheet no. 9.

Missing Views and Vistas.

- Views from Little Kennesaw Mountain (portion)
- Views from Pigeon Hill (portion)
- Federal fields of fire (portion)
- Views across some open fields including historic farmstead elements

Small-scale Features

There appear to be no small-scale features located within the park that survive from the Civil War period of significance. Located adjacent to the park is the Kolb Cemetery, however, which includes several mid-nineteenth-century gravestones.

Several small-scale features survive from the commemorative and early park development period that contribute to the significance of the historic landscape. These include commemorative monuments and markers, park boundary markers, eight park entrance signs, and culverts with stone headwalls associated with roads and trails likely constructed by the CCC. Character-defining small-scale features of the park landscape include signage that supports identity, wayfinding, regulations, and interpretation within the park; and monuments located at Cheatham Hill to honor the events of the Battle of Kennesaw Mountain.

Other small-scale features located within the park postdate the period of significance and do not contribute to the significance of the historic landscape.

There were likely numerous small-scale features associated with the rural vernacular landscape of 1864 that are missing today. Although little specific is known about these possible features, they are likely to have included fencing, gates, tying posts, and other farm-related features. Several signs, interpretive elements, fences, and road edging materials are also missing from the commemorative and early park development period landscape.

The evolution of individual small-scale features located within the park is discussed in more detail below.

Commemorative markers. A number of stone markers have been erected since the Civil War to commemorate particular events or participants in the Battle of Kennesaw Mountain. Several small markers were placed at Cheatham Hill in 1914 in association with the Illinois Monument (see

buildings and structures section above). These included small marble tablets commemorating Captain Neighbour, Captain Fellows, Sergeant Coffey, and the McCook Brigade to commemorate where the brigade launched its assault. In 1934, the CWA erected a marker on the grave of a soldier discovered during trail construction.. These monuments were placed during the period of significance and relate to the commemorative area of significance identified for the park. They thus contribute to the significance of the historic landscape.

In 1935, the NPS authorized the erection of markers where Brig. Gen. Charles G. Harker, Col. Dan McCook, and Col. O. F. Harmon were killed during the Battle of Kennesaw at Cheatham Hill. These markers appear not to have been installed.

Two other commemorative markers—the Texas and the Georgia monuments—were placed in the park in 1964. The Texas monument edges Cheatham Hill Drive, while the Georgia Monument sits at the foot of Kennesaw Mountain along Kennesaw Mountain Drive. The location of the Georgia Monument does not correspond to the location where Georgia troops fought during the battle. The park plans to relocate this monument to Burnt Hickory Road where it will more accurately mark their position. These two monuments postdate the proposed period of significance and do not contribute to the significance of the historic landscape.

Each of these markers is described in more detail below.

- **C. H. Coffey Marker.** (LCS 090139, park structure HS-8). The C. H. Coffey Marker is located on Cheatham Hill and marks the location where C. H. Coffey was mortally wounded during the Battle of Kennesaw Mountain. It was placed on the site in 1914 by Illinois veterans who fought at Cheatham Hill, and is associated with the commemorative efforts to preserve and commemorative Cheatham Hill. Although the condition of the marker is good, ongoing threats to the stone and its inscription include weather, vegetation, and vandalism.[415] The Coffey Marker survives with integrity from the period of significance and contributes to the significance of the historic landscape.

- **Fellows Marker.** (LCS 012178, park structure HS-4). The Fellows Marker is located on Cheatham Hill and honors Captain W.W. Fellows, Inspector General of the 3rd Brigade 2nd Division. It was placed on the site in 1914 by Illinois veterans who fought at Cheatham Hill, and is associated with the commemorative efforts to preserve and commemorative Cheatham Hill. The marker exhibits some chipping of the stone on both corners. Although the condition of the marker is good, ongoing threats include visitation, weather, vegetation, and vandalism.[416] The Fellows Marker survives with integrity from the period of significance and contributes to the significance of the historic landscape.

- **Grave of the Unknown U.S. Soldier.** (LCS 012179; park structure HS-5). The Grave of the Unknown U.S. Soldier is the only known interment associated with the Battle of Kennesaw Mountain within the park. The grave was discovered by CWA laborers in 1934 while clearing the surrounding area of vegetation. According to park historian Willie Johnson, a park volunteer may have identified the unknown soldier as a man named Mark Carr through independent research. The site is marked today by a marble headstone and a perimeter split-rail fence. The origin of the gravestone, however, is not currently known, although Johnson believes it dates to the discovery of the grave. Minor discoloration of the marker has occurred.[417] Weather, vegetation, and visitation constitute the primary threats to the condition of the monument. The marker survives with integrity from the period of significance and contributes to the significance of the historic landscape.

415. National Park Service, "List of Classified Structures."
416. Ibid.
417. Ibid.

- **McCook Brigade Marker.** (LCS 090141, park structure HS-6). The 24-by-24-by-15-inch rectangular granite McCook Brigade Marker was erected in 1914 by Illinois veterans who fought at Cheatham Hill during the Battle of Kennesaw Mountain. It was placed to mark the location where the brigade began its assault of the Confederate position behind the dead angle. The marker was moved from its original location further south between 1935 and 1939. The marker is currently threatened by erosion and weather. Biodegradation is of particular concern due to the high-moisture, shady environment of its current location. The remote location also protects against vandalism associated with visitation, however.[418] The marker survives with diminished integrity of location and setting from the period of significance and contributes to the significance of the historic landscape.

- **Neighbour Marker** (LCS 090140, park structure HS-7). The Neighbour Marker was erected in 1985. It replaced a marker erected in 1914 as part of the commemorative efforts conducted by Illinois veterans that indicated the location where Capt. S. M. Neighbour was mortally wounded in the assault on Cheatham Hill. Minor staining is occurring, but the condition remains good. Threats to the condition of the marker include weather, structural deterioration, and erosion. The gradual erosion of the ground in front of the marker could in time destabilize the marker's base, causing it to lean forward.[419] It is not currently known whether the existing marker is a faithful replica of the original marker. It is not likely that the marker contributes to the significance of the historic landscape.

- **Texas Monument.** (LCS 090143; park structure HS-10). The Texas Monument was erected in 1964 due to the efforts of the Texas Civil War Centennial Commission and the Texas State Historical Survey Committee, assembled by the State of Texas for the purpose of marking the efforts of Texans at Civil War battlefields around the nation. It marks the location of the Texas Brigade during the Battle of Kennesaw Mountain. The monument is maintained by the Texas Historical Commission.[420] Threats to its condition included maintenance issues and weather.[421] The monument postdates the period of significance and does not contribute to the significance of the historic landscape.

- **Georgia Monument.** (LCS 090144; park structure HS-11). The Georgia Monument was donated by the State of Georgia to honor its soldiers who fought at Kennesaw and was placed near the new visitor center in 1964 (Figure 345). Relocation of the monument to Burnt Hickory Road has been identified in a PMIS project anticipated for funding in Fiscal Year 2018. Threats to its condition included inappropriate or inadequate maintenance techniques and weather.[422] The monument postdates the period of significance and does not contribute to the significance of the historic landscape.

Fencing. Two types of wood fencing area used throughout the park: snake rail, also known as a zigzag or worm; and post-and-rail. Snake rail fencing is an American style of stacked, split rail fencing that was used historically in places where there was an abundance of lumber and a shortage of labor. This fencing type required more wood to build than other fence types. However, it did not require the setting of posts and could therefore be built and moved relatively easily when fields were abandoned due to depleted soils. It was the most prevalent fence type used by local farmers. In the nineteenth century, fences were used primarily to exclude livestock, which were permitted to forage

418. Ibid.
419. Ibid.
420. Texas Historical Commission, "Texas Civil War Monuments," http://www.thc.state.tx.us/militarysites"milcivwr.shtml (accessed September 30, 2011).
421. National Park Service, "List of Classified Structures."
422. Ibid.

freely, from crop fields and dwelling precincts.[423] Snake fencing was one of the small-scale features that marked the landscape at the time of the battle that is now missing.

FIGURE 345. Dedication of the Georgia Monument in 1964.

Today, snake rail fencing is frequently used at Civil War battlefield parks to control vehicular access to historic sites while providing a visual reference to farming techniques of the historic period. In the 1970s and 1980s, snake rail fencing was erected around several open fields at Kennesaw.[424] It does not appear that the fencing replicates historic locations or accurate nineteenth century building techniques.[425] The existing examples of snake rail fencing postdate the period of significance and do not contribute to the significance of the historic landscape.

Post-and-rail fencing is another historic fence type used in rural areas prior to the Civil War. This type of fencing used less wood, but required more labor to construct. Post-and-rail fences are used throughout the park, often where pedestrian trails follow heavily-trafficked roads, but also along some of the hiking trails. The existing examples of post and rail fencing postdate the period of significance and therefore do not contribute to the significance of the historic landscape.

Other forms of fencing found within the park include chain-link used around the maintenance complex and behind the visitor center to protect utility boxes. This fencing also postdates the period of significance and does not contribute to the significance of the historic landscape.

Gates. Since 2010, the park has erected several automatic gates at park entrance roads, such as Cheatham Hill Drive, to restrict access when the park is closed. These gates are hung from sandstone piers. The gate features postdate the period of significance and do not contribute to the significance of the historic landscape.

There are also older gates associated with breaks in post and rail fencing used for internal park access and service drives. These are typically brown-painted tubular metal structures hung from posts set in concrete. The posts supporting the gates are usually marked with a white painted number. The gates often feature informational signs, either mounted on or close to the gate, about park area opening and closing schedules and other instructional or regulatory information. These gates appear to postdate the period of significance and do not contribute to the significance of the historic landscape.

Guard rails. Steel, W-beam guard rails edge either side of the vehicular bridge crossing of the Western & Atlantic Railroad rail line along Stilesboro Road. These guard rails are relatively recent additions, postdate the period of

423. National Park Service, "Annotations for Historical Base Map," 1.
424. Capps, 25.
425. National Park Service, *Historic Resource Management Plan*, I:6.

significance, and do not contribute to the significance of the historic landscape.

Handrails. Handrails are a safety addition to the stairs and terrace of the Kennesaw Mountain overlook. They are composed of steel tubing, painted silver. Steel tubing, painted brown, is also used for handrails associated with stairs located elsewhere throughout the park. Both of these handrail features postdate the period of significance and does not contribute to the significance of the historic landscape.

Edging. Large, native stone boulders have been placed along the margins of Kennesaw Mountain Drive as a safety edging or bollard feature. Use of boulders as a roadway edging began in the 1930s as part of the rustic style used in many national and state parks. These boulders, however, were likely placed along the road as part of the redesign of the parking area to accommodate the overlook in 1964 and therefore postdate the period of significance and do not contribute to the significance of the historic landscape. The Kennesaw Mountain Drive parking area is edged by granite curbing that also postdates the period of significance.

Steel edging is used to contain planting beds at the visitor center. The edging postdates the period of significance and does not contribute to the significance of the historic landscape.

Concrete wheel stops and concrete curbing edge the nearby visitor center parking area. These features similarly postdate the period of significance and do not contribute to the significance of the historic landscape.

Site Furnishings. Site furnishings used within the park landscape to accommodate visitors include kiosks, benches, picnic tables, grills, trash cans, drinking fountains, bike racks, a flagpole, and lighting. Except for the eight brick entrance signs located along public road corridors leading into the park, all of the existing site furnishings postdate the period of significance and do not contribute to the significance of the historic landscape.

The one exception is a single brick masonry grill structure that remains, relatively intact, along the circle loop road of the former CCC camp. This features dates to CCC camp use of the site. However, the metal grill work is no longer extant and the feature does not retain integrity. It therefore does not contribute to the significance of the historic landscape.

Park Entrance Monument Signs. In 1941, the CCC installed eight red brick park entrance monument signs to mark the park boundary along each public road corridor with the exception of the western park boundary along Powder Springs Road. The monuments feature a wide brick base set in a running bond pattern. The base supports a brick sign panel, also constructed in running bond. The panel is supported on each end by a brick pier, constructed in stacked bond that conveys rustic quoining. The panel supports a cast iron sign that reads "National Park Service, Kennesaw Mountain National Battlefield Park, United States Department of the Interior." These features survive with integrity to the period of significance and contribute to the significance of the historic landscape, as discussed individually below.

- **Burnt Hickory Road, East boundary** (LCS 091338, park structure HS-33). The sign was rehabilitated in 2007 by repointing, cleaning, and painting. Potential threats to its condition include weather and vandalism.

- **Burnt Hickory Road, West boundary** (LCS 091339, park structure HS-34). In the 1980s, the sign was heavily damaged when hit by a car. Although the metal plaque was unharmed, two anchor bolts were subsequently lost. The sign was rehabilitated in 2007 by repointing, cleaning, and painting. Potential threats to its condition include park operations, weather, vandalism, and visitation.

- **Dallas Highway, East boundary** (LCS 091337, park structure HS-32). The sign was rehabilitated in 2007 by repointing, cleaning, and painting. Threats to its condition include weather and vandalism.

- **Dallas Highway, West boundary** (LCS 091336, park structure HS-31). The sign was rehabilitated in 2007 by repointing, cleaning, and painting. Potential threats to its condition include weather and vandalism.

- **Old U.S. Highway 41, East boundary** (LCS 091332, park structure HS-27). The sign was rehabilitated in 2007 by repointing, cleaning, and painting. The sign is susceptible to threats that include weather and vandalism.

- **Old U.S. Highway 41, West boundary** (LCS 091334, park structure HS-29). In 2007, the sign exhibited damage due to water penetration, mortar failure, and warping of the plaque. The sign was rehabilitated in 2007 by repointing, cleaning, and painting. Potential threats to the condition of the sign include weather, neglect, and vandalism.

- **Powder Springs Road, East Boundary** (LCS 091335, park structure HS-30). In 2007, the base of this sign exhibited some damage and the plaque needed repainting. The sign was rehabilitated by repointing, cleaning, and painting. Possible threats to the condition of the sign include weather and vandalism.

- **Stilesboro Road, West Boundary** (LCS 091333, park structure HS-28). This sign is narrower than the others. In 2007, the sign was assessed as having suffered some water damage. The sign was rehabilitated in 2007 by repointing, cleaning, and painting. Threats to the condition of the sign include weather and vandalism.

Cannon. Today, several cannon are located within the park to mark Civil War-era artillery positions as an interpretive aid for visitors. The origin of the individual cannon is not currently known, but any that were placed by 1942 contribute to the significance of the historic landscape.

In 1941, seven Civil War-era artillery are known to have been transferred to the park from Chickamauga and Chattanooga National Military Park. Three were placed at the site of Mebane's Battery at Cheatham Hill.[426] Little else is currently documented regarding cannon acquisition by the park until the 1960s.

In 1967, a 218-pound Howitzer tube was stolen from the utility area. It was later recovered by the FBI in 1974.[427]

In 1968, a temporary plaza was built to display four cannon in front of the visitor center while a battery of cannon was reestablished atop Little Kennesaw Mountain. Two H-34 Sikorsky Choctaw helicopters from the Reserve Helicopter Squadron 765 of the Naval Air Station in Atlanta lifted three 350-pound cannon to the top of Little Kennesaw. They were then reassembled and moved into position with mule teams. Four Napoleon guns have been in position atop Big Kennesaw as an interpretive aid for visitors since at least 1969, and in their current positions since at least 1974.

In the 1970s and 1980s, additional cannon were placed at selected sites around the battlefield.[428] The park is known to have received approximately twenty bronze, cast iron, or wrought iron field artillery pieces mounted on cast iron display carriages as surplus from other parks during this time.[429] In 1988, two field exhibit Napoleon guns and carriages were mounted in the Turner's Mississippi artillery emplacements at Cheatham Hill.[430]

Utilities. Above-ground evidence of utilities within the park include above-ground water pipes at the CCC camp site, fire hydrants along public roads, a water standpipe in planting bed front of the visitor center, a large concrete utility cover at the visitor center adjacent to Stilesboro Road, and wood telephone and electrical poles with lines and anchors. Only the drainage pipes at the base of the Illinois Monument appear to date from the period of significance. The others postdate the period of

426. Capps, 60.
427. Ibid., 62–63.
428. Ibid., 35.
429. National Park Service, *Historic Resource Management Plan,* 1977, II:11.
430. Ibid., 65.

significance and do not contribute to the significance of the historic landscape.

In 1941, the National Park Service identified an approach to utilities that likely resulted in some of the park's current appearance and character: "Kennesaw Mountain battlefield is being restored as nearly as possible to the conditions which existed during the summer of 1864, so that we will desire to conceal all modern utilities in order to enhance this picture and, in addition, to provide a safety factor."[431]

During the 1930s and 1940s, the park administrative complex derived its water from wells, and included septic drain fields. Construction of the Mission 66-era visitor center similarly relied on well water and an on-site sewage disposal system and drain field. Today, the park is connected to public water and sewer systems, replacing the need for wells and septic fields.

Adjacent Features

Kolb family cemetery. Located adjacent to the Kolb Farm property but outside of the park boundary is a family cemetery marked by several headstones enclosed within a perimeter wall. The cemetery is thought to have been established circa 1837, with work conducted to stabilize its features in 1967. Surrounded by a wall, the 48 by 50 foot cemetery contains eleven marked graves with marble headstones (LCS 090150; park structure HS-25), dating from 1839 to 1955. The oldest headstone is a rounded shaft mounted on a pedestal; the shaft is loose and could easily be vandalized. Mold appears on several of the smaller markers. Other threats to their condition include weather, biological degradation such as mold, and neglect.

Kolb family cemetery wall. (LCS 090150, park structure HS-25). The Kolb family cemetery headstones are enclosed within a low, 2- to 4-foot-high concrete wall, the age of which is not currently known. Cement patches that appear in pairs across the top surface of the cemetery wall are possible remnants of former fencing. The wall itself has sustained fractures due to the settling of the ground beneath it. There is moss and mold growth along the wall, particularly in shaded areas.

Missing Small-scale Features

Sign systems and boundary markers. In the late 1930s, as part of the enhanced interpretive program envisioned by park Historical Foreman, later Superintendent, B.C. Yates, temporary exhibits were placed along the Cheatham Hill trail. This was followed in 1941 by the first roadside exhibit installed along Cheatham Hill Drive (Figure 346).

Around this same time, cast-iron entrance signs were erected along U.S. Highway 41 and the Dallas Highway, and concrete posts with metal inserts were used to mark the park boundary.[432] Any surviving examples of these markers would date from the period of significance and contribute to the significance of the historic landscape; it is not currently known if any of the boundary markers survive today.

FIGURE 346. Trailside exhibit.

In 1942, illustrated narrative markers were installed in association with the Confederate fortifications at Cheatham Hill as well as the Confederate battery position on Kennesaw Mountain.

In 1945, several proposals were made to enhance interpretive programming within the park. It is not likely that these plans were implemented.

431. National Park Service, "Headquarters Area," 1941 Master Plan, sheet no.9.

432. Capps, 17; National Park Service, "Federal Assault on Cheatham's Salient," part of the Master Plan, Sheet no. 5-1, 1941.

However, they suggested the installation of an interpretive sign at the Kolb House, interpretive signs at an overlook on the Federal line opposite Cheatham Hill, and an overlook in front of the Federal trenches at Pigeon Hill.[433]

By 1956, a self-guiding tour with special route markers, roadside exhibits, interpretive markers, and a guide sheet are known to have been in place within the park.

As part of the Mission 66 program, several new interpretive programs were established at the park, including the construction of exhibits as part of a new visitor center. By 1960, two tours of the battlefield had been marked for visitors. Both began at the Hyde House and ended at Cheatham Hill. New exhibits included a Sidney King painting of the Federal bombardment of Kennesaw Mountain. A second Sidney King painting, "The Crest of Kennesaw," was positioned on the crest trail of Kennesaw Mountain in 1963. It depicted a bird's eye view of the mountain and activities that occurred there in June 1864. Temporary exhibits were considered for the crest of Little Kennesaw, the Federal positions on Burnt Hickory Road and Dallas Highway, and the Federal skirmish line near the Kolb House. It is not currently known whether these exhibits were installed.

During the early 1970s, the National Park Service conducted an evaluation of the park's existing sign systems, which revealed a need to refurbish or replace many of the outdoor exhibits. Based on the assessment, four new aluminum interpretive markers were installed around the park.[434] In the 1970s and 1980s, an interpretive exhibit was erected at the Illinois Monument and the interpretive signs atop Kennesaw Mountain were refurbished. In the 1980s, smaller interpretive metal photo signs were installed throughout the battlefield.

In 1963 as part of roadwork projects funded through Mission 66, new boundary and entrance signs were also erected.[435]

None of these features appears to survive today.

Barb-wire fencing at Cheatham Hill. In 1932, the War Department erected a three-strand barbed wire fence on the south, west, and part of the east boundary of the Cheatham Hill reservation that is no longer extant.

Picnic tables at Cheatham Hill. In the 1970s and 1980s, picnic tables were removed from Cheatham Hill. The date of origin of these features is not currently known.

Registration desk at Cheatham Hill. One of the more successful interpretive devices used at Kennesaw Mountain National Battlefield Park was an experimental registration desk sited at Cheatham Hill (refer to Figure 337). Mounted at the beginning of the trail in the 1930s, it featured literature displayed under glass with registration sheets kept inside. It proved popular and inspired the establishment of a similar feature at Gettysburg.[436] It is not known when this feature was removed.

Well. In 1965, an abandoned well near Cheatham Hill was filled in after a visitor encounter .

Audio-visual devices. Remote audio stations were installed at several locations around the park in the 1960s, including the crest of Kennesaw Mountain, at Kolb Farm, and at Cheatham Hill. They were very successful but also the target of vandalism.[437] The date of their removal is not currently known.

Fire boxes. In the 1930s and 1940s, fire caused by the North Carolina and St. Louis Railroad, which used coal to fuel its engines, led to the burning of more than 240 wooded acres within the park. To prevent future fires, several boxes containing

433. Capps, 30.
434. Ibid., 31.
435. Ibid., 24.
436. Ibid., 29.
437. Ibid., 31–32.

firefighting tools were built within the park.[438] The location of the fire boxes is not currently known. The problem was alleviated when diesel engines replaced coal-fired engines. In 1952, park planning documents continued to make reference to the problem. It is also not known when these features were removed.

Contributing Small-scale Features

- C. H. Coffey Marker
- Fellows Marker
- Grave of Unknown U.S. Soldier
- McCook Brigade Marker
- Park brick entrance monument signs (8)
- Cannon (portion)

Non-contributing Small-scale Features

- Neighbour Marker
- Texas Monument
- Georgia Monument
- Georgia state historical markers
- Wood fencing (snake rail and post-and-rail)
- Metal gates
- Stone pillars at park entrances with powder-coated aluminum gates
- Handrails
- Boulder edging
- USGS marker atop Kennesaw Mountain
- Cannon (portion)
- Wood viewing platform and fenced trail at Pigeon Hill
- Lighting
- Bike racks
- Trash receptacles, recycling bins, plastic bag dispensers
- Picnic tables
- Grills
- Drinking fountains
- Benches
- Kiosks
- Signage
- Flagpole
- Utilities

Missing Small-scale Features

- Various sign systems
- Barbwire fencing at Cheatham Hill
- Picnic tables at Cheatham Hill
- Registration desk at Cheatham Hill
- Well near Cheatham Hill
- Utilities associated with original administrative complex,1930s and 1940s
- Audio-visual interpretive devices
- Fire boxes

438. Ibid., 38.

Archeological Sites

Little is currently known about archeological sites located within the park. Investigations completed to date have included:

- 1939. In 1939, the park superintendent, B. C. Yates, conducted excavations to determine the location of Confederate fortifications between Dallas Highway and the Cheatham Hill area to support planning for the new proposed entry road and avoid the locations of former earthworks not evident aboveground. The work, which also involved support by archeologist Charles H. Fairbanks, revealed the locations of several earthworks.[439]

- 1975. The National Park Service contracted with David J. Hally and Anne F. Rogers of the University of Georgia to conduct a systematic archeological survey of the park to identify prehistoric and historic features, as well as those that would be disturbed by the installation of fencing along the park boundary. Although limited in scope, the survey located seventy-two historic sites and features including the sites of seven buildings, an unrecorded section of trench, two sleeping pit sites, and five prehistoric sites.[440]

- 1980. Cobb County archeologist Lawrence W. Meier conducted a survey of proposed sewer lines in the Dallas-Marietta highway right of way and the construction of water pollution control facilities along Noses Creek. No new sites were discovered within the park as part of the survey.[441]

- 1982. Meier identified a large number of stone cairns and linear stone 'rays' and walls in the lowlands north and west of Kennesaw Mountain, toward which they appear to be oriented. These were identified as originating during the Archaic prehistoric period.[442] The investigations suggested that there may be as many as 500 of these prehistoric rock mounds within the park.[443] These features suggested a connection to "the first human inhabitants of north Georgia . . . the Mound Builders, who moved into the area circa A. D. 900. The largest site of these ancient people was at Etowah in Bartow County, but the presence of numerous small rock mounds around Kennesaw Mountain indicate they may have lived in this area as well. The Mound Builder civilization eventually ceased to exist."[444] Additionally, "The descendants of the Mound Builders were the Creek Indians, who inhabited north Georgia until A. D. 1700. They were later displaced to the south by the Cherokee, who lived in small scattered farm communities north of the Chattahoochee River and had villages in Cobb County. One—Kennesaw town—was at the base of Kennesaw Mountain."[445]

- August 1985. National Park Service archeologist Allen H. Cooper surveyed and tested the proposed route of a universally accessible trail from Gilbert Road to the Federal Twenty-Four-Gun Battery. No artifacts were recovered as part of the effort.[446]

- 1985. The National Park Service Southeast Archeological Center surveyed and tested an area which would be impacted by the widening of Powder Springs Road. The investigations focused on locating the foundation of a blacksmith shop indicated on a 1937 map. The foundation was not located.[447] During the investigations, however, another feature was discovered and later investigated by National Park Service archeologists John Walker and Allan Cooler.

439. Jessica McNeil and Robert Hellmann, "An Archeological Investigation of a New Trail System at Kennesaw Mountain National Battlefield Park, Kennesaw, Georgia" (Tallahassee, Florida: Southeast Archeological Center, National Park Service, 2010), 25.
440. Ibid., 25.
441. Ibid.
442. Moore, Cooper, and Walker, 14.
443. Capps, 40–41.
444. Ibid., 1.
445. Ibid.
446. McNeil and Hellman, 27.
447. Ibid., 26.

The feature was determined to be part of a retaining wall built after 1870.[448]

- 1986. In order to mitigate proposed construction of the horse trailer parking area, archeological investigation was conducted north of Powder Springs Road and west of Cheatham Hill Road. Although subsurface testing did not reveal any artifacts, metal detecting survey of the area using North Georgia Relic Hunters under the supervision of National Park Service archeologists revealed several artillery shell fragments, canister shot, bullets, and minie balls.[449]

- 1987. The Georgia Department of Transportation archeologist William R. Bowen surveyed and tested a corridor along the portion of Dallas Highway within the park. Ten historic features were discovered, including three house sites, such as the Ballenger House, and a group of rifle pits that had previously not been recorded.

- 1991. In 1990, Robert Entorf continued the work initiated by William Bowen to survey sites along Dallas Highway. Entorf located additional Civil War battle related artifacts.[450]

- 1991. Section 106 clearance for a proposed sidewalk near the visitor center conducted by SEAC archeologist Douglas Potter yielded only artifacts relating to modern construction.[451]

- 1993. SEAC archeologists John E. Cornelison, Jr. and Debbie Leslie conducted a metal detector survey along the north side of Dallas Highway prior to the installation of underground utility lines. During the survey, which involved members of the North Georgia Relic Hunters Association, 108 artifacts were recovered, including minie balls, nails, and eating utensils.[452]

- 2003. SEAC archeologist John E. Cornelison, Jr., conducted a survey prior to the establishment of a new trail system on the southwest portion of Little Kennesaw Mountain. Metal detecting was used as part of the survey. A total of 310 artifacts were found, including shell fragments, minie balls, sabot fragments, canister shot, and two cannon fuse primers.[453]

- 2010. Archeologists from the NPS SEAC conducted archeological investigation of a new trail system and related proposed parking lot and comfort station projects associated with the interpretation of Union Army positions at Kennesaw Mountain National Battlefield Park. The investigations uncovered 1,157 artifacts relating primarily to the battle and nineteenth-century lifeways.

Also of interest to future archeological investigations is the site of the CCC camp at the base of Kennesaw Mountain. Little is currently known about the camp. The efforts of the CCC to develop national and state parks throughout the United States are typically considered of national significance, and the archeological information potential associated with the camp may be found to contribute to the significance of the park.

448. Ibid.
449. Ibid., 26–27.
450. Ibid., 27–28.
451. Ibid., 28.
452. Ibid., 29.
453. Ibid., 30.

Integrity

The primary objective of this section is to determine to what degree the park retains its ability to convey its historical associations with significant events in American history. National Register Bulletin: *How to Apply the National Register Criteria for Evaluation* states that

> Integrity is the ability of a property to convey its significance. . . . Historic properties either retain integrity (that is convey their significance) or they do not. Within the concept of integrity, the National Register criteria recognize seven aspects or qualities that, in various combinations, define integrity.
>
> To retain historic integrity a property will always possess several, and usually most, of the aspects. The retention of specific aspects of integrity is paramount for a property to convey significance. Determining which of these aspects are most important to a particular property requires knowing why, where, and when the property is significant.[454]

Assessment of integrity is based on an evaluation of the existence and condition of physical features dating from a property's period of significance, taking into consideration the degree to which the individual qualities of integrity are present. The seven aspects of integrity included in the National Register criteria are location, design, setting, materials, workmanship, feeling, and association. As noted in Bulletin 15:

> **Location** is the place where the historic property was constructed or the place where the historic event occurred; **setting** is the physical environment within and surrounding a property; **design** is the combination of elements that create the form, plan, space, structure, and style of a property; **materials** are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property; **workmanship** is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory; **feeling** is a property's expression of the aesthetic or historic sense of a particular period of time; and **association** is the direct link between an important historic event or person and a historic property.[455]

Battlefield Integrity

Overall, the integrity of the park landscape remains high due to the numerous surviving resources that may be tied to the 1864 battles such as landform, topography, water resources, eleven miles of Civil War earthworks, the Kolb House and cemetery, Wallis House, antebellum roads such as Stilesboro, Dallas, Burnt Hickory, and traces of the Old Antebellum Road and the Marietta-Cassville Road, and the Western & Atlantic Railroad rail lines. The most dramatic change to the park landscape that has affected its integrity is the extent of woodland cover that exceeds that present at the time of the battle.

According to National Register Bulletin, *Guidelines for Identifying, Evaluation, and Registering America's Historic Battlefields*, the most important aspects of integrity for battlefields are location, setting, feeling, and association. For this reason, the assessment of the park's battlefield integrity will focus on these aspects. As well, the bulletin suggests an approach to assessing overall integrity that is relevant to this study:

> Battlefields cannot be frozen in time... Even where efforts to preserve the battlefield were initiated almost immediately, as at Gettysburg, it proved impossible to perpetuate the scene in the exact form and condition it presented during the battle. Instead, Gettysburg presents several layers of history, including its post-battle memorialization. The best-preserved battlefields appear much as they would have at the time of the battle, making it easy to understand how strategy and results were shaped by the terrain. All properties, however, change over time and nearly all battlefields will contain non-contributing properties. The impact of non-contributing properties on a battlefield as a whole depends not only on their number, but also on their nature and location and the size and topography of the battlefield. While this is a subjective judgment, there are

454. National Park Service, National Register Bulletin: *How to Apply the National Register Criteria for Evaluation*, 44.

455. Ibid., 44–45.

> some general principles for assessing integrity. If the type of non-contributing property reflects a continuing layer of development of traditional land use, then the impact of these properties may not be as great as that of modern properties that do not reflect the historic use of the land. For example, in battlefields located in rural or agricultural areas, the presence of farm related buildings dating from outside the period of significance generally will not destroy the battlefield's integrity. It is important that the land retain its rural or agricultural identity in order for it to convey its period of significance. The impact of modern properties on the historic battlefield is also lessened if these properties are located in a dispersed pattern. If a battlefield is characterized by rolling topography, the impact of later non-contributing properties may also be lessened. The covering of former open fields with trees is a natural and reversible alteration to the landscape. If it can be demonstrated that, despite the forestation of an area, the battle took place in that particular spot, then the battlefield retains integrity of location.[456]

The battlefield generally retains integrity of location, setting, feeling, and association relative to the landscape present in 1864. Covering a good portion of the battlefield core areas, the park clearly retains integrity of location. It also generally retains most patterns of spatial organization, landform and topography, and natural systems that were present in 1864, which contribute to the integrity of association since, as stated in the bulletin: "the best-preserved battlefields appear much as they would have at the time of the battle, making it easy to understand how strategy and results were shaped by the terrain."[457] The primary difference in historic patterns of spatial organization relate to the degree and composition of woodland cover, which suggested by the quote included above from the National Register Bulletin, may be considered a reversible condition that does not necessarily lead to a loss of integrity. The park's setting is another aspect where integrity is diminished due to the extent of residential subdivision development along its boundaries that is often within view of visitor use areas and overlooks, and the widening of road corridors that pass through the park. To a degree, the park's integrity of feeling is also diminished by the loss of antebellum farmsteads and field patterns and twentieth-century improvements to roadways. Some of the features of the nineteenth century landscape have been irretrievably lost, including all farmsteads present at the time of the battle with the exception of the Kolb and Wallis houses. Although information about these properties likely survives in the archeological record, their absence has diminished the integrity of the battlefield for the 1864 period of significance.

Commemorative Era and Early Park Integrity

A subsequent layer of significant landscape features associated with Civil War commemoration was added to the battlefield and was incorporated into a national park during the first half of the twentieth century. These commemorative and park administration and interpretation features retain a high degree of integrity to the circa 1899–1942 period of significance. They include internal road and trail systems, patterns of landcover and spatial organization, park maintenance features, monuments, markers, and signs, as well as park-related land uses. As a whole, the park landscape retains integrity of location, feeling, setting, association, design, workmanship, and materials for the commemorative and park development period of significance. This integrity has been diminished by several features established during the Mission 66 period, which in turn were later altered.

456. Patrick W. Andrus, National Register Bulletin: *Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields* (Washington: U.S. Government Printing Office, 1992), 11–12.
457. Ibid., 11.

Treatment Plan

Introduction

This treatment plan has been prepared to provide the National Park Service with an overall vision for future management of Kennesaw Mountain National Battlefield Park's cultural landscape. The plan is intended to guide and support long-term management and interpretation of the park and its resources. It is comprised of treatment guidelines, recommendations, and implementation projects. It is integrally tied to the guidance afforded in Appendix B, the Earthworks Management Plan (EMP).

Kennesaw Mountain National Battlefield Park is currently operating with an outdated General Management Plan (GMP), the document that typically serves as the overarching guide for managing historic, cultural, and natural resources. GMPs typically serve as a baseline for CLR treatment plans. Because the park's GMP does not reflect up-to-date plans and conditions, the CLR treatment plan responds to the specific management issues, concerns, and objectives provided by park and regional National Park Service personnel during the course of this project (*see section that follows*) and in the scope of work. It also addresses stewardship of historic, cultural, and natural resources of the cultural landscape in accordance with federal guidelines.

The treatment plan is divided into six sections.

1. **Park Management Goals, Issues, and Concerns**, which describes the issues raised by the park for consideration within the CLR treatment plan;

2. **Recommended Treatment Approach**, which presents the four approaches recognized by the Secretary of the Interior for treating historic properties, and identifies the CLR's recommended approach for the Kennesaw Mountain National Battlefield landscape;

3. **General Management and Design Guidelines for Treatment**, which provides overarching guidelines for resource management within the park landscape;

4. **Treatment Concept**, which conveys a comprehensive vision or concept for landscape treatment within the park to meet the issues, goals, and concerns identified as part of this project;

5. **Treatment Recommendations**, which provides specific cultural landscape treatment recommendations that identify the individual actions required to address the park's management goals, issues, and concerns; and

6. **Implementation Projects**, which identifies and describes a series of projects that effect implementation of the CLR treatment recommendations, focusing primarily on the efforts required to address the park's identified goals, issues, and concerns.

Park Management Goals, Issues, and Concerns

The management goals, issues, and concerns to be addressed by this treatment plan were identified in two ways. The majority were conveyed during a project kick-off meeting held on May 12, 2010, at the park and attended by National Park Service park and regional personnel and members of WJE/JMA's CLR team. Others were gleaned from field investigations, review of previously prepared planning and inventory documents, and the project scope of work. These issues are discussed below.

1. *Management strategies are needed for recent and anticipated land acquisitions, including the Hensley property, Wallis House property (including Signal Hill), and Hayes Farm.*

   The park recently acquired, or in the process of receiving title to, several properties associated with the Battle of Kennesaw Mountain. These properties include the recently acquired Hensley property and the pending acquisition of the Hayes Farm. The park is working with the Trust for Public Land and the Civil War Trust to acquire this property. Another parcel is planned for donation to the park—the Wallis House—but cannot be added without Congressional legislation, as the parcel does not fall within the park's authorized boundary. The CLR should consider a resource management strategy for newly acquired properties.

2. *Park trails cross several busy public road corridors. Recommendations for enhancing pedestrian safety at these trail crossings should be considered in the CLR.*

   Because the park is crossed by several busy road corridors, the trail systems that link park features include crossings of these thoroughfares. The National Park Service has been adding traffic signals and traffic calming elements to the crossings as possible. The park plans to add more traffic calming and pedestrian safety features such as flashing signs to improve safety at pedestrian crosswalks. The crossings of greatest concern presently include the two along Burnt Hickory Road, one along Dallas Road, and one along Cheatham Hill Road. A proposal to build a trail to the Twenty-Four-Gun Battery site from the vicinity of the visitor center would also require an additional pedestrian crossing of Old Mountain Road. The CLR should consider this issue and potential impacts to the cultural landscape.

3. *Proposed widening of Powder Springs Road will affect the integrity of the Kolb Farm.*

   Cobb County plans to improve the intersection of Powder Springs Road, Cheatham Hill Drive, and Callaway Road near the Kolb Farm. Their plan suggests road widening and the addition of a turn lane. The project will impact the character of the Kolb Farm. The CLR should consider ideas for enhancing screening and pedestrian and vehicular safety as regards visitors to the park property.

4. *Strategies are needed to mitigate the challenges posed by high visitation and limited staffing.*

   Kennesaw Mountain National Battlefield Park is the largest continuous green space in the metropolitan Atlanta area and receives very heavy use, estimated at 1.9 million visitors annually. Drive-through visitation exceeds 3 million visitors annually. The park estimates that 10,000 cars pass through the Kolb Farm intersection per day, and that 97,000 cars pass through the park per day. Staffing is very limited for the size of the park, with only fifteen full time employees, three part-time seasonal interpretive employees, three seasonal maintenance employees, and 1-1/2 part-time year-round employees. Although the National Park Service typically averages 1 staff person per 18,500 park visitors, Kennesaw has a staff/visitor ratio of only 1 per 126,000, which is the lowest in the National Park System. Any suggestions for addressing this problem incorporated into the CLR would be of value to the park.

5. *Parking is insufficient to accommodate visitation, despite several recent parking area expansion projects.*

   Several parking areas have recently been added along public road corridors to accommodate park visitors. One of these parking areas is located along the rail line and includes 279 new spaces. This site was developed by Cobb County; it will be transferred to the park when complete. These parking facilities offer much needed space to augment the 86 spaces available in the visitor center parking lot. Newly acquired and completed parking facilities include 71 parking spaces at Cheatham Hill Drive and 72 spaces along Burnt Hickory Road. Recommendations for better accommodating the parking needs of visitors included in the CLR would also be of value to the park.

6. *Further landscape rehabilitation efforts are needed to return appropriate portions of the park to their wooded or open condition at the time of the Civil War Battle of Kennesaw Mountain.*

   The park is currently conducting several efforts to return areas to their historic Civil War-era landcover type. These efforts include tree removals to restore historic open space patterns at the Peel Field, and the introduction of hybrid American chestnut trees near the Peel Field, the visitor center, and the Twenty-Four-Gun Battery site where open fields now occupy historically wooded areas. Additional guidance is needed to continue these efforts.

7. *The park seeks guidance regarding field management.*

   The park maintains special use permits with local farmers for haying fields that help to maintain historic patterns of open space. Any guidance regarding the appropriate approach for field management would be of value.

8. *The park seeks guidance regarding invasive plant control.*

   The park is currently challenged to control several invasive plant species, including bamboo, mustard, privet, Japanese honeysuckle, English ivy, kudzu, and jasmine. Any guidance regarding the appropriate approach for invasive plant control would be of value to the park.

9. *The park seeks guidance regarding trail use and maintenance.*

   Equestrian use is permitted on many trails; the park is one of the few areas in metropolitan Atlanta where public horseback riding is possible. A horse trailer parking area is located at the south end of the park. Recommendations relating to resource management as it pertains to equestrian use would be of interest.

   Most of the trail maintenance performed within the park (approximately 95 percent) is conducted by volunteers under a cooperative agreement with a local trail club. Volunteers typically work on the trails two weekends per month. In fiscal year 2012, volunteers logged over 25,000 hours of service to the park. There is also a "Trail Ambassador" program where trail volunteers guide appropriate behavior by visitors. Recommendations for improving trail maintenance would be of value to the park.

10. *The park seeks guidance regarding protection and interpretation of buildings and sites.*

    Both the Kolb and Wallis house properties are challenging for visitors to access. Neither is extensively interpreted. There are also several nineteenth-century homestead sites located within the park. These are marked with signs but little interpreted. Recommendations that support enhanced access and interpretation of these battle-era features would be of value to the park.

    Although the former CCC camp at the base of Kennesaw Mountain is interpreted, additional information about the camp and an evaluation of its significance, both at a local level and as an archeological site, are merited. The

importance of specific resources such as tree plantings that were reportedly part of the CCC parade ground have never been addressed, nor has the archeological information potential of the camp.

Investigation into whether a multi-property or thematic National Register nomination for CCC camps exists would be of value. Recommendations should be developed to support preparation of a nomination, and enhanced interpretation of these early park development-era features.

Prehistoric sites within the park, including two "Indian Village Sites" (possibly Cherokee) are not sufficiently interpreted; these sites are noted on a map interpreting the events of the battle prepared by Ed Bearss. The connection of the park to the Trail of Tears is also not sufficiently interpreted.

Recommendations should be developed to support enhanced interpretation of these features.

11. *The park seeks guidance regarding National Historic Landmark status.*

12. The park expressed interest in nominating the battlefield as a National Historic Landmark (NHL). *The park seeks guidance regarding earthworks stabilization.*

    Stabilization work was performed at the Twenty-Four-Gun Battery last year. Additional work is merited at this battery as well as several other sites. The CLR should address the appropriate approach to conducting this work.

13. *The park seeks guidance regarding proposed relocation of the Georgia Monument.*

    The park is currently considering moving the Georgia Monument to the location where troops from Georgia fought during the Civil War, which occurs near Pigeon Hill along Burnt Hickory Road. It is currently underappreciated due to its location away from primary visitor use areas. The CLR should comment on the appropriateness of this proposal.

14. *The park seeks guidance regarding rehabilitation of the Illinois Monument.*

    The Illinois Monument is slated for repair and rehabilitation. The work will be performed by the National Park Service Historic Preservation Training Center in Fiscal Year 2013 or 2014. The CLR could provide guidelines for appropriate methods of repair and rehabilitation, if this work has not yet been completed when the report is published.

15. *The park seeks guidance regarding its pending new sign plan.*

    A new sign design plan is in the process of being developed for directional and interpretive signs that is planned for implementation in May 2013. The plan does not include waysides. The CLR could provide guidance regarding the appropriate character and location for new signs depending on the timing of the two reports.

16. *The park seeks guidance regarding its pending visitation study.*

    An African-American focus group study has been conducted to identify additional areas of interest for interpretation within the park. Any connections between this information and cultural landscape treatment should be identified in the CLR.

17. *The park seeks guidance regarding special events.*

    The park conducts several special events each year, including the annual anniversary weekend and a special September 11th anniversary flag show. These should be taken into consideration as part of the CLR treatment plan.

Recommended Treatment Approach

The four treatment approaches recognized by the Secretary of the Interior for historic properties were considered in conjunction with the park's objectives in developing this CLR in order to determine the approach most suitable for the Kennesaw Mountain National Battlefield Park landscape. Described in *The Secretary of the Interior's Standards for Historic Properties* as forming "the philosophical basis for responsible preservation practice and enable long-term preservation of a landscape's historic features, qualities, and materials,"[458] the approaches are preservation, rehabilitation, restoration, and reconstruction. The approaches are defined as:

Preservation: the act or process of applying measures necessary to sustain the existing form, integrity, and material of a historic property. Includes stabilization work, where necessary, as well as ongoing preservation maintenance and repair of historic materials and features.

Rehabilitation: the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

Restoration: the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by removing features from other periods in its history and reconstructing missing features from the restoration period.

Reconstruction: the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

Recommended Treatment Approach for Kennesaw Mountain National Battlefield Park

Based on the park's need to meet current and projected future interpretive, functional, and management goals, **rehabilitation** is recommended as the most appropriate overarching treatment approach for the Kennesaw Mountain National Battlefield Park landscape. Because rehabilitation is defined as the act or process of making possible a compatible use for a property, this approach allows for protection of the site's historic character and resources while carefully addressing the need for limited enhancement of interpretive opportunities and circulation routes, ecological maintenance and restoration, and the improvement of visitor amenities.

As part of rehabilitation, stabilization, protection, and preservation of historic and natural resources are assumed even when new uses are accommodated. Areas of the landscape that are particularly sensitive to change and disturbance, such as sites of known and potential archeological resources, should be treated with great care, and possibly considered for preservation under the umbrella of rehabilitation. For example, the CLR recommends that archeological resources be preserved in situ unless a compelling research question or informational need justifies disturbance or excavation. Archeological investigation is warranted should mitigation be necessary to accommodate unavoidable change or ground disturbance.

In considering the other treatment alternatives recognized by the Secretary of the Interior for the park's cultural landscape, the CLR found them inappropriate for the following reasons:

Preservation is overly restrictive because it does not allow for the changes associated with interpretation and access currently proposed by the park.

458. Robert R. Page, Cathy A. Gilbert, and Susan A. Dolan, *A Guide to Cultural Landscape Reports; Contents, Processes, and Techniques* (Washington, D.C.: Department of the Interior, 1998), 82.

Restoration and **reconstruction** are not practical because they assume, as a prerequisite, that sufficient documentation exists to accurately portray a lost historic condition. At this time, it does not appear that there are documentary sources detailed enough to support comprehensive restoration or reconstruction of the park's cultural landscape to a particular time period. Too much change has occurred both within and around the park to render this approach successful, and removal of some features that postdate the likely period of significance is not currently recommended.

Secretary of the Interior's Standards for Rehabilitation

The following section summarizes the standards for rehabilitation espoused by the Secretary of the Interior for historic properties. The ten basic principles that comprise the standards are intended to help preserve the distinctive character of a site while allowing for reasonable change to meet new needs. The standards (36 CFR Part 67) apply to historic properties of all periods, locations, sizes, conditions, and uses. These standards create a baseline of guidance to which intended changes to the historic landscape must be compared. These standards are neither technical nor prescriptive, but promote responsible preservation practices. They include:

- A property will be used as it was historically, or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

- The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

- Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

- Changes to a property that have acquired historic significance in their own right will be retained and preserved.

- Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

- Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

- Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

- Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

- New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

- New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

General Management and Design Guidelines for Treatment

The following section provides general guidelines for the treatment of the Kennesaw Mountain National Battlefield Park landscape that are intended to support the rehabilitation approach recommended above, as well as the treatment recommendations provided later in this chapter. These guidelines are to be used in conjunction with the Secretary of the Interior's Standards for Rehabilitation cited above and in connection with each of the proposed landscape treatments included in this report. These guidelines relate to a philosophy of cultural landscape treatment based on *The Secretary of the Interior's Standards for the Treatment of Historic Properties* with *Guidelines for the Treatment of Cultural Landscapes*, and a comprehensive view of the project area. The guidelines should be used when planning for any and all landscape change.

Land Use

- Monitor and regulate use of the landscape to minimize immediate and long-term damage to cultural resources.
- Avoid land use activities, permanent or temporary, which threaten or impair known or potential archeological resources.
- Consider equally both natural and cultural features of the project area in treatment and land use decisions.

Buildings and Structures

- Consider the interpretive value of non-intrusive, non-contributing buildings and structures, and retain them when possible.
- Consider the removal of non-contributing structures that are intrusive to the historic landscape only if they are found to be without historical or functional merit or value.
- Avoid conjectural reconstruction of historic buildings and structures.

Circulation

- Minimize the visual impacts of vehicles and vehicular access systems. Consider the impact on views when proposing new circulation systems. Also consider noise and other impacts that roads and parking will have on the visitor experience and historic resources.
- Encourage pedestrian circulation throughout the park as an alternative to vehicular access, but also be mindful of the need to minimize the visual impacts of pedestrian access systems.
- Provide a range of pedestrian trail circuit lengths and accessibility and difficulty levels to serve a wide range of visitors.
- Construct new circulation systems in as minimal a fashion as possible to access points of interest. Consider offering trails as loop systems that return to the point of origin without following the same route for the benefit of visitors.
- Incorporate historic circulation routes whenever possible into pedestrian trail systems.
- Ensure proper drainage along trails. Establishment of trails that are too narrow, uneven, or poorly-drained can result in trampling of vegetation, soil compaction, erosion, and damage to the surrounding ecosystem, and serve as a hazard to visitors.

Rare, Threatened, and Endangered Plant and Animal Species

- Avoid altering the habitats of rare, threatened, or endangered species or species of special concern. Evaluate the potential impact to wildlife habitat prior to undertaking any construction or vegetation removal project.

Sustainability

- Institute cultural and natural resource treatment and maintenance methods that are environmentally and culturally sensitive and sustainable over the long term.
- Minimize areas of woodland disturbance, earth grading and compaction, and drainage pattern alteration.
- Promote biodiversity and native plant species.
- Use mitigating devices, such as retaining walls, closed drainage systems, and grading that involves cut and fill, sparingly. Implement the least-intrusive measures and those involving stabilization first, and subsequently proceed to more invasive measures as necessary. Limit major new interventions to areas that have previously been disturbed.
- Emphasize landform-based solutions, such as grading, over hardscape solutions, such as retaining walls.
- Take into consideration life-cycle costing of materials to assess their long-term wearing capacity and maintenance costs. Consider materials that are non-toxic, durable, long-lived, and low-maintenance.

Topography

- Minimize soil disturbance and grading.
- Preserve existing landforms and natural drainage patterns to the greatest extent possible.
- Avoid attempts to reconstruct or restore historic grades unless supported by clear documentary evidence of their appearance or original design during a specific historic period.

Land Cover Management

- Encourage best management practices (BMPs), integrated pest management (IPM), and soil and erosion control measures in all maintenance and management practices in order to minimize water pollution and degradation of natural systems.
- Protect natural resource values associated with stream and native woodland plant communities.
- Establish native vegetative cover for erosion control wherever possible. Consider planting species that are appropriate to the soil and soil moisture conditions, and offer a fibrous root system that promotes soil retention.

New Design and Construction

- Site necessary new buildings and structures out of primary and character-defining viewsheds. Consider designing any unavoidable new facilities as low buildings situated in such a way as to be screened from view from primary visitor use areas. The design of a cluster of smaller buildings is preferable to the establishment of a single large building. Groups of smaller buildings should be clustered tightly together and aligned to follow a common orthogonal orientation. As possible, situate new structures relatively close to existing road corridors to avoid the establishment of new roads.
- New buildings and structures should be compatible with regional traditions of design and constructed of locally-available and indigenous materials such as stone and wood. The design of new buildings and structures should also be sympathetic to local traditions in terms of scale, massing, roof form, and details.
- New buildings and structures should be situated to lie lightly on the land, minimizing soil disturbance, particularly cut and fill.
- Sustainability should be considered in the choice of materials and energy use. Consider incorporating passive solar energy conservation strategies into the design of new buildings and structures. Also consider the local climate in the siting and design of

buildings including solar orientation, heat gain, shading, prevailing winds, and seasonal average temperatures to minimize energy costs. Limit the footprints of new buildings and structures by optimizing use and flexibility of both indoor and outdoor spaces.

- Avoid adding new features or altering existing features in ways that adversely affect the landscape's historic character. Introduce features to facilitate access and interpretation in ways that minimize any adverse impacts. New construction should be limited to those alterations and additions that are necessary for visitor access, interpretation, and management. This might include vehicular, pedestrian, and interpretive systems such as trails and paths, minimal automobile parking areas, and unobtrusive and minimal wayside, informational, identity, and regulatory sign systems. The new or altered features should be as unobtrusive as possible while allowing for accessibility and safety. Whenever possible, and taking into consideration the visitor experience without compromising visitor safety, utilize off-site facilities to accommodate contemporary uses.

- Evaluate all proposed new uses in consultation with a historical landscape architect and other appropriate professionals.

- Undertake sufficient study and recordation of landscape features requiring modification, repair, or replacement before work is performed to protect research and interpretive values.

- Protect and preserve archeological resources in place. If such resources must be disturbed, undertake mitigation measures such as recovery, curation, and documentation.

- Limit the use of destructive techniques, such as archeological excavation, to providing information required to support research, interpretation, and management goals.

- Retain and maintain historic materials, features, finishes, construction techniques, spaces, and spatial relationships when changes to the cultural landscape are considered.

- Design and site new additions or alterations to the landscape in such a way that they do not destroy historic materials, features, and spatial relationships that characterize the cultural landscape. Design all new additions and alterations to be a product of their time, and compatible with the historic resources in materials, size, scale and proportion, and massing. Differentiate new work from existing historic resources.

- Design and site new additions and alterations to the landscape in such a way that, if removed in the future, the essential form and integrity of the cultural landscape would be unimpaired.

- Retain and maintain changes to the cultural landscape that have acquired historic significance in their own right.

- Repair, rather than replace, deteriorated historic features. Replacement of severely deteriorated features should be based on archeological, documentary, or physical evidence. Such new features should also be based on archeological, documentary, or physical evidence; the new feature should match the old in design, color, texture, and, where possible, materials.

- Avoid, when possible, landscape changes that create a false sense of historical development, including the addition of conjectural, typical, or representative features. Consider interpretation of typical features in cases where restoration is not possible but the provision of information is important to the visitor experience.

- Design new features, systems, and programs to be as accessible as possible.

- Establish new waysides in the least intrusive manner possible to fulfill proposed new interpretive goals.

- Avoid the use of chemical or physical treatments that cause damage to cultural resources and natural systems. Undertake the surface cleaning of structures using the gentlest means possible.

- Minimize disturbance associated with the installation of visitor access facilities.

Small-scale Features

- Keep the number of contemporary small-scale features to the minimum required for visitor and staff comfort and safety.

- Use site furnishings that are compatible with the character of the park in concept and materials. Ensure that the style of site furnishings is uniform throughout the park. Develop a plan for site furnishings that identifies the style and products appropriate for use within the park.

Interpretation

- Provide an alternative means for interpretation, such as a visitor center exhibit, for those features located in areas that cannot be made universally accessible or where new interpretive features would be a visual intrusion.

Adjacent Lands and Visual Quality

- Monitor local zoning and planning activities related to nearby adjacent development that may adversely impact the character and cultural resources within the viewshed of the park. Consider participating in the early stages of any development plans for adjacent sites.

- Coordinate with planning authorities on the development and construction of new features within the landscape that may impact the park visually or physically such as roads, zoning changes that may result in higher density residential or non-residential uses, sale of land to non-governmental entities, and cell towers or antennae.

- Develop and maintain working relationships with adjacent property owners. Work with neighbors and community groups to develop a program of monitoring unauthorized access to the park and destruction of resources.

- Educate adjacent property owners regarding resources located on their lands. Work with these owners to develop programs for the protection of the resources.

- Develop or maintain visual buffers along property lines abutting development. The clearing of woodlands on adjacent properties or properties within the park's viewshed are activities that could potentially threaten the visual quality of the park. Monitor adjacent planning and development activities, and develop working relationships with adjacent landowners to yield information that may determine the need to establish additional buffers due to proposed development.

- Employ screening methods that blend with the surrounding character of the site, such as planting native vegetation, and do not become a secondary visual intrusion.

- Minimize the potential impacts of development on adjacent properties by working with developers during the planning process, suggesting increased setbacks and the least intrusive siting and character for new structures and roads.

- Coordinate with adjacent and nearby property owners to determine if they are amenable to selling or donating scenic easements on their land to help fulfill the park's mission.

- Work to obtain scenic easements for all adjacent property that will remain visible from the interior of the park.

Access to Resources

- Limit, monitor, and control unauthorized access to the park.

- Limit, monitor, and control access to areas that are vulnerable to damage from human access or use.

- Develop an interpretive program that addresses cultural resources, natural systems, and their interrelationships, as well as layers of landscape history.

- Minimize the visual and physical impacts of interpretive and visitor access facilities on cultural resources and natural systems. Develop the least-intrusive interpretive and visitor access improvements possible.

- Erect the minimal number of signs possible for identity, directional, interpretive, and regulatory needs.

- Develop interpretive programs and media to be as accessible as possible for the widest range of visitors.

Role of Preservation Specialists

- Undertake all treatment projects under the direction of appropriate specialists, including historical landscape architects, historical architects, archeologists, natural resource management specialists, and qualified technicians and artisans.

Documentation

- Document, through drawings, photographs, and notes, all changes and treatments to the historic landscape. Consider the use of Global Positioning System (GPS) and Geographic Information System (GIS) technology in documentation efforts. Maintain records of treatments and preserve this documentation according to professional archival standards.

Treatment Concept

The section that follows is intended to convey an overarching vision or concept for the treatment of the Kennesaw Mountain Battlefield Park cultural landscape that meets the issues, goals, and concerns identified by the National Park Service as part of this project. The treatment recommendations that follow this section specify how to achieve the vision.

Through this treatment plan, the park hopes to advance two parallel resource management goals in a way that is complementary. The first is to manage the landscape to more closely approximate the character of the nineteenth-century battlefield in terms of patterns of spatial organization, views, and the ability of visitors to understand the events of the battles of Kennesaw Mountain and Kolb Farm through interpretation. The second is to maintain historic landscape resources in good condition, particularly those features that contribute to the national significance of the park. These resources, identified in the CLR, relate the Civil War Battles of Kennesaw Mountain and Kolb Farm, and to early park development as undertaken by the Colonel Dan McCook Brigade Association, Kennesaw Mountain Battlefield Association, U.S. War Department, National Park Service, and CCC. Enhancing visitor access to and enjoyment and understanding of the park landscape is an additional goal that is addressed as part of this report.

To meet these goals, the overarching treatment concept for the cultural landscape at Kennesaw Mountain National Battlefield Park is to balance the protection and enhancement of the site's historic integrity and accommodation of contemporary park visitor access and interpretation needs and sustainable land management practices. Thus, the three inter-related topics that comprise the main focus of the treatment plan include natural and cultural resource management, interpretation, and consideration of the overall visitor experience. In support of achieving this vision, the CLR provides landscape treatment recommendations to improve

functionality and appearance of, and appreciation for historic, cultural, and natural resources. Telling a broad story that includes the history of the local community at the time of the battle, the initial commemoration of the battlefield, and National Park Service development of the site for resource protection and visitor access is also recommended.

To this end, the CLR advocates reestablishing certain historic patterns of spatial organization, such as woodland and field configurations, in locations where they can be appreciated by visitors, and creating aids for interpreting missing landscape features that were integral to the events of the battle.

Over the past seventy years, the popularity of the park, particularly as a recreational resource, has taken its toll on the condition of many landscape features. Treatment within the Kennesaw Mountain National Battlefield Park also focuses on recommendations for maintenance and repair practices that will support resource integrity and condition goals, and enhance the appearance and cohesion of the designed historic landscape. These practices will also potentially improve the efficiency of maintenance practices. Minor adjustments within the landscape, such as adding soil to compacted trail and road margins, carefully rehabilitating or repairing the joints and seams between different materials, rerouting eroded trails, and revegetating areas of erosion and soil loss are warranted to return the park to its intended character. Control of invasive species, stewardship of native plant communities, and vegetation management to promote ecological health and historic resource protection are also encompassed by the treatment plan.

Protection, repair, and when necessary, replacement in-kind of historic features are also recommended to ensure that the park survives to delight future generations.

Finally, the treatment plan indicates situations where implementing strategies to enhance sustainability improvements and green building practices will provide a positive impact without affecting the integrity of the historic landscape.

Treatment Recommendations

Park-wide Recommendations

Refer to Figure 349 and Figure 350, Overall Treatment Recommendations. Also refer to the Earthworks Management Plan appendix for more information.

- Consider submitting a PMIS statement or request to the Southeast Regional Office to fund preparation of a National Register nomination for the CCC camp site at the base of Kennesaw Mountain. Research conducted for this study indicates that several nominations have been prepared for CCC camps within individual states, but no comprehensive multi-property nomination has yet been developed. Explore the significance of the former camp as a historic district under Criterion D for its archeological information potential. Given that a multi-property or thematic National Register nomination for CCC camps does not appear to exist, further assessment of the significance of the CCC camp site at Kennesaw Mountain, informed by archeological studies, and comparison to other CCC camps in the region, would be of value. Research conducted for a nomination will also provide information to enhance interpretation of these park features.

- Consider preparing a National Register nomination update to further explore the contribution of landscape resources to the battlefield and to encompass the property additions to the park that have occurred (or anticipated to occur) since 1995. Although the park has indicated an interest in determining whether to nominate the battlefield as a National Historic Landmark (NHL), this is not recommended as part of this CLR. Research into current NPS policy indicates that nominating historic parks as NHLs is seen as redundant because historic parks must meet NHL criteria in order to be established and the park designation recognizes their national

significance. The NPS policy (5.1.3.2 (2006)) states:

> Historic and cultural units of the national park system are nationally significant by virtue of their authorizing legislation or presidential proclamation. National historic landmark designations are appropriate for park cultural resources that meet national historic landmark criteria if the national significance of those resources is not adequately recognized in the park's authorizing legislation or presidential proclamation. Cultural parks may warrant landmark designation as parts of larger areas encompassing resources associated with their primary themes. Modified National Register forms will be prepared and submitted to nominate such resources for landmark designation by the Secretary of the Interior.[459]

- Continue to protect, preserve, and interpret the park's Civil War-era resources. In particular, adopt management and maintenance practices intended to ensure the preservation of Confederate and Union earthworks. Follow the guidance afforded in Appendix B, the Kennesaw Mountain National Battlefield Park Earthworks Management Plan (EMP).

- Continue to protect, preserve, and interpret early park development period resources. In particular, adopt management and maintenance practices intended to ensure the preservation of the features at Cheatham Hill that were established by 1917 with the input of veterans, and CWA- and CCC-era resources.

- Establish a process for integrating new parcels into the park, such as the Hensley property, that will form the basis for wise stewardship and preservation practice. First, conduct research into the physical and social history of the property, identifying possible maps and historic photographs.

  At the same time, ensure that all structures and landscape features are stable and in good condition. Clear volunteer vegetation. Address any condition issues immediately.

  Second, erect signage to indicate the site as part of Kennesaw Mountain National Battlefield Park.

  Third, conduct an archeological walk-over survey of the property, a physical inventory of the property, using GPS, and a transit-run survey to develop a detailed base map of the property. Consider engaging the Georgia Chapter of the American Society of Landscape Architects to conduct a Historic American Landscape Survey of the property to develop baseline knowledge of the site and its resources. Consider preparing National Register-level documentation of the property.

  Fourth, based on the initial findings of these efforts, define the goals for integrating the property into the park in terms of access and interpretation. Consider any law enforcement and security measures that may need to be taken to ensure protection of the property.

  Fifth, consider preparing a combined Historic Structures Report/Cultural Landscape Report for the property to support historic and existing conditions documentation, National Register significance and integrity assessment, and treatment recommendations that draws together all other studies and investigations.

  Finally, consider alternatives for future interpretation of the property as part of a long-range interpretive plan.

- Enhance the integrity of the park by continuing to rehabilitate field and woodland

459. NPS Management Policies, 5.1.3.2.2, National Historic Landmark Designation (2006). It is considered appropriate to nominate individual resources within a park for contexts other than the reason the park was established. For example, the Wright Brothers' visitor center was designated an NHL for its architecture and its association with Mission 66, and Mount Rainier National Park was designated an NHL as an excellent example of the NPS master planning process.

patterns to more closely approximate Civil War-era conditions. (See also character-area recommendations below for specific locations for clearing and woodland planting.)

- Continue to maintain historically open fields and meadows either through historic lease agreements with local farmers or through park maintenance practices. Identify an appropriate approach to maintaining these fields and the appropriate land cover type(s) as part of a vegetation management plan. The advantages and challenges associated with several management methods, including leasing, park maintenance through mowing, pasturing of livestock, and prescribed burning should be considered by the plan (refer to Implementation Project 1 in the section that follows).

- Existing fields that perpetuate important agricultural land uses include pasture/hay meadows as shown on Figures 319 and 320, Woodland Cover Diagram, included in Analysis and Evaluation chapter of this CLR. These should continue to be maintained in a manner that recalls agricultural activities.

- Evaluate the potential for establishing additional open fields, pasture, meadow, and orchard exhibits in historically accurate locations as an interpretive aid for visitors. (See specific recommendations in character-area sections below.)

- Consider alternatives for managing fields and woodlands that take into consideration sustainability, maintenance capabilities, ecological sensitivity, invasive species control, and the historic character of the landscape at the time of the Civil War battle. (See also character-area recommendations below for specific locations for clearing and woodland planting.)

- Manage woodlands that are recommended to remain in such a way as to promote native plant community values.

- Avoid disturbing vegetation communities known to support populations of species that may be rare, threatened, or endangered, or of special concern. Identify the locations of such communities using GPS technology, and establish a monitoring program to regularly evaluate their health and viability.

- Control invasive plant species through a process of initial treatment, monitoring, and follow-up treatments that conform to BMPs developed for the park. Develop BMPs taking into consideration similar locally or regionally successful invasive control programs. Incorporate the BMPs into a vegetation management plan for the park (refer to Implementation Project 1).

- Enhance visitor safety by continuing to implement crosswalk, signage, and traffic calming features where park trails, parking areas, and resources of interest intersect public road corridors. Consider alternatives for improving safe access to the two historic house sites—the Kolb Farm and Wallis House. (See also specific character-area recommendations below.)

- Ensure that the historic features of critical importance to telling the story of the Civil War Battles of Kennesaw Mountain and Kolb Farm are accessible to the public. Universal accessibility of these features should be a goal of park management, although it may not be entirely achievable. Offer an alternative interpretive experience of equal value where universal access is not achievable without compromising the integrity of the historic resource. Enhance interpretive programming to include stories from multiple perspectives. For example, current efforts to research the role of African Americans in the battles fought at Kennesaw should be incorporated into park interpretative programming. (See also character-area recommendations below for specific locations of access and interpretation improvements.)

- Continue to research the early settlement, pre-battle history of the Kennesaw area to enhance

interpretation of the area at the time of the battle.

- Consider exploring the historic patterns of spatial organization derived from local farmsteads present prior to and after the siege in interpretive information provided to visitors.

- Develop new interpretive materials that illustrate the lifeways of local residents at the time of the battle and the role that landscape features and character played in the events of the battle.

- Reveal missing features of the military landscape using interpretive elements such as waysides, exhibits, models, pamphlets, clearing and thinning, mowing patterns, and technology-based electronic and virtual exhibits.

- Consider including alternative interpretive materials for physically-impaired persons unable to experience the entire site.

- Consider offering alternative interpretive materials for the visually-impaired. Include Braille on waysides, offer audio-tapes, and/or install a "touchable" model of the site. The touchable model should be a bronze relief of the landscape as it appeared at the time of the battle that allows visitors to understand the site in its entirety and understand the composition of missing features.

- Continue to foster and support volunteer programs at the park that address needs such as trail maintenance. These programs are invaluable to the park, given current funding concerns, and will be increasingly important in the future.

- Continue to conduct special events programming, which raises awareness about the importance and value of the park and will likely lead to additional stewardship on the part of neighbors, volunteers, and other stakeholders. Consider partnering with other organizations to present programs.

- Address problems with erosion as soon as they are identified, particularly in association with trails.

- Ensure a tidy, well-cared-for and maintained appearance within the park. Carefully address junctions between different materials and land management conditions, maintain paved surfaces in smooth and repaired condition, and rehabilitate the margins of circulation routes to address erosion and compaction. (Figure 347 and Figure 348).

FIGURE 347. Degraded pavement such as the pavers around this bench requires maintenance.

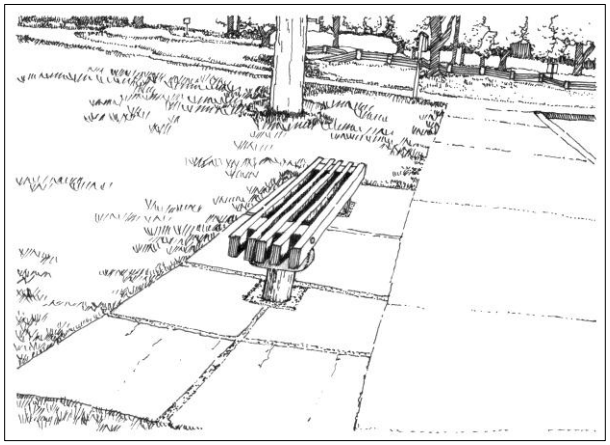

FIGURE 348. View of repaired pavers.

- Grade the ground plane with rounded forms to meet the elevation of walks, roads, swales, and stone features without gaps, dips, or drop-offs.

- Regrade the margins of paved areas to meet adjacent grades smoothly to promote a tidy

and well-kept appearance, facilitate maintenance, and avoid visitor trip hazards.

- Rehabilitate pavements in fair to poor condition. Ensure that rehabilitated pavements are consistent with historic conditions in material, finish, and location. Restore historic grades as possible.

- Add soil to compacted areas associated with social trails, and revegetate to promote repair and rehabilitation. Protect revegetated areas from visitor access until new plantings have become established. Where social trails indicate a strong interest on the part of visitors to gain access, consider establishing a sanctioned trail that is properly designed and surfaced.

- Establish or maintain screen plantings or maintain woody vegetation to limit views to adjacent incompatible development that interferes with interpretation of the historic scene. Where control of the view is not possible, such as from the Kennesaw Mountain overlook, where views already include extensive twentieth century development, interpret the need to consider viewsheds in preservation planning efforts to maintain a property's historic context and setting.

- Consider enhancing wildlife habitat and bird-watching opportunities along existing trails by providing nesting, feeding, and watering opportunities. Many bird species benefit from the provision of brush piles and artificial nest structures, and the presence of snags and trees with natural cavities. Consider retaining snags in areas where they will not pose a hazard to visitors or structures. Locally native plants that provide food sources for bird populations include mast and soft mast producers such as oak (*Quercus* spp.), hickory (*Carya* spp.), beech (*Fagus grandifolia*), and black gum (*Nyssa sylvatica*), dogwood (*Cornus florida*), serviceberry (*Amelanchier* spp.), hawthorn (*Crataegus* spp.), and grapevines (*Vitis* spp.), and native warm-season grasses such as big bluestem (*Andropogon virginiana*), Indian grass (*Sorghastrum nutans*), and switchgrass (*Panicum virgatum*). The use of fescue (*Festuca* spp.) should be avoided as it provides little value for wildlife. Water sources are also of great importance to the viability of bird habitat. Protect springs and seeps, which are also important feeding areas. Encourage the establishment of small depressions that serve as water holes after rain. Enhance groundwater recharge through green storm water management practices, which may contribute to spring and seep activity within the park (refer to Implementation Project 8).

- Document, using GPS technology all cultural landscape features within the park, but particularly those not currently included on existing conditions mapping and any other resources that may be difficult to relocate again should conditions change. Examples of features that should be documented by the park include fencing, road traces, important plant communities, and known archeological sites.

- Consider establishing park-wide standards for site furnishings that take into consideration historic styles and design characteristics, as well as contemporary functional needs and concerns. Identify locations where historic styles and standards should be replaced in kind based on significance and integrity assessments. Consider replacing examples of non-historic site furnishings that detract from the character of the designed historic landscape with more compatible features (refer to Implementation Project 7).

Archeological Resources

- Ensure the park is adequately surveyed to determine its archeological information potential, and that all archeological investigations are fully documented. Archive the findings of archeological investigations, as well as any identified artifacts, at the park. Utilize information gained through archeological investigations to guide interpretation of the historic landscape.

Old Marietta-Cassville Road

Dixie Highway (U.S. 41)

Carefully remove vegetation from and stabilize remaining CCC building foundations

Consider conducting archeological investigations in the vicinity of the CCC camp and expanding interpretation of the site

Correct erosion along Kennesaw Mountain Road

Repair deteriorated portions of the asphalt Mountaintop Trail and correct erosion at trail margins

Repair damaged earthworks atop Big Kennesaw Mountain

Visitor center

Tierce House site

Maintenance complex

Big Kennesaw

Manage woodland areas as native communities. Remove and control invasive species

Visitor Core Earthworks & Trails

see Figure 363. Burnt Hickory Road Trails Detail Area Treatment Recommendations

Burnt Hickory Road

Dallas Highway

Little Kennesaw

Eaton House site

New Salem Church site

Cass House site

Hardage House site

Pigeon Hill

Visitor Core Earthworks & Trails

see Figure 358. Visitor Center Detail Area Treatment Recommendations

Old Mountain Road

Consider performing archeological investigations in the vicinity of the Hardage Mill site and realigning the trail to avoid the site if necessary

Noses (Noyes) Creek

Consider establishing a visual connection between Twenty-four Gun Battery and Little Kennesaw by selectively thinning vegetation

Stilesboro Road

Western & Atlantic Railroad

Twenty-four Gun Battery

Consider establishing a visual connection between the Fourth Corps Line and The Horseshoe by trimming lower limbs of trees between the two earthworks

The Horseshoe

Hardage Mill site

Bald Knob

Earthworks & Trails Cheatham Hill

Consider implementing plans to establish parking for Twenty-four Gun Battery along Gilbert Road

0' 600' 1200' 2400'

SCALE 1" = 1200'

LEGEND

- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams

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Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

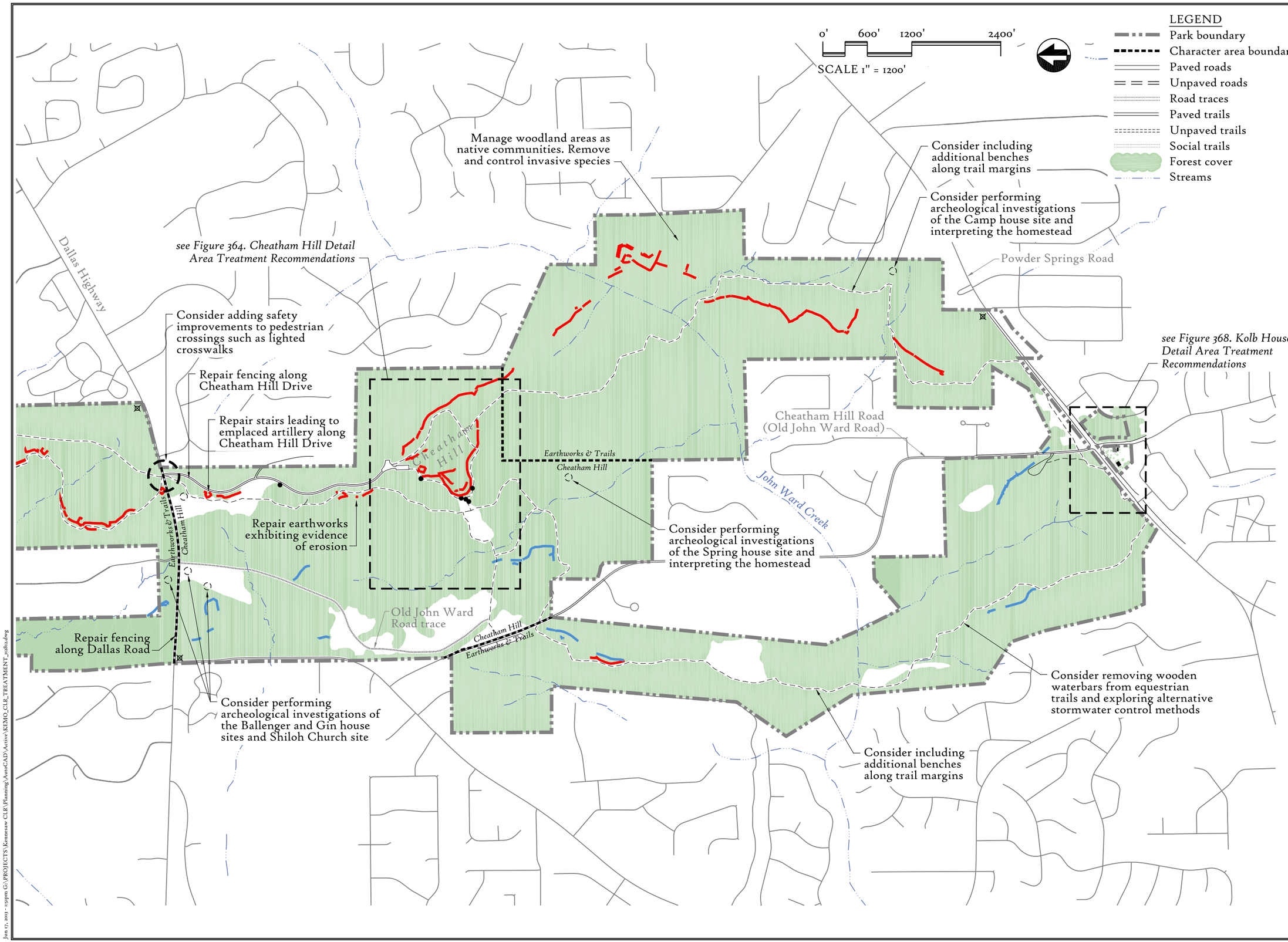
Sources:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Notes:

1. See CLR text for full list of recommendations.

Figure 349.
Overall Treatment Recommendations
(1 of 2)



Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Sources:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Notes:

1. See CLR text for full list of recommendations.

Figure 350. Overall Treatment Recommendations (2 of 2)

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Recommendations by Character Area

Visitor Core Character Area

Refer to Figure 358, Treatment Recommendations: Visitor Center Detail.

- Retain and maintain historic resources that survive from the Civil War and early park development periods of significance, including:
    - Kennesaw Mountain
    - Views from Kennesaw Mountain
    - Views across open fields (portion)
    - Views along road corridors (portion)
    - Confederate earthworks along Kennesaw Mountain ridge and the lower slopes of the landform
    - The Western & Atlantic Railroad rail line
    - Stilesboro Road
    - Old Antebellum Road trace
    - Marietta-Cassville Road trace
    - Fields and woodland consistent in location with those present during the Civil War
    - Large oaks at the visitor center
    - CCC-era stone quarry
    - CCC camp site features, including the stone and brick footbridge, parade field, camp road, structural ruins, grill, and any surviving historic plantings
    - CCC road to the summit of Kennesaw Mountain
    - CCC and CWA trails at Kennesaw Mountain
    - The spatial configuration of the maintenance yard, and the access road, courtyard, and buildings completed by 1942
    - Commemorative, interpretive, maintenance, park administration, recreation, transportation, utility, and visitor services land uses
    - Kennesaw Mountain Drive
    - Park entrance monument sign
    - Cannon emplaced as interpretive aids by 1942
    - Visitor Center West Branch
    - McBride Creek
    - Brumby Creek
- Repair features identified as being in fair to poor condition, including Confederate and Federal earthworks, such as the artillery positions atop Kennesaw Mountain.
- Consider re-aligning portions of the trail between the CCC camp and Pigeon Hill.
- Maintain and evaluate the safety of the new crosswalk at the light where the sidewalk along Old U.S. Highway 41 crosses Stilesboro Road, leading to a new sidewalk providing access to the park visitor center.
- Correct erosion along Kennesaw Mountain Drive by regrading and adding fill to repair eroded sections (refer to Implementation Project 2).
- Stabilize sections of the trail system that links the Kennesaw Mountain overlook and Burnt Hickory Road (see also Earthworks and Trail Character Area recommendations) by correcting erosion problems. Regrade and add fill to repair compacted and eroded sections of earthen trails, and the margins of paved trails. Consider adding Appalachian Trail-style storm water management techniques and

strategies to earthen trail sections to diminish problems with erosion (refer to Implementation Projects 2 and 3).

- Repair the asphalt trail on Kennesaw Mountain by repaving cracked, broken, and deteriorated areas. Utilize recycled materials and remove asphalt. Ensure that the earth to either side of the trail meets the edge of the pavement at grade (Figure 351 and Figure 352).

FIGURE 351. Eroded trail on Kennesaw Mountain. The gap between the trail and the ground to either side constitutes a trip hazard.

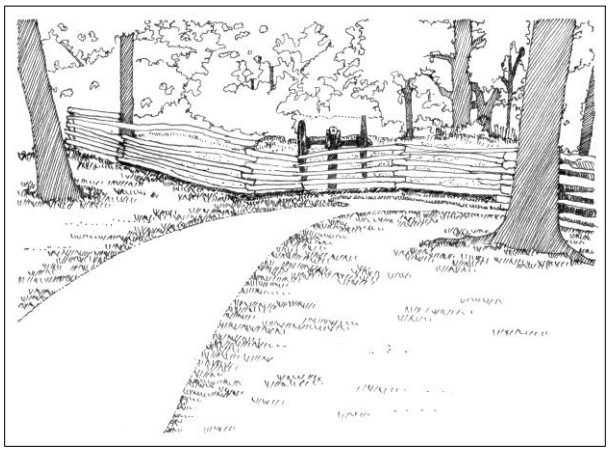

FIGURE 352. Proposed repair of trail.

- Post signs indicating to visitors that they are expected to remain on the trails. Where evidence suggests that visitors are leaving the trail and causing damage to adjacent earthworks or soil compaction, install split rail fencing or another appropriate barrier types along the trail margin as well as signage that indicates the potential damage caused by their actions (see the Earthworks Management Plan, Appendix B, including Implementation Project 8).

- Consider replacing the existing wooden pedestrian bridge that connects the amphitheater and picnic area. The existing feature is not universally accessible. Ensure that the landings of the new bridge meet the grade of the trail flush, that the bridge is edged by handrails, and that it does not includes slopes greater than 5 percent (Figure 353 and Figure 354).

FIGURE 353. The existing bridge between the amphitheater and picnic area is not universally accessible.

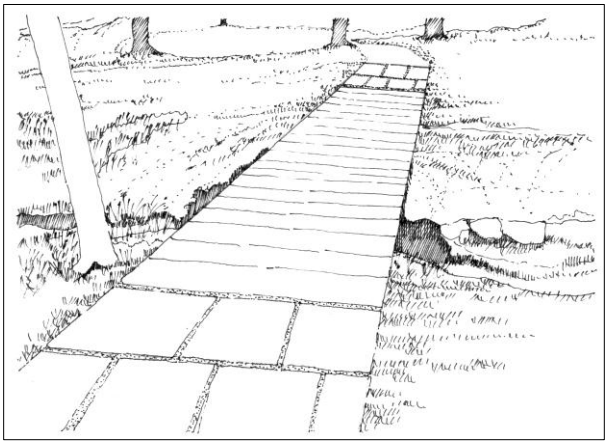

FIGURE 354. Proposed universally accessible bridge.

- Consider rehabilitating the amphitheater by replacing the existing surface material with an alternative that blends with the surrounding landscape, and to offers a more stable setting for the benches and stage (Figure 355). The existing surface is not consistent with universal accessibility guidelines because it is neither firm nor stable. The use of warm-hued material, such as crushed brownstone aggregate screenings, will help the surfacing to blend with the surrounding setting. Avoid bright white and bluish-tinged materials.

FIGURE 355. The present amphitheater space near the visitor center is currently limited due to the fact that it is not universally accessible. It also is not consistent in character with the historic landscape and should be rehabilitated.

- Implement plans to relocate the Georgia Monument to the field adjacent to the Burnt Hickory Road parking lot to more accurately depict the location of Georgia troops during the battle.[460] Rehabilitate the current site of the monument by removing construction materials, filling any eroded areas of ground, and establishing healthy new vegetation, such as grass and forb meadow. Identify the location using GPS and GIS technology and mark the current site of the monument with a low bronze marker as an aid to future research.

- Consider removing vegetation from the area along the perimeter of the CCC camp parade ground to reveal the locations of additional foundation features associated with the camp. Stabilize all existing foundation ruins (Figure 356 and Figure 357). Conduct archeological investigations and documentary research to learn more about the camp. Use the information to further protect the site, enhance interpretation, and consider developing a National Register nomination for the camp as an archeological site.

FIGURE 356. Foundations of buildings associated with a Civilian Conservation Corps camp during the late 1930s and early 1940s survive north of Kennesaw Mountain. These foundations should be stabilized and interpreted.

460. This project has been entered into PMIS and formulated for Fiscal Year 2018.

FIGURE 357. Vegetation currently obscures the foundations of buildings associated with a historic Civilian Conservation Corps camp. The vegetation should be cleared to facilitate interpretation of the camp once archeological investigations and stabilization of the foundations have been completed.

- Replace any non-native plants within the visitor center area with native species. Identify non-natives and appropriate replacements as part of the proposed vegetation management plan (refer to Implementation Project 1).

- Consider designing and installing an interactive earthwork exhibit in the vicinity of the visitor center. Identify appropriate locations for the exhibit that will not negatively affect the integrity of the historic landscape, and will allow for universal accessibility and proximity to the parking area. Options include the field to the northeast of the building (refer to Implementation Project 6).

- Consider conducting archeological investigations and documentary research to learn more about battle events associated with the visitor center area and features that were present historically, such as the Tierce House near the intersection of Stilesboro Road and the park entrance. Use information derived from these investigations to interpret the house site at the time of the Civil War Battle of Kennesaw Mountain and protect historic resource values when designing the exhibit (refer to Implementation Project 6).

- Consider, as part of any new design for this area, adopting green building practices and BMPs for storm water management. Consider adding rain barrels to capture water from the visitor center downspouts and using the water collected to maintain plantings. Also consider establishing filter strips along the margins of paved areas and adapting storm water management ditches as vegetated swales. Finally, consider incorporating permeable pavement in the design of any new parking developed within the area and eventually replacing existing asphalt pavement with a permeable alternative (refer to Implementation Project 8).

Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Old 41 Highway

Consider performing archeological investigations of the Tierce house site and interpreting the homestead

Series of crosswalks

Old 41 Highway

Reset bridge and re-grade landings on both sides of the creek bed to make the crossing compliant with Americans with Disabilities Act Accessibility Guidelines

Visitor center

Consider locating an interactive earthworks exhibit in this area, with a path leading from the visitor center terrace

Stilesboro Road

Kennesaw Mountain Drive

Consider removing wooden platform and movable benches and redesigning amphitheater space to include more permanent features

Implement plans to relocate the Georgia Monument to near the proposed parking area along Burnt Hickory Road

Consider adding rain barrels to visitor center downspouts to collect water for plant maintenance

Visitor Center Creek West Branch

Park Rangers Law Enforcement

Park Headquarters

Maintenance complex

LEGEND

- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

0' 100' 200' 400'

SCALE 1" = 200'

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Source:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Notes:

1. See CLR text for full list of recommendations.

Figure 358. Treatment Recommendations: Visitor Center Detail

Earthworks and Trails Character Area

Refer to Figure 363, Treatment Recommendations: Burnt Hickory Road Trails Detail.

- Retain and maintain historic resources that survive from the period of significance, including:
  - Little Kennesaw Mountain and Observation Rock
  - Pigeon Hill
  - Views from Little Kennesaw Mountain (portion)
  - Views from Pigeon Hill (portion)
  - Military road to the crest of Little Kennesaw Mountain
  - Confederate and Union earthworks
  - John Ward Creek and associated wetlands
  - Noses Creek and associated wetlands
  - Twenty-Four-Gun Battery Creek and associated wetlands
  - Burnt Hickory Creek and associated wetlands
  - Cheatham Creek and associated wetlands
  - Strahl's Creek and associated wetlands
  - Kolb Creek and associated wetlands
  - Horse Creek and associated wetlands
  - Overlook Creek and associated wetlands Springs
  - Confederate earthworks occupying the region's high ground and key terrain
  - Union earthworks sited within view of targeted Confederate positions
  - Streambed restoration by the CCC
  - Fields present during the Civil War
  - Restored or surviving open fields defined by woodland vegetation
  - Agricultural terracing
  - Agriculture, Interpretative/museum, Recreation, and Transportation land uses
  - Western & Atlantic Railroad rail line
  - Stilesboro Road
  - Burnt Hickory Road
  - Dallas Highway
  - Gilbert Road
  - Old Mountain Road
  - Ridenour Road
  - Woodland consistent in location with that present during the Civil War
  - Views across open fields (portion)
  - Views along road corridors (portion)
  - Park brick entrance monument signs (8)
- Repair features identified as being in fair to poor condition:
  - Trail and associated features at Pigeon Hill (Figure 359 and Figure 360)
  - Earthworks suffering from tree fall, windthrow, visitor access, and erosion due to a lack of comprehensive leaf litter cover

FIGURE 359. Erosion is visible in association with the existing bench and trail at Pigeon Hill.

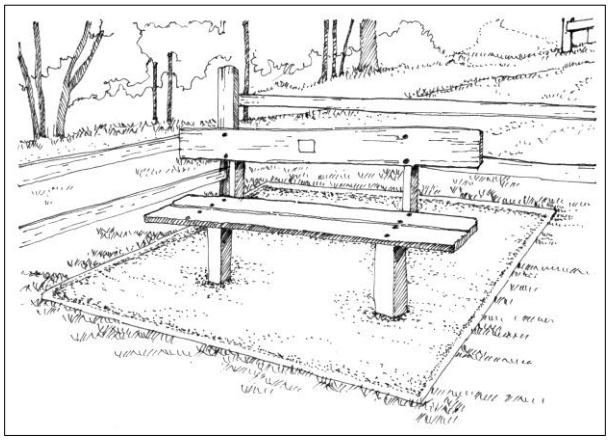

FIGURE 360. Proposed repair to bench and trail.

- Consider re-aligning trails that cross, closely edge, or are contributing to visitor damage to earthworks and house sites. For example, consider re-aligning portions of the trail between Burnt Hickory Road and Pigeon Hill that currently cross earthworks (refer to Implementation Project 3.)

- Stabilize sections of the trail system that link the Kennesaw Mountain overlook and Burnt Hickory Road by correcting erosion problems (see also Visitor Core Character Area recommendations). Regrade and add fill to repair compacted and eroded sections of earthen trails, and the margins of paved trails. Consider adding Appalachian Trail-style storm water management techniques and strategies to earthen trail sections to diminish problems with erosion (refer to Implementation Projects 2 and 3.)

- Regrade the margins of paved areas to meet adjacent grades smoothly to promote a tidy and well-kept appearance, facilitate maintenance, and avoid visitor trip hazards (refer to Implementation Project 2).

- Add soil to compacted areas associated with social trails. Work to prevent visitors from using existing social trails by revegetating or covering them with mulch or leaf litter to promote repair and rehabilitation of the forest.

- Correct drainage problems by grading and resetting storm water management structures where positive drainage is not in evidence or where erosion is occurring.

- Consider replacing non-native cool-season grasses within fields and meadows with native warm-season grasses (refer to Implementation Project 1).

- Include additional benches for visitors along path and trail margins. Consider the design of benches as part of a site furnishings guide that standardizes features within the park (refer to Implementation Project 7).

- Consider establishing additional safety measures at existing crosswalks that mark the intersection of park trails with Burnt Hickory Road and Dallas Highway.

- Consider augmenting park interpretation to include historic landscape elements known to have existed at the time of the battle that are no longer present, such as farms, industrial features, churches, roads, orchards, outbuildings, and fences.

- Conduct archeological investigations and documentary research to learn more about the Hardage House, orchard, and farmstead. Use the information acquired to enhance protection and interpretation of the features. Consider a variety of alternatives for presenting interpretive information about missing features.

- Consider removing existing woodland cover surrounding the Hardage House site where open cover existed at the time of the battle in support of interpretation. Evaluate the woodland to be removed. Retain large trees (over 15 inches dbh), plants of special interest, such as surviving orchard trees or rare, threatened or endangered species, and areas of existing tree cover that are instrumental in screening incompatible development or in protecting water resources. Replace the woodland to be removed with native warm-season grass and forb meadow (refer to Implementation Project 4).

- Conduct archeological investigations and documentary research to learn more about the Hardage Mill site. Use the information acquired to enhance protection and interpretation of the features. Consider a variety of alternatives for presenting interpretive information about any missing features identified. Consider re-aligning the trail around the Hardage Mill site to allow for its interpretation, but to avoid damage to associated resources.

- Conduct archeological investigations and documentary research to learn more about the Eaton, Cass, York, Ballenger, Gin, Springer, and Camp Houses and farmsteads, as well as the New Salem and Shiloh Churches. Use the information acquired to enhance protection and interpretation of the features. Consider a variety of alternatives for presenting interpretive information about missing features (refer to Implementation Project 6).

- Consider establishing a visual connection between from Union earthwork referred to as the Horseshoe and the opposing line of Confederate earthworks. Interpret the visual connection along the existing trail, or a spur trail that affords access to the view (refer to Implementation Projects 4 and 5).

- Consider establishing a visual connection between the Twenty-Four-Gun Battery and Little Kennesaw Mountain by thinning the woodland cover west of the Confederate position. Consider marking the line of earthworks with a flagpole or another vertical element that will ensure it is visible from the Twenty-Four-Gun Battery.

- Consider establishing a small parking area and trail to provide access to the Twenty-Four-Gun Battery for visitors. Install signs that make it clear to visitors that they should not walk on the earthworks. Provide interpretive information in the form of waysides, and possibly QR codes or other virtual tour information available to smart phones and other Internet devices.

- Implement plans to consolidate parking along Burnt Hickory Road in an off-road lot within the field west of the trail. Restore the character of Burnt Hickory Road where parking currently exists (Figure 361 and Figure 362). Carefully design the parking area to disturb the smallest area possible, and screen the paved area from view of visitor use areas and trails. Consider using green paving techniques such as permeable paving, rain gardens, and filter strips to diminish the impact of the parking area on the environment (see Implementation Project 8).

- Consider adding split-rail fencing along trail sections where evidence suggests that visitors are leaving the path and climbing or walking on the earthworks, or causing soil compaction. Include signage in association with the fencing that encourages visitors to stay on the trail and be good stewards of the earthworks (see Earthworks Management Plan, Appendix B, including Implementation Project 8).

- Establish or retain existing tree cover along the park margin south of Burnt Hickory Road to serve as a visual screen to limit views of adjacent development. Ensure that the screen planting includes evergreen trees and shrubs to limit views during winter months (refer to Implementation Project 5).

FIGURE 361. The parking area along Burnt Hickory Road exhibits problems with pavement deterioration and erosion.

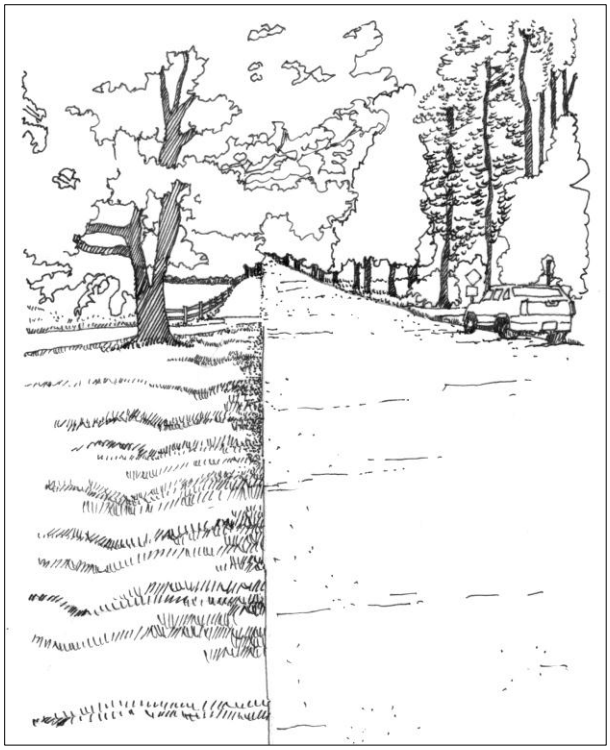

FIGURE 362. Proposed treatment of parking area along Burnt Hickory Road, planned to be replaced with a new parking area within the field shown in the left background of the photograph.

- Consider, as part of any new design for this area, adopting green BMPs for storm water management. Consider establishing filter strips along the margins of paved areas and adapting storm water management ditches as vegetated swales to address storm water management, cleanse overland flow, promote infiltration, and reduce erosion. Finally, consider incorporating permeable pavement in the design of any new parking developed within the area (refer to Implementation Project 8).

LEGEND

- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

Correct erosion along trail connecting Pigeon Hill to Little Kennesaw and Big Kennesaw

Correct erosion along trail connecting Pigeon Hill to the CCC Camp

Consider realigning paths that pass too close to earthworks

Consider performing archeological investigations of the Cass house site and interpreting the homestead

Consider further interpretation of the Hardage house site through mow patterns or other methods

Repair damaged Pigeon Hill earthworks

Consider realigning paths that pass too close to earthworks

Consider realigning paths that pass too close to earthworks

Consider adding safety improvements to pedestrian crossings such as lighted crosswalks

Burnt Hickory Road

Consider adding fencing where trail intersections pass close to earthworks to discourage social trails

Implement plans to remove the parking areas along Burnt Hickory Road and create a parking lot in this area

Retain a forested area between the parking and surrounding development and create a vegetated buffer to screen the parking from the adjacent trail

Consider relocating the pedestrian crossing and adding safety improvements such as lighted crosswalks

Consider reforesting this area as a visual buffer between the park and surrounding development

Consider implementing plans to relocate the Georgia Monument in this vicinity; consider placing the monument to be visible from Burnt Hickory Road and also accessible by trail, taking care to avoid encroachment on the Hardage house site

Consider performing archeological investigations of the Eaton house site and interpreting the homestead

Burnt Hickory Road

Correct drainage problems by grading and resetting storm water management structures where necessary

Consider investigating the location of the Hardage house orchard and interpreting the site

Consider performing archeological investigations of the New Salem Church site and interpreting the site and its role in the community

Thin vegetation surrounding church site to aid in interpretation

Consider thinning the vegetation in this area significantly to recall the 1864 vegetation patterns, retaining trees measuring 15 inches dbh or higher

Revegetate the cleared areas with native warm-season grasses

Consider realigning paths that pass too close to earthworks

Consider realigning paths that pass too close to earthworks

0' 150' 300' 600'

SCALE 1" = 300'

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Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Source:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Notes:

1. See CLR text for full list of recommendations.

Figure 363. Treatment Recommendations: Burnt Hickory Road Trails Detail

Cheatham Hill Character Area

Refer to Figure 364, Treatment Recommendations: Cheatham Hill Detail.

- Retain and maintain historic resources that survive from the period of significance, including:
  - Cheatham Hill
  - John Ward Creek
  - Confederate earthworks occupying the region's high ground and key terrain
  - Union earthworks sited within view of targeted Confederate positions
  - Streambed restoration by the CCC
  - The Cheatham Hill commemorative landscape and restored open field
  - Fields present during the Civil War
  - Restored or surviving open fields defined by woodland vegetation
  - The Illinois Monument terrace
  - CWA and CCC soil conservation and erosion control measures
  - Cheatham Hill Drive
  - Agricultural terracing associated with CWA and CCC erosion control activities
  - Agriculture, Commemoration, Interpretative/museum, Recreation, Transportation, and Visitor Services land uses
  - Dallas Highway
  - Old John Ward Road (portions)
  - Cheatham Hill Drive
  - CCC and CWA trails at Cheatham Hill
  - Woodland consistent in location with that present during the Civil War
  - Loblolly tree plantations and other woodlands established by the CCC to conserve soil and limit erosion
  - Illinois Monument
  - Union Tunnel Marker
  - View from Cheatham Hill
  - Views across some open fields
  - Views along road corridors (portion)
  - C. H. Coffey Marker
  - Fellows Marker
  - Grave of Unknown U.S. Soldier
  - McCook Brigade Marker
  - Neighbour Marker
  - Park brick entrance monument signs (8)
  - Cannon (portion)
- Repair features identified as being in fair to poor condition:
  - Earthworks exhibiting evidence of erosion
  - Split-rail fencing around the grave of the Unknown U.S. Soldier
  - Split-rail fencing along Cheatham Hill Drive and Dallas Highway
  - Stairs leading to emplaced artillery along Cheatham Hill Drive
- Protect water and wetland resources, including springs and seeps, in the area. Address storm water management and water quality protection by adding sustainable features such as filter strips and vegetated swales (refer to Implementation Project 8).

- Manage woodland areas as native communities. Remove and control invasive species. Monitor the health and viability of the woodland areas and enhance as needed (refer to Implementation Project 1. See also Earthworks Management Plan, Appendix B, including Implementation Project 3).

- Address evidence of erosion by filling, conducting fine grading, seeding, and appropriately caring for newly seeded areas. Ensure that grades are smooth and continuous at the junction between materials (refer to Implementation Project 2).

- Clear additional vegetation associated with the field southwest of the Confederate position at Cheatham Hill to better approximate historic conditions in support of enhanced interpretation. Re-align the trail to skirt the newly established woodland edge (refer to Implementation Projects 3 and 4).

- Preserve and enhance woodlands at park boundaries where views would be afforded to incompatible post-Civil War development (refer to Implementation Project 5).

- Consider replacing non-native cool season grasses with native warm grass and forb meadows (refer to Implementation Project 1).

- Consider reducing the number of signs near the parking lot by consolidating as possible. Also consider relocating signs currently located in proximity to the earthworks and monuments that diminish the understanding of the resource and are confusing to visitors.

- Consider re-aligning trails that cross or closely abut earthworks, or appear to be sited in such a way as to encourage visitors to leave the trail and climb or walk on the resource (see Earthworks Management Plan, Appendix B, including Implementation Project 7).

- Correct problems with erosion and drainage at the Illinois Monument. Add soil to compacted areas, and establish a protective surface or ground cover. Alternatives include grass or other ground covers, or mulch.

- Develop and implement an ongoing conservation and maintenance program for the Illinois Monument and other masonry features at Cheatham Hill. For example, treatment measures may include improvement of drainage around structures, repointing of mortar joints, periodic cleaning with mild non-acidic cleaners and biocides to remove soiling and/or organic growth, localized repairs as needed, and in particular regular monitoring to evaluate conditions and identify distress. Ensure that all recommendations and protocols are consistent with the Secretary of the Interior's Standards.

- Provide additional benches along the trails for visitors. Consider the design of benches as part of a site furnishings guide that standardizes site furnishing features within the park (refer to Implementation Project 7).

LEGEND

- Park boundary
- Character area boundary
- Paved roads
- Unpaved roads
- Road traces
- Paved trails
- Unpaved trails
- Social trails
- Forest cover
- Streams
- Topography
- Building
- Bridge
- Interpretive sign
- Wayfinding sign
- Identification sign
- Trail marker post
- Confederate earthworks
- Federal earthworks
- Monument or marker
- Split-rail fence
- Snake fence

Parking

Consider realigning paths that pass too close to earthworks

Consider reducing or consolidating the number of signs in the parking lot

Consider including additional benches along trail margins

C.H. Coffey Marker

Repair earthworks exhibiting evidence of erosion

Consider trimming lower limbs in this area to maintain a sense of the field of fire from Cheatham Hill

Fellows Marker

Union Tunnel Marker

Cheatham Hill

Consider clearing this area and maintaining as a meadow of warm-season grasses to evoke 1864 vegetation patterns

Correct erosion and drainage problems at the Illlinois Monument

Repair fence around the Grave of Unknown U.S. Soldier

Consider realigning path to skirt the edge of the newly cleared area

Consider realigning paths that pass too close to earthworks

Consider replacing non-native cool-season grasses with native warm-season species

McCook Brigade Marker

Illinois Monument

Neighbour Marker

Consider trimming lower limbs in this area to maintain a sense of the field of fire from Cheatham Hill

Consider realigning paths that pass too close to earthworks

Consider clearing this area and maintaining as a meadow of warm-season grasses to evoke 1864 vegetation patterns

Kolb FarmLoop Trail

0' 100' 200' 400'

SCALE 1" = 200'

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Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park

Source:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Notes:

1. See CLR text for full list of recommendations.

Figure 364.
Treatment Recommendations: Cheatham Hill Detail

Kolb House Character Area

Refer to Figure 368, Treatment Recommendations: Kolb Farm Detail.

- Retain and maintain historic resources that survive from the period of significance, including:
  - Kolb House
  - Interpretative/museum land uses
  - Kolb family cemetery
- Repair features identified as being in fair to poor condition:
  - Social trail along the Powder Springs Road corridor (Figure 365)
  - Lawn
  - The gravel access drive south of the house
  - Identity sign

FIGURE 365. A social trail follows the perimeter fence associated with the Kolb House. Pedestrians would benefit from the establishment of a sidewalk in this location, which would also improve the park's appearance along Powder Springs Road.

- Regrade the margins of paved areas to meet adjacent grades smoothly to promote a tidy and well-kept appearance, facilitate maintenance, and avoid visitor trip hazards.
- Consider relocating the existing visitor parking area to the south of the family cemetery and away from the intersection of Powder Springs Road to protect visitors.
- Consider rehabilitating the existing gravel driveway to support the proposed new visitor parking area (Figure 366). Include a path that leads to an interpretive station where signage is provided about the role of the Kolb House in the Civil War battle.

FIGURE 366. The present gravel drive should be improved to allow visitors to access a more convenient and safer parking area for their visit to the Kolb House.

- Consider enhancing the screen planting along the southern and southwestern perimeter of the property where contemporary residential development is incompatible with the historic character of the site (refer to Implementation Project 5).
- Consider working with the community to establish a new sidewalk that extends the existing sidewalk along the adjacent property in front of the Kolb House along Powder Springs Road. The new sidewalk would replace the existing social trail.
- Consider extending the park's eastern trail to the intersection with Powder Springs Road. Establish a crosswalk for visitors to continue to the Kolb House and the new sidewalk along Powder Springs Road.

- Consider reducing the number of signs and relocating the signage area in order to preserve views to the house and eliminate the current clutter that is confusing to visitors (Figure 367).

FIGURE 367. Several signs are located along the margin of a small parking pull-off where visitors learn about the Kolb House. The number of signs creates visual clutter and should be consolidated.

- Consider rehabilitating the existing lawn by aerating the soil and re-seeding.

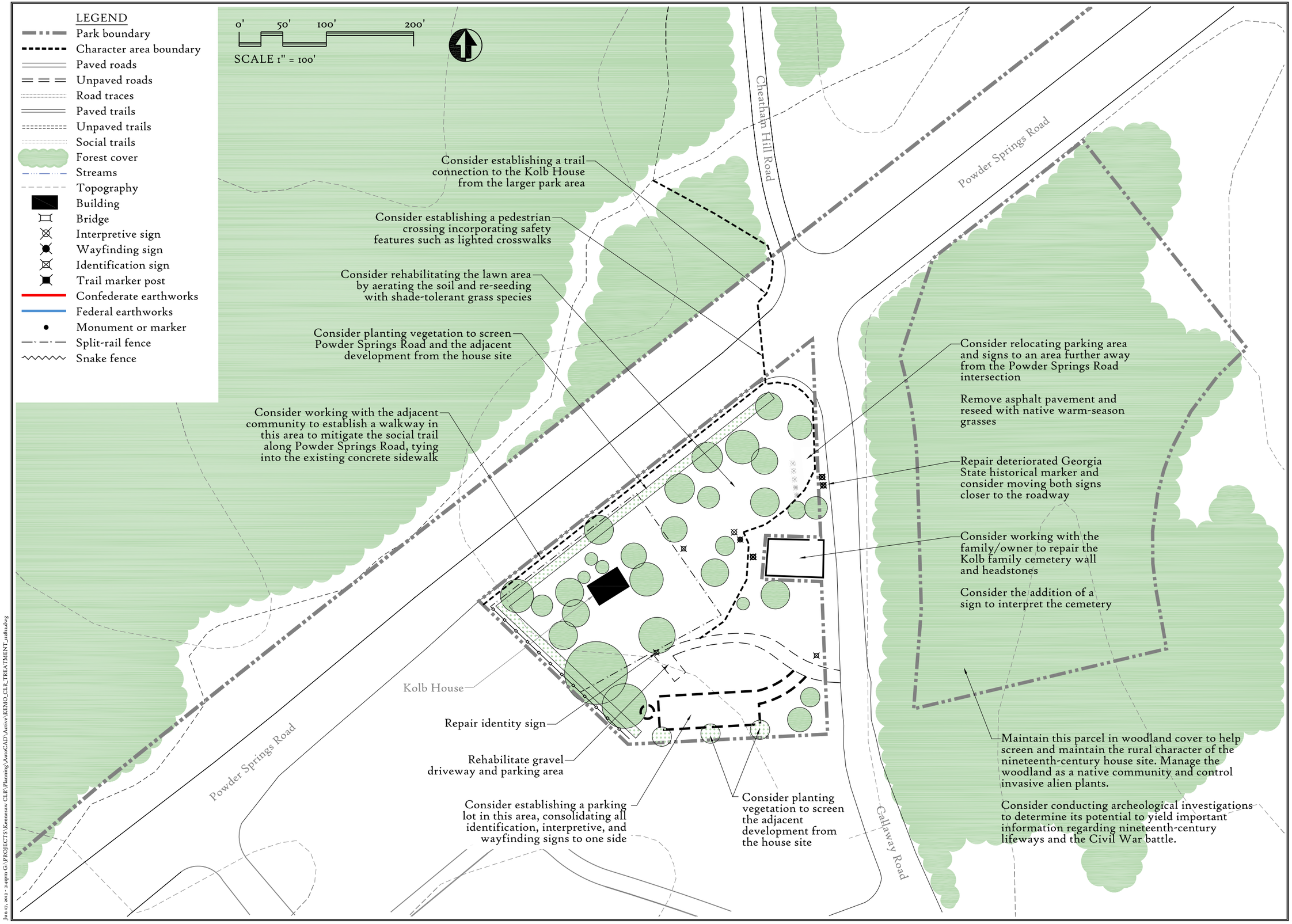
- Maintain the parcel across Callaway Road from the Kolb House in woodland cover to help screen and maintain the rural character of the nineteenth-century house site. Conduct archeological investigations of the parcel to determine its potential to yield important information regarding nineteenth-century lifeways and the Civil War battle, and to house earthworks. Manage the woodland as a native community and control invasive alien plants. Monitor the health and viability of the woodland areas (refer to Implementation Project 1).

- Address storm water management and water quality protection by taking into consideration the addition of sustainability principles such as filter strips and vegetated swales (refer to Implementation Project 8).

Cultural Landscape Report

for

Kennesaw Mountain National Battlefield Park



Source:

Kennesaw Mountain National Battlefield Park GIS files, 2007.

Notes:

1. See CLR text for full list of recommendations.

Figure 368.
Treatment Recommendations: Kolb House Detail

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Implementation Projects

To effect the specific treatment recommendations included above, the section that follows outlines a series of projects designed to guide implementation. The projects address implementation of recommendations relating to resource protection, care, and rehabilitation, as well as life safety, visitor accessibility and interpretation considerations.

The projects are presented in a consistent format of six sections: 1) description; 2) location; 3) considerations; 4) additional studies recommended; 5) related implementation projects; and 6) project implementation process. The information presented is consistent with that needed to develop the Project Management Information System (PMIS) and Facility Management Software System (FMSS) forms utilized by the National Park Service to request funding.

The eight implementation projects conveyed over the pages that follow include:

1. Prepare a vegetation management plan.

2. Address soil erosion problems associated with trails and slopes.

3. Rehabilitate the trail system to enhance the visitor experience.

4. Clear and thin non-contributing woody vegetation to reestablish historic patterns of spatial organization and views.

5. Establish new or maintain existing vegetative screen buffers to protect the park's setting and feeling.

6. Enhance interpretation within the park, emphasizing the cultural landscape of the battlefield.

7. Address site furnishing needs.

8. Adopt Best Management Practices for storm water management, tree removal, new landcover establishment, invasive plant species control, and sustainable management practices.

These projects are designed to dovetail with the guidance offered in the Earthworks Management Plan included as Appendix B of this CLR. The projects make reference to related information conveyed in the Earthworks Management Plan when relevant.

1. Prepare a Vegetation Management Plan

Description. A vegetation management plan is currently needed to identify short- and long-term vegetation management goals, appropriate and preferred maintenance procedures, and BMPs for planting, clearing, and thinning of vegetation at Kennesaw Mountain National Battlefield Park. Specific goals for vegetation management include earthworks protection, enhancement of battlefield integrity and interpretive programming, and natural resource protection. Removal of specific non-contributing woodland areas, control of invasive plant species, replanting of historic woodlands, managing plant communities for ecological health and a character that is consistent with nineteenth century conditions, as well as the restoration of the historic character of areas of key military engagement will help visitors better understand the events of the Civil War battles conducted at Kennesaw. Such a plan would specifically address:

- The need for baseline inventory data
- Strategies for maintaining specific conditions such as native woodland communities, screen plantings, fields, and meadows, and historic plantings such as those at the Wallis House, Cheatham Hill, and the CCC camp
- Methods for enhancing the integrity of the battlefield by clearing non-historic woodlands and placing with field patterns and restoring missing historic woodlands
- Approaches for interpreting historic vegetation through exhibit design and installation, potentially including crop fields and orchards
- Strategies for non-historic ornamental plantings such as those at the visitor center, Kolb House, and park administration area
- Invasive species control

The plan would also incorporate the vegetation management information conveyed in the Earthworks Management Plan that relates to protection of earthworks under both woodland and grass cover.

Location. The vegetation management plan would pertain to plants and plant communities located throughout Kennesaw Mountain National Battlefield Park.

Considerations. A vegetation management plan would serve a crucial role in implementing the recommendations included in this CLR. Such a plan would address the inherent needs of the species present in the most sustainable manner, while also establishing processes and methods that support historic landscape preservation and interpretation.

As a first step in developing a vegetation management plan, the park should inventory, document, and evaluate existing vegetation communities.

Based on the recommendations included herein, the baseline data developed through inventory would be used to identify existing community composition, the health of each community, and need to make changes to support landcover goals, develop best maintenance practices, and enhanced ecological health and sustainability.

The identification of current conditions would also be compared with historic landcover condition present at the time of the Civil War. Where differences exist, as indicated in this CLR, the park should weigh the value of restoring historic landcover to its character and composition at the time of the battles for enhancing integrity and supporting visitor understanding of military events. The CLR recommends clearing non-historic woodland and replacing it with open field or meadow in specific locations where it would benefit interpretive programming. The vegetation management plan would identify an appropriate approach for conducting clearing efforts, and any recommended thinning and vista establishment. Where woodland is removed, the vegetation management plan would guide its replacement with an appropriate new open landcover that

could effectively be managed and maintained through mowing, grazing by livestock, or burning (Figure 369). One such land cover to consider is native warm-season grass fields.

The vegetation management plan would also guide the establishment of interpretive exhibits featuring plantings, such as orchards known to have played a role in the battle (Figure 370), identifying appropriate maintenance practices and species to be used. Consideration would be paid to employing sustainability principles in the establishment, management, and maintenance of these exhibits.

The vegetation management plan would provide guidance for maintaining the existing ornamental trees, shrubs, and other plant materials used around the visitor center, Kolb House, administration buildings, CCC camp, Wallis House, and Cheatham Hill. Treatment strategies for plantings that are identified as historically important would be identified, as would those for plantings that are not historic. For example, in-kind replacement may be recommended for historically important plantings.

For both historic and non-historic plantings, replacement of invasive plant species with natives is recommended. The vegetation management plan would guide these replacements. While invasive non-native plants in general should be considered for removal, their historical value should be assessed before any action is taken given that some may possess important historic cultural associations, such as periwinkle used as a cemetery planting. When non-native plants do not possess historical associations, their eradication would be desirable, but may not be feasible given the constant influx of germ material through transport by wind, water, and animal dispersal. Instead, control of these species should be a goal for the park. The vegetation management plan would include specific appropriate procedures for controlling each problematic invasive species, as well as monitoring protocols to guide follow-up management and maintenance.

The vegetation management plan would also specifically address methods for maintaining earthworks under specific vegetation cover types (see also EMP).

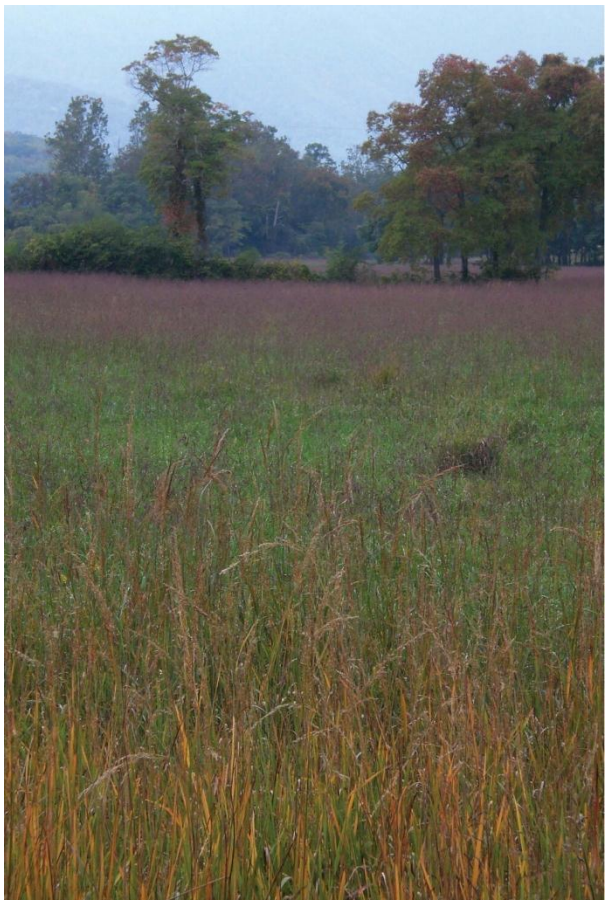

FIGURE 369. Open meadow plants support pollinators.

FIGURE 370. Orchards are known to have played a role in the battle.

Additional Studies Recommended.

- By law, any landscape management activity that moves, breaks, or disturbs soil is subject to review under Federal Section 106 and National Environmental Protection Act (NEPA) compliance.
- This project should be developed in concert with park interpretive planning efforts.
- A seen-area analysis should be used to guide the extent of woodland clearing as well as the establishment and maintenance of screen buffers along park boundaries to protect viewsheds (Figure 371).
- Natural resource studies should be prepared to assess the impacts of proposed vegetation changes on rare, threatened, and endangered wildlife and plant species or their habitats, and water and wetland resources.
- Existing plant communities to be altered should be inventoried as a mitigation measure.
- BMPs for tree removal, storm water management, new landcover establishment, maintenance, and invasive plant species control and eradication should be identified and prepared as part of the plan.

FIGURE 371. A seen-area analysis should be used to guide the extent of woodland clearing as well as the establishment and maintenance of screen buffers along park boundaries to protect viewsheds.

Related Implementation Projects.

- Implementation Project 4. Clear and thin non-contributing woodland vegetation.
- Implementation Project 6. Enhance interpretation within the park, emphasizing the cultural landscape of the battlefield.
- Implementation Project 8. Adopt Best Management Practices for storm water management, tree removal, new landcover establishment, and invasive alien plant control, and sustainable management practices.

Project Implementation Process.

1. Undertake the studies necessary to support the vegetation management plan, including maintenance planning.
2. Prepare the vegetation management plan, utilizing the studies cited above and the CLR recommendations relating to management, control, removal, and modification of existing vegetation in support of historic, cultural, and natural resource management. Involve park staff and regional natural resource specialists preparing the plan. Identify priority projects and implementation phasing options in the plan.
3. Initiate CLR projects relating to vegetation management.

2. Address Soil Erosion Problems Associated with Trails and Slopes

For more information, see also the Earthworks Management Plan Implementation Projects 4 and 5.

Description. Correcting soil erosion is a critical objective of park management. Soil erosion is one of the greatest threats to the park's surviving earthworks resources, environmental health, and appearance. Soil erosion is in evidence in association with trails, road and parking lot margins, earthworks, and many of the park's popular attractions. Soil erosion leads to siltation of streams resulting in increased flooding, scouring, and mortality of aquatic plant and animal life. It also contributes to maintenance needs. Appropriate strategies for addressing soil erosion problems within the context of the cultural landscape of Kennesaw Mountain National Battlefield Park include careful maintenance of desirable plant communities, trail management and maintenance, and the engagement of visitors in helping to prevent future problems.

Location. This project applies to the park as a whole, but is particularly important to consider in association with trails, parking areas, overlooks, and earthworks.

Considerations. The soils that underlay the park are vulnerable to erosion. Wherever storm water has the potential to run across exposed soil there is a threat of erosion.

Erosion control has been a management challenge at the park since its inception. Areas of the park that had been cultivated and used for pasture began to erode intensively in the 1930s. The CCC conducted ambitious corrective work, regrading, stabilizing, and terracing slopes, and stabilizing stream banks and corridors, establishing conveyance systems, and planting trees and vines, particularly in association with the earthworks at Cheatham Hill. Today, erosion continues to plague the park's maintenance staff.

Forest cover, and its attendant deposits of leaf litter or duff provide the best defense against erosion, although in high use areas, the park maintains turf or field grasses through mowing as a ground cover that protects against erosion. Neither grass nor leaf litter provide sufficient protection against erosion in areas of high visitor use, however. Erosion is often evident along trails and trail margins, particularly those located in close proximity to parking areas (Figure 372). Erosion is also present adjacent to parking areas, gathering places, overlooks, and on the earthworks where crowds of visitors have attempted to access the resource to gain a view (Figure 373). Each of these locations will require special attention on the part of park maintenance and volunteers to control erosion. Protection of exposed soil, early repair, installation of barriers (Figure 374), establishment of trails of an appropriate width to meet current and anticipated needs, and the development of new signage to guide visitors to remain on recommended trails will together help to address the threat.

Where the CLR recommends clearing currently wooded areas in support of interpretation, it will be important to establish BMPs that limit the potential for erosion during the landcover conversion process, which is a time when exposed soils are vulnerable.

FIGURE 372. Erosion is often evident along trails and trail margins.

FIGURE 373. Erosion is present on the earthworks where visitors have attempted to access the resource to gain a view.

FIGURE 374. Barriers at a trailhead.

Additional Studies Recommended.

- By law, any landscape management activity that moves, breaks, or disturbs soil is subject to review under Federal Section 106 and National Environmental Protection Act (NEPA) compliance.

Related Implementation Projects.

- Implementation Project 3. Rehabilitate the trail system to enhance the visitor experience.

- Implementation Project 8. Adopt Best Management Practices for Storm water Management, Tree Removal, New Landcover Establishment, and Invasive Alien Plant Control, and Sustainable Management Practices.

Project Implementation Process.

1. Inventory and document the locations within the park that are undergoing erosion problems.

2. Design a multi-pronged approach to repairing soil erosion problems and addressing the causes.

3. Consider, in the repair strategy, filling and aerating the soil to support the establishment of vegetation to protect the ground from future erosion, and establish mulch, straw, or an erosion control blanket to control erosion during the establishment period.

4. Relocate trail sections that extend over steep topography, that cross earthworks, or that have become severely eroded. Widen trail where crowding has led to erosion of the margins. Construct new trails where necessary to prevent social trail establishment. Repair the ground associated with the eroded trail segments.

5. Consider, in addressing the causes, creating new sanctioned trails where visitors are regularly walking, or controlling access to social trails by revegetating and establishing temporary barriers accompanied by signage indicating that visitors refrain from walking in a particular area.

6. Initiate projects relating to correcting erosion.

3. Rehabilitate the Trail System to Enhance the Visitor Experience

For more information, see also the Earthworks Management Plan Implementation Project 7.

Description. The park includes an extensive network of trails. Some are paved in asphalt, but the majority are earth-surfaced. Primary trails are located around the visitor center, the ridge line between the Kennesaw Mountain overlook and Pigeon Hill, and Cheatham Hill. The secondary trails extend north to south and parallel the Confederate and Union earthworks in the eastern and western parts of the park. The western system accommodates equestrian uses, is generally wider, and has a more formal surface, while the eastern system is narrow and closely approximates a primitive back-country trail.

While the trails generally link the park's historic attractions, they do not currently convey a comprehensive interpretive program, and can be difficult to navigate as insufficient information is available to guide visitors to make informed choices. Additional effort to design the trails so that they offer a thoughtful interpretive experience as part of a system of defined loops linked to parking areas would be of great benefit to visitors. The defined loops should be accompanied by information that explains the distance and difficulty level to be encountered by visitors for each segment. Each should offer a discrete interpretive experience, allowing visitors to determine their goals for their visit.

Implementation of this project would entail possible modification of existing trails through the addition of new segments to form return loops, limited woodland clearing to support interpretive programming, and the installation of new interpretive sign systems that might range from traditional waysides to numbered posts tied to a map/brochure, and/or applications that can be used with electronic devices.

Location. This project applies to the park as a whole.

Considerations. Trail recommendations and guidelines must consider the advantages and disadvantages of all proposed routes, identify problems to avoid, provide connections to interpreted resources and meet other interpretive goals, consider the potential for making the route universally accessible, and indicate connections to main roads and parking. Trail designs should ultimately distinguish between primary routes—comprised of universally-accessible trails that provide access to the park's most important resources and stories and that are connected to safe and convenient parking areas—and secondary routes that may not necessarily be universally accessible, but may offer a range of challenge levels that could provide an extended tour for interested visitors.

The current trail system should be considered for its historic value before any changes are made. Non-historic segments should be evaluated for their impact to the environment (see also the Earthworks Management Plan Implementation Project 2). Modifications should be made to any trail that does not work with the terrain and is exhibiting repeated problems with erosion.

Implementation would be guided by development of interpretive planning information, potentially included in the park's Long-Range Interpretive Plan (LRIP), which examines the park's interpretive systems as a whole. The CLR recommends using a resource-driven approach to interpreting the military events of 1864; trail locations would be tied to sites that are of interpretive value.

Trails can require a certain amount of modification of the landscape, such as grading, to ensure a well-drained and relatively even tread and prevent erosion. It is currently anticipated that most new trails will be back-country routes that are not likely to accommodate universal accessibility due to the potential impacts on historic landscape resources. The routes to be followed by proposed new trails should be evaluated for any potential impacts to cultural or natural resources. Historic road traces should be considered for use as trails, with special

consideration paid to protecting their historic character.

Each proposed trail should be delineated by name, and possibly color, on the park's web site, as well as on a printed brochure. The distance and difficult level of each trail should also be identified. The interpretive program for the trail should be determined by interpretive planners with landscape features identified for their role in interpretation. In some cases, interpretation will be enhanced through clearing of woodland and establishment of vistas (Figure 375), establishment of interpretive aids to illustrate nineteenth-century features that were present at the time of the battle but are no longer extant, and sustainability enhancements to protect the environment and historic resources, which can also be interpreted to the public.

Incorporate local materials, such as stone and wood, into trail-related structures including water bars, stepping stones, signage, fences, steps, treads, stream crossings, stone boxes or treadways crossing marshy areas, retaining walls, trail markers, and shelters. Design these features to be clearly a product of their time.

See also Earthworks Management Plan recommendations regarding the relocation of trails to avoid impacts to earthworks resources.

FIGURE 375. Interpretation will be enhanced through clearing of woodland and establishment of vistas.

Additional Studies Recommended.

- By law, any landscape management activity that moves, breaks, or disturbs soil is subject to review under Federal Section 106 and National Environmental Protection Act (NEPA) compliance.
- Complete a Long-Range Interpretive Plan to guide the enhancement of park trails and associated interpretive programming.
- Identify potential impacts to archeological resources within proposed trail corridors and recommend actions to protect those resources.
- Engage a historical landscape architect to design new trails.

Related Implementation Projects.

- Implementation Project 2. Address soil erosion problems associated with trails and slopes.
- Implementation Project 8. Adopt Best Management Practices for Storm water Management, Tree Removal, New Landcover Establishment, and Invasive Alien Plant Control, and Sustainable Management Practices.

Project Implementation Process.

1. Stake proposed trails in the field. Engage a qualified archeologist to perform archeological assessment of the alignment.
2. Grade the trail if necessary to ensure positive drainage.
3. Revegetate any graded areas with the desired landcover type.
4. Install interpretive signage and orientation map features in accordance with the resource-driven plan for the trail.
5. Maintain the trail in good condition.
6. Enlarge or enhance parking to reflect the new plan for visitor use of trails and trail systems.

Guidelines for Adapting Historic Road Traces as Trails.

- Use only low-tire-pressure vehicles when working along historic road traces.

- Design new trails that follow or traverse historic road traces in such a way as to avoid cutting into the ground in order to preserve archeological resources. Utilize fill sections rather than cutting into the existing grade wherever possible to achieve positive drainage and address drainage and erosion control needs.

Guidelines for New Trails.

- Consider the range of possible trail types carefully before implementing a new trail system. The range of trail options to consider are as follows:

    - No trail: In areas with sensitive natural or archeological resources, it may be best to avoid trail development altogether. Avoid placing trails near sensitive resources that could be damaged by people.

    - Back-country or primitive hiking trail: Consider for areas that are relatively sensitive. Primitive hiking trails include only limited development and are anticipated to experience low-impact use and relatively small numbers of pedestrian users. Back-country trails are relatively narrow at between 3 and 4 feet in width, and surfaced with non-intrusive materials, such as hard-packed earth or mulch. They typically do not meet Americans with Disability Act Accessibility Guidelines (ADAAG) and cannot serve as part of the primary interpretive experience.

    - Pedestrian trail: Consider for areas where only low-impact use, such as hiking or jogging, is anticipated. Establishment of this type of trail typically results in some level of disturbance, based upon the fact that construction equipment is required. Pedestrian trails are generally wider, 5 to 6 feet. A pedestrian trail can be made accessible if ADAAG requirements are followed.

    - Unpaved multi-use trail: Consider this type of trail for moderate use areas to accommodate pedestrians and bicyclists, but site it to avoid impacts to historic resources. This trail type requires moderate site disturbance in the form of grading and surfacing. Multi-use trails are typically wider, approximately 10 feet in width, to ensure uses do not conflict with one another. An unpaved multi-use trail can be made accessible if the ADAAG requirements are followed.

    - Paved multi-use trail: Consider this type of trail for high use areas and for the primary visitor interpretive experience. It should not be used, however, when following historic road traces or corridors due to the relatively high level of disturbance involved in its construction. This type of trail is the widest, up to 15 feet in width, with surfacing that can be made accessible in conformance with ADAAG requirements.

Guidelines for Trail Construction by Type.

Back-country trail.

- Design primitive hiking trails as minimal, well-drained earthen- or grass-surfaced treadways (Figure 376).

FIGURE 376. Design primitive hiking trails as minimal, well-drained earthen- or grass-surfaced treadways.

- Consider the use of primitive hiking trails to form spurs leading from more developed or major trails. Limit primitive hiking trailhead development to minimal signage at intersections with larger trails.

- Design primitive hiking trail alignments to require minimal grading and erosion control methods that can be effected by hand. Avoid trail runs that are steeper than 15 percent. Erosion control methods should be utilized primarily to correct poor drainage and prevent damage to the trail surface by storm water.

- Utilize stepping stones, stone boxes, or a treadway of large stones on trails that pass through wet areas to allow drainage and water to move freely and prevent erosion and compaction. Ensure that stones are level and do not present a trip hazard for pedestrians. In remote areas, locally collected or quarried stepping stones are preferable to a wooden boardwalk that might be used on a heavily traveled and highly accessible trail.

Pedestrian trail.

- Design pedestrian trails as well-drained earth, gravel, or asphalt surfaced treadways (Figure 377).

FIGURE 377. Design pedestrian trails as well-drained earth, gravel, or asphalt surfaced treadways.

- Incorporate only a minimal trailhead and signage into the design of this type of trail. Signage should be limited to trailheads and intersections with larger trails.

- Consider making sections near trailheads barrier-free to allow some measure of universal accessibility, where feasible.

- Utilize earthen, shredded bark mulch, or crushed stone surfacing.

- Avoid trail runs that are steeper than 10 percent grade. Maintain cross-slopes at 2 percent or less.

- Utilize low-profile boardwalks when crossing wet areas (Figure 378).

FIGURE 378. Utilize low-profile boardwalks when crossing wet areas.

Unpaved multi-use trail.

- Design trails of this type with a minimum 10-foot-wide firm surface with 3-foot-wide soft shoulders on either side to allow passing. Surface these trails with crushed aggregate or gravel fines, with shoulders of grass or shredded bark mulch. To meet ADAAG guidelines, crushed aggregate trails will need to incorporate a chemical binding agent to ensure an adequate degree of firmness (Figure 379).

- Incorporate signage at trailheads, and as needed for orientation and to post regulations and warnings.

FIGURE 379. To meet ADAAG guidelines, crushed aggregate trails will need to incorporate a chemical binding agent to ensure an adequate degree of firmness.

Paved multi-use trail.

- Design trails of this type with a minimum 10-foot-wide asphalt or concrete surface with 3-foot-wide soft shoulders on either side to allow passing (Figure 380).
- Consider using warm-colored surface materials such as colorized concrete or asphalt, or a stabilized crushed-stone surface fabricated from warm-colored brownstone.

FIGURE 380. Paved multi-use trails should have a minimum 10-foot-wide asphalt or concrete surface with 3-foot-wide soft shoulders on either side to allow passing.

Universally-accessible trail.

- Design universally-accessible trails to have a firm and stable surface.
- Design universally-accessible trails to be a minimum of 6 feet wide.
- Avoid trail runs longer than 200 feet that are steeper than a 5 percent grade. Maintain cross-slopes at 2 percent or less.
- Follow the guidance available in the trail accessibility pages on the American Trails website at www.americantrails.org/resources/accessible/index.html.

4. Clear and Thin Non-contributing Woody Vegetation to Reestablish Historic Patterns of Spatial Organization and Views

A. Clear Non-contributing Woodland to Reestablish Historic Patterns of Spatial Organization

Description. Some currently wooded areas of Kennesaw Mountain National Battlefield Park were in open landcover, such as agricultural fields and pasture, at the time of the Civil War. The clearing of non-contributing woodland to reestablish historic land cover conditions would help restore the integrity of the battlefield landscape, while also supporting visitor understanding of the battle events.

Location. Clearing and thinning of existing woodland should be considered where fields and other open areas were present at the time of the battle and this condition can be returned without impacting sensitive environmental conditions. Clearing should only be conducted where it is anticipated to support planned interpretive programming. At present, this CLR anticipates these locations to include the Hardage, Eaton, and Cass house sites, the viewshed between Little Kennesaw and the Twenty-Four-Gun Battery, Cheatham Hill, and the view between the Horseshoe and nearby Confederate earthworks.

Considerations. Before any existing woodland is cleared, several factors must be considered: the impact of clearing on the environment and park maintenance capabilities; and the role that clearing will play in the visitor experience. In some cases, non-contributing woodland helps to screen incompatible contemporary development and should be retained. Park managers must carefully weigh the benefits of clearing and thinning vegetation for interpretive purposes with the ecological consequences of removing the vegetation. Some areas of non-historic woodland may possess high natural resource values, such as critical habitat for rare, threatened, or endangered species, and use as a riparian buffer. These woodlands should be retained. Many procedures that support the goal of a visually-open character but do not require wholesale woodland removal may be possible. These techniques might include removal of invasive alien plants, as well as dead, diseased, or damaged trees, and the lower branches of trees and shrubs taller than 4 feet in height to establish a visual clear zone (Figure 381). Consideration should be paid to replacing non-contributing woodland areas with native warm-season grass and forb fields, and managing the fields through prescribed burning or haying as part of a historic lease program.

FIGURE 381. Selective removal of lower branches of trees and shrubs taller than 4 feet in height can establish a visual clear zone.

Clearing is only recommended in specified key visitor use areas where the landscape is interpreted, and where impacts to natural and historic cultural resources can be avoided, minimized, or mitigated. Best management practices (BMPs), as discussed below, should be followed when conducting the tree clearing considered as part of this plan.

Clearing is not recommended in association with earthworks protection zones, as noted in the Earthworks Management Plan appendix, where trees are being managed to protect the earthen structures that survive from the Civil War.

The following criteria should be considered when weighing the decision to clear woodland:

- The area to be cleared should be located within view of a primary visitor use area.
- Reestablishing a historic field should not result in views to areas outside the park that would have a negative effect on interpreting the historic scene.
- Clearing should not be undertaken within wetlands and other sensitive ecological areas.
- Clearing should not be undertaken on steep, erodible slopes.
- Clearing should not fragment any identified important wildlife habitat.
- Mitigation measures to limit the potential for erosion should be conducted as part of the clearing effort.
- BMPs should be developed for clearing operations and incorporated into the vegetation management plan recommended above in Implementation Project 1.

Woodland Clearing Options.

- **Clear-cutting.** Although clear-cutting is potentially the quickest and most-efficient method of removing forest, the following must be taken into consideration:
    - Clear-cutting leads to a drastic change in appearance that can disturb visitors.
    - Invasive species can become opportunistic within surrounding woodland stands.
    - Clear-cutting can be more expensive than gradual removal due to the need for heavy machinery and increased labor.
- **Gradual removal.** Gradual removal does not provide the immediate gratification of clear-cutting and may take five to ten years to complete. It also requires continual maintenance and periodic hiring of tree removal labor. A management plan for removal may be required to adequately address issues involved with this type of tree removal, but offers other advantages such as:
    - The method will likely have less impact on the surrounding woodlands and environment.
    - It will be a less abrupt change for visitors.

Additional Studies Recommended.

- By law, any landscape management activity that moves, breaks, or disturbs soil is subject to review under Federal Section 106 and National Environmental Protection Act (NEPA) compliance.
- A seen-area analysis should be used to guide clearing. The likely efficacy of the clearing to establish the desired condition or view should be evaluated prior to commencing work.
- The park should weigh clear-cutting versus gradual clearing to determine the best approach.
- The park should also evaluate the woodlands identified for clearing to ensure that there are no federal or state threatened, endangered, or rare species present, or rare habitats that are likely to support such species. Populations of any rare, threatened, and endangered species these species and their habitats should not be disturbed.
- Park personnel should prioritize areas to be cleared, and work with botanists/ecologists to perform required environmental impact assessments. All potential cultural and natural resource impacts should be evaluated before determining which sites will be cleared. Consideration must be paid to all federal, state, and local laws associated with wetlands

or other sensitive ecological areas. Wetlands should be delineated prior to undertaking woodland clearing.

- The boundary of the area to be cleared should be delineated by an interdisciplinary team, including an ecologist, rare plant specialist, hydrologist, forester, archeologist, and historical landscape architect. The team should collectively delineate the locations and alignments of proposed timber haul roads, loading areas, riparian management zones, and other conditions relating to the tree removal effort.

- After identifying the boundaries of the area to be cleared, work with botanists/ecologists to perform necessary environmental impact assessments. All potential cultural and natural resource impacts should be evaluated before making final determinations regarding which sites will be cleared.

- The park should prepare a set of Best Management Practices (BMPs) to identify the most appropriate methods for tree removal given local soils, hydrology, and vegetation types, as well as a determining how to dispose of the refuse, prior to beginning work.

- The park should establish protocols to preserve, protect, and maintain cultural features in areas proposed for woodland clearing. An archeological survey should be conducted to determine impacts to potential archeological resources prior to conducting woodland clearing.

- The park should identify native grass and forb species that are growing successfully within the area to determine the desired species composition for revegetating cleared areas.

Related Implementation Projects.

- Implementation Project 1. Prepare a vegetation management plan.

- Implementation Project 3. Rehabilitate the trail system to enhance the visitor experience.

Project Implementation Process. After an area has been identified as suitable for clearing, the following steps are recommended:

1. Engage a tree removal service to conduct the clearing that can demonstrate successful experience working at historically significant sites. Ensure that tree clearing and erosion control BMPs developed for this project are an integral component of the process to be conducted by the tree removal contractor.

2. Ensure that appropriate measures to stabilize the soil and minimize erosion are established by the contractor prior to clearing.

3. Regularly inspect tree removal operations to monitor compliance with the terms of the contract and applicable laws. An archeologist, soil scientist, and/or other professionals should participate in monitoring and regular inspections of the tree clearing operations.

4. Begin immediate establishment of desired new landcover in areas where trees have been removed. Minimize disturbance to the soil surface when planting new landcover.

B. Thin Woodland to Establish Viewsheds for Interpretation

Description. Interpretation of the Kennesaw military landscape would be enhanced through increased visual accessibility of the opposing lines of fortifications, and their connection to each other and the surrounding landform and topography. Eleven miles of Confederate and Union earthworks are preserved within the wooded landscape of Kennesaw Mountain National Battlefield Park. Much of the area currently under woodland cover was open during the Civil War Battle of Kennesaw Mountain. The existing woodland cover, while important in protecting against erosion, also tends to obscure important historic military views and relationships, such as the field of fire and the locations of the opposing lines. Woodland thinning techniques presented herein are intended to render the ground plane and landform of important interpretive viewsheds more visually

accessible in places where removing non-contributing woodland is not a viable option.

The park would enhance interpretive opportunities along the trail by pruning and thinning the vegetation between the interpretive trail and the earthworks. Thinning would be especially beneficial in association with locations of interest to visitors such as cannon, interpretive waysides, and other key trail viewpoints.

Some areas of non-historic woodland have high natural resource values and should be retained, or will remain in woodland cover due to other considerations such as the presence of earthworks, or to meet the park's maintenance capabilities. Other options exist to facilitate interpretation where existing woodland is recommended to remain. These include careful manipulation of existing woodland cover by site-specific thinning of trees, limbing up or pruning of the lower branches of canopy trees, removal of saplings and shrubs, removal of invasive species and dead or dying trees, and/or limited clearing along a targeted view corridor.

Viewing platforms that allow visitors to better understand the physical context of the larger battlefield landscape might be designed in association with woodland clearing and thinning in some locations.

FIGURE 382. Existing woodland growth sometimes obscures interpretation of historic military operations.

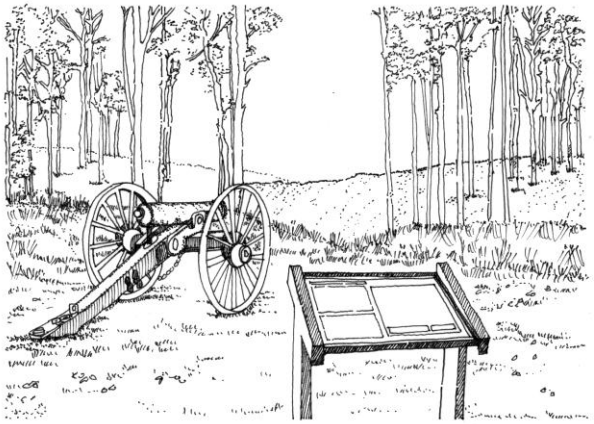

FIGURE 383. Carefully considered clearing and thinning of woody vegetation can support interpretation of military operations like the historic field of fire of artillery.

Location. Thinning and clearing of specific viewsheds is recommended between opposing lines of earthworks where the gesture can be interpreted. This project should be considered for implementation in association with any segment of earthworks where it supports interpretive goals.

Considerations. Pedestrian trails already follow the linear earthworks resources in several locations. The park is currently in the process of designing additional trails to provide visitor access to other segments. Interpretation of the earthworks and the military events associated with them is an important component of the park's interpretive programming, and the proposed thinning and clearing project would enhance the visitor experience along the trail.

Additional waysides and other interpretive media are likely to be established to provide information to visitors about the resources. The presence of the existing forest, its role in preserving the earthworks, and the ways that the site has changed since the Civil War should be conveyed on the waysides and other park interpretation.

Removing forest vegetation is likely to increase the amount of sunlight reaching the forest floor, which in turn will encourage additional vegetative growth, including invasive species. Tree regeneration and the development of a shade tolerant shrub layer is part of the natural succession process; retarding that process will take

continued effort. Maintenance in the form of annual trimming or mowing and periodic additional clearing will be required to keep the understory from obscuring intended views. Thinning practices that are not consistent with the park's maintenance capabilities should not be undertaken. Neither the understory shrubs and trees nor the ground vegetation play as significant a role in arresting soil erosion as leaf litter. Removing these layers may, however, play a role in encouraging visitors to walk on the earthworks.

Maintenance of vistas will require special attention. Mowing, brush-hogging, or the establishment of lower-growing native shrubs and meadow grasses and forbs may be required to maintain open vistas. Care must be taken by maintenance workers not to walk along the steep side slopes of the earthworks when undertaking the necessary procedures. Summer is the best time to clear vistas, as the vegetation is actively growing and energy reserves in the roots are low. Also, cut stems tend to sprout more frequently if cut in winter than in summer. However, the large number of visitors in summer may make it an undesirable time of year for vista cuts; late summer or early fall is a good alternative time for this activity.

Park personnel should prioritize areas to be cleared and thinned, and work with botanists or ecologists to perform any necessary environmental impact assessments. All potential cultural and natural resource impacts should be evaluated to ensure that there are no federal or state threatened, endangered, or rare species; rare habitats that are likely to support such species; or archeological resources present before any clearing or extensive thinning is conducted. If endangered or threatened plant or wildlife species or sensitive archeological resources are identified, recommendations that may alter their condition should be reevaluated prior to undertaking any woodland thinning or clearing. Once woodlands have been approved for clearing and thinning, park maintenance staff should be trained to undertake the monitoring process, manage invasive plant growth and soil erosion, and plant replacement vegetation as necessary.

Maintenance in the form of periodic monitoring will be needed to ensure that the earthworks retain a protective layer of leaf litter given the reduction in forest canopy and resulting loss of leaf litter, and that visitors do not begin accessing the parapet and ditch once vegetation is cleared and thinned.

In implementing these projects, care must be taken to avoid disturbing woodland areas that serve as habitat for species of special concern or that are important to protecting water resources.

Thinning within designated riparian buffer areas can be considered if an alternative buffer community is established.

Additional Studies Recommended.

- The identification of potential vistas should be determined as part of a seen-area analysis (using technology such as ArcGIS Spatial Analyst and 3-D Analyst extension).
- A Long-Range Interpretive Plan would be needed to identify the interpretive goals and programs associated with the cleared areas.
- Archival research should be conducted as part of the data collection required to support development of any related interpretive exhibit(s).

Related Implementation Projects.

- Implementation Project 1. Prepare a vegetation management plan.
- Implementation Project 5. Establish screen buffers.
- Implementation Project 6. Enhance interpretation within the park, emphasizing the cultural landscape of the battlefield.

Project Implementation Process.

1. Prior to clearing woody growth, carefully consider the proper locations for establishing new sight lines that best connect the visitor with 1864 military events.

2. Engage an archeologist, natural resource specialist, and historical landscape architect to field-check and evaluate the areas to be thinned or cleared and ensure that no cultural or natural resources will be adversely affected prior to removal of woodland vegetation. Evaluate the likely efficacy of the clearing to establish the desired viewshed. Adjust the planned thinning operation if the amount of vegetation in need of removal proves extensive or the operation is anticipated to become ecologically unsound or a financial burden.

3. Clear as little vegetation as possible to achieve the desired viewshed. Perform work in phases to ensure that the minimum amount of vegetation is removed to meet interpretive needs:

    - Phase One: Flag shrubs, saplings, and trees to be thinned and pruned. Establish and follow BMPs for vegetation removal and thinning. Begin by removing exotic and invasive vegetation and trees that are diseased, unhealthy, present a danger to visitors, or are a windthrow hazard. Prune, thin, or, if necessary remove shrubs and saplings, and remove the lower branches of trees to establish a vertical clear zone of between 2 and 16 feet measured from the ground plane to open specific, desirable views to the earthworks from the trail. The priority areas are associated with viewing platforms, wayside locations, and other interpreted and high use areas. Maintain the vertical clear zone. Ensure that leaf litter continues to cover the ground surface, or revegetate with a desired low-growing landcover such as native forbs and meadow grasses.

    - Phase Two: Evaluate the success of phase one thinning operations. Further enhance visibility as needed by selectively thinning additional trees. Continue to remove exotic, invasive, and diseased vegetation.

    - Phase Three: Evaluate the success of Phase One and Two thinning operations. If the viewshed remains obscured, continue to selectively thin trees without negatively affecting water quality and erosion problems until the viewshed meets interpretive needs. As woodland is opened, continue to revegetate with the desired new landcover to prevent soil erosion and establishment of unwanted opportunistic and invasive species. Maintain understory grasses by mowing periodically with a strong trimmer; avoid contact with trunks of trees and shrubs to remain. Also thin woody cover on a periodic basis to maintain visual access. Alternatively, opt to clear trees between a specific view point and a viewed landscape feature in a narrow corridor. Vegetate the ground plane with desirable herbaceous or low shrub species that can be maintained below eye level. Interpret the cleared area and associated view for visitors.

C. Establish New Landcover where Woodland is Cleared using Best Management Practices

Description. Areas of the park slated for removal of non-contributing woodland will require immediate revegetation to protect against erosion. New vegetation established within these areas, to meet the goals and objectives of clearing, will need to be maintained at a relatively low height to allow visitors to personally see and experience the terrain. The plant species or communities established within newly cleared areas must also meet additional criteria such as viability within the park's natural environment, be effective in protecting the local soil from erosion, and within the park's maintenance capabilities. As with tree clearing, the establishment of new landcover in cleared areas should be effected in such a way as to promote environmental stewardship and avoid impacts to sensitive natural and cultural resources. BMPs for establishing new landcover would be developed and followed by the park as part of this project.

Location. This project is specifically intended to address the proposed cleared areas, but alternative land cover types could also be considered

wherever non-native grasses or invasive plants currently exist.

Considerations. The desirable landcover to be established within cleared areas, as well as some existing fields, should be evaluated carefully by the park. Consideration should be paid to establishing native plant communities that require the least input of time and energy in the form of mowing, soil amendments and fertilizer, and water (Figure 384).

FIGURE 384. Native grassland plant communities can be established within cleared areas.

Native warm-season grasses offer many benefits along these lines and should be considered for newly cleared areas as well as conversion of any existing fields dominated by non-native species. Native warm-season grass and forb fields are generally composed of regionally-native perennial bunch grasses that are more ecologically sustainable than fescue. Fescue, often used as a dominant species in fields, offers little in the way of wildlife habitat, and is allelopathic often resulting in the establishment of a monoculture, which can be dangerous should the species be susceptible to loss due to a pest or pathogen. In contrast, native warm-season grasses can provide high-quality wildlife habitat, while also serving as components of riparian buffer plantings. Established using a modicum of soil amendments, warm-season grasses require few or no additional applications of herbicides, fertilizers, or pesticides. They are generally drought tolerant as well.

Native warm-season grass fields can be difficult to establish and maintain in the early stages. A temporary cover of an annual grass such as rye can be used during the early phase of establishment. Any conversion of woodland to native warm-season grass and forb fields could be undertaken in an adaptive or phased manner.

The park's interpretive plan should consider the role that native warm-season grass and forb fields can play in the interpretation of historic conditions. Mowing patterns, for example, can be utilized to create visual aids for interpreting missing historic conditions. Grass species with distinctions in texture, height, and/or color, or mow patterns (Figure 385), can be used in limited areas in support of interpretive needs to delineate former field patterns and house precinct, military lines, or other missing features of the Civil War-era landscape. The seasonal nesting cover and food requirements of open-field wildlife in the park, such as birds and small mammals, should be accommodated when determining mowing schedules.

FIGURE 385. Mowing patterns can be utilized to create visual aids for interpreting missing historic conditions.

Natural resource specialists with knowledge of local soils and plant communities should be consulted to determine the range of plants and plant communities that might be considered for use within cleared areas of the park. In fact, the park's varied terrain and environmental conditions may be best served by the establishment of a variety of communities that are suited to local soil moisture, solar orientation, and slope conditions. For example, plantings could

include native warm-season grass fields with combinations of Indiangrass, switchgrass, and bluestems on uplands and slopes, and moist forb and grass meadows in swales and drainages.

Challenges such as long establishment periods can be met with techniques such as the planting of annual grasses to hold the soil, overseeding, or managing to promote warm-season grasses over cool-season grasses. While establishing, managing, and maintaining these communities may require specialized attention and practices, they will also likely yield worthwhile environmental and aesthetic benefits.

Additional Studies Recommended.

- By law, any landscape management activity that moves, breaks, or disturbs soil is subject to review under Federal Section 106 and National Environmental Protection Act (NEPA) compliance.
- Preliminary studies such as soil analysis will be needed prior to determining the specific process for and species associated with establishing new landcover.
- Natural resource specialists with knowledge of the local ecology should consider the options for new landcover that meets the following identified criteria:
    - Species must be suited to the local soils, planting zone, and rainfall conditions. Soil testing must precede species selection.
    - Species should be drought tolerant.
    - Species must provide above ground cover and/or a root system that protects against soil erosion.
    - If the species provides long-term soil erosion protection but no short-term protection, there must be a viable annual or interim landcover option for the establishment period.
    - The long-term cover species must be perennial or self-perpetuating, although temporary cover species may be annual.
    - Preference will be given to species that are relatively easy to establish.
    - Preference will be given to species with greater benefits to wildlife.
    - Preference will be given to a species that offer little in the way of maintenance requirements, particularly concerning mowing frequency.
    - Preference will be given to native species over non-native species.
    - Invasive species will not be used.
    - Consideration will be paid to replicating the character of local landcover at the time of the battle.

5. Establish or Maintain Vegetative Screen Buffers to Protect the Park's Setting and Feeling

Description. Maintenance of the historic rural character of the park landscape depends on the control of views to adjacent incompatible development. Vegetative buffers are one of the primary tools for screening incompatible views (Figure 386), although scenic easement can also be used to control development within sight of the park. Screen buffers are currently needed to limit views of adjacent residential development, and may need to be established in the future in conjunction with proposed clearing, or to diminish the impact of proposed future nearby development.

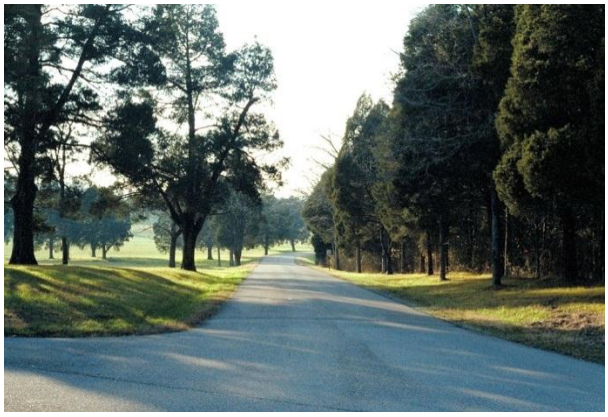

FIGURE 386. Vegetative buffers are one of the primary tools for screening incompatible views.

Location. Vegetation that acts to screen views of development on lands adjacent to the park already exists along the majority of the park boundary. There are limited locations that currently are in need of screen buffers. They include along the margins of the Kolb Farm and south of Burnt Hickory Road.

The park will need to continue to evaluate the efficacy of current buffers and the need for new buffers where views are afforded from sites of high visitor use. Development pressures with the potential to impact views continue to increase. Proposed clearing within the park should be considered in conjunction with the need for screen buffers.

Considerations. A seen-area analysis could be used to determine where visual buffers and possibly development controls are needed. Such a study could be used to evaluate existing buffers and identify areas where buffers may either exceed or be insufficient to the task of controlling non-contributing views. As the park weighs goals of removing non-contributing woodland, it may be desirable to diminish the current extent of perimeter woodland buffers, and/or extend buffers in other carefully-considered areas.

Scenic easements are legal documents stating that the owner of a property agrees not to build anything on their land that will be visually intrusive to the owner of an adjacent or nearby property. It may be possible for the park to negotiate scenic easements for adjacent properties that may be visible from the interior of the park with the potential to be developed.

Additional Studies Recommended.

- By law, any landscape management activity that moves, breaks, or disturbs soil is subject to review under Federal Section 106 and National Environmental Protection Act (NEPA) compliance.

- Minimize the impact of development on nearby parcels by working with developers during the planning process, suggesting increased setbacks and the least intrusive location and character for new structures and roads.

- Monitor and participate in regional planning activities in order to protect adjacent resources and the larger setting of the park.

- Develop working relationships with adjacent landowners to yield information that may determine where additional buffers should be established to most effectively screen proposed development.

- Coordinate with adjacent and nearby property owners to determine if they are amenable to selling or donating scenic easements on their land to protect park viewsheds.

- Coordinate with planning authorities on the development and construction of new features within the landscape that may impact the park visually or physically such as roads, zoning changes that may result in higher density residential or non-residential uses, sale of land to non-governmental entities, and cell towers or antennae.

- Develop a planting plan that identifies the desirable composition of screen buffers as part of the vegetation management plan proposed in Implementation Project 1. Include native evergreen and deciduous trees and shrubs with a dense character that are suited to local conditions. Plant trees in groves rather than in rows to present a more natural appearance. Plant evergreen understory trees and shrubs where a solid screen is needed. Avoid planting monocultures of a single tree species, such as pines. Not only is this practice ecologically unsound, but it may create a distracting view that does not blend with the surrounding woodland character. Consider the following native evergreen species for inclusion within the plan:

    - American holly (*Ilex opaca*)
    - Eastern red cedar (*Juniperus virginiana*)
    - Southern magnolia (*Magnolia grandiflora*)
    - Loblolly pine (*Pinus taeda*)
    - Carolina cherry laurel (*Prunus caroliniana*)

- Consider the following locally and regionally native deciduous vegetation to supplement the evergreen material:

    - Oaks: black (*Quercus velutina*); cherrybark (*Q. pagoda*); chinkapin (*Q. muehlenbergii*); northern red (*Q. rubra*); southern red (*Q. falcata*); water (*Q. nigra*); and white (*Q. alba*)
    - Sycamore (*Platanus occidentalis*)
    - Tulip poplar (*Liriodendron tulipifera*)
    - Pecan (*Carya illinoiensis*)
    - Sassafras (*Sassafras albidum*)
    - Flowering dogwood (*Cornus florida*)
    - Redbud (*Cercis canadensis*)
    - Deciduous holly (*Ilex decidua*)
    - Rusty black haw (*Viburnum rufidulum*)
    - Rough-leaved dogwood (*Cornus drummondii*)

- Assess and protect existing cultural features prior to planting.

Related Implementation Projects.

- Implementation Project 1. Prepare a vegetation management plan.
- Implementation Project 4. Clear and thin non-contributing woody vegetation to reestablish historic patterns of spatial organization and views.

Project Implementation Process

1. Evaluate the current effectiveness of visual screening along the park perimeter. Determine where sufficient screening of intrusive views exists and where it should be reinforced with additional plantings.

2. Delineate the extent of each area where screen plantings are to be established, using a historical landscape architect, archeologist, and botanist/ecologist.

3. Remove all invasive plants within the area designated for buffer establishment or to be converted to woodland.

4. Implement the screen planting, either by allowing woodland to develop through secondary succession, or by planting saplings of native trees and shrubs. Follow proper plant installation methods, including mulching and

watering techniques, to ensure survival of newly planted vegetation.

5. Initiate a periodic monitoring program to evaluate the development of the woodland and to look for evidence of colonization by invasive species.

6. Manage vegetation to promote the establishment of stable, healthy woodland comprised of species typically found in similar natural areas.

6. Enhance Interpretation within the Park, Emphasizing the Cultural Landscape of the Battlefield

A. Local Lifeways and Farmsteads.

Description. Prior to the Civil War, the Kennesaw Mountain National Battlefield Park region supported a community of farms and institutional buildings connected by roads. The majority of the farmsteads and related features are no longer extant within the park today. These farms, however, were important to the military tactics of the two armies involved in the Civil War battles of June 1864. Recalling these missing features through a variety of interpretive means would support visitor understanding of the battlefield and military events.

In addition, interpretive aids to facilitate visitor understanding of the earthworks are also warranted.

Living history demonstrations, creative interpretation of missing features, and the establishment of removable exhibits are three examples of interpretive programs that might feature the cultural landscape in storytelling. These activities could be tied to the recommended tree clearing and thinning enhancements and proposals for new trails linking sites of importance described above. A Long-Range Interpretive Plan will be needed to integrate all of these ideas into the park's interpretive experience.

Location. Possible sites of interest for enhancing interpretation include the Hardage House and associated farmstead precinct and orchard, Hardage Mill, Eaton, Cass, and Tierce House sites, and the site of the New Salem Church, as well as various artillery positions and other military features.

Considerations. While clearing vegetation to re-establish historic views may enhance interpretative efforts (Figure 387), there remain many important historic features that are no longer present within the landscape that visitors may have trouble imagining without interpretive aids. Conveying what is known about their form, configuration, materials, intended and actual use, and spatial organization to visitors would enhance existing interpretive programs at the park. There are various means to mark the locations of missing features that may be employed to convey this information without jeopardizing the integrity of the park.

FIGURE 387. Clearing vegetation to re-establish historic views may enhance interpretative efforts.

Interpretation of missing features should occur through creative exhibit design that depicts the general locations of and physical relationships between missing features as well as what is known and not known about the sites. Options for representing missing features include outlining the footprint or three-dimensional form of a missing feature, providing an artist's rendering of the feature, marking the corners or foundation of a missing feature, installing temporary exhibits (Figure 388), constructing ghost structures (Figure 389), and establishing plant material that contrasts with its surroundings that indicate the former location of a missing feature, including the use of mow patterns. These options not only avoid historical inaccuracy, they are often less expensive in terms of initial installation and maintenance.

Determination of the features to be interpreted and the most appropriate representation methods should be made as part of the preparation of the Long-Range Interpretive Plan.

FIGURE 388. Temporary exhibits can be used to interpret historic activities.

FIGURE 389. Ghost structures can be used to interpret missing historic buildings.

Additional Studies Recommended.

- By law, any landscape management activity that moves, breaks, or disturbs soil is subject to review under Federal Section 106 and (NEPA) compliance.
- The Long-Range Interpretive Plan should assess which features should be interpreted by determining those that have the most educational value.
- Archival research should occur as part of the data collection required to support development of new interpretive exhibits, along with archeological investigations of the sites of missing military and other features associated with the Civil War-era landscape.
- Archeological inventory and assessment should be conducted throughout the park, particularly in association with sites where new features are proposed to be established to ensure protection of potential resources.

Related Implementation Projects.

- Implementation Project 1. Prepare a vegetation management plan.
- Implementation Project 4. Clear and thin non-contributing woody vegetation.

Project Implementation Process.

1. Prepare designs for new interpretive and access improvements. Enlist an exhibit designer, in coordination with park staff, to plan representative features. Consider interpreting missing features using documentary or archeological information, through various means, including:
    - Foundation outlines. When the dimensions and location of the footprint of a missing feature are known, an outline or other demarcation such as corner markers or plantings can be placed on the ground to aid interpretation. Foundation outlines should clearly be a product of their own time so they are not confused with historic foundations or ruins (Figure 390).

FIGURE 390. Foundation outlines should clearly be a product of their own time so they are not confused with historic foundations or ruins.

- Markers. When locations of missing structures are known, but overall dimensions cannot be determined, consider installing metal signs or medallions in the ground. These may be coordinated with installation of an interpretive wayside featuring an artist's rendering of the interpreted feature to represent its character and bring the historic scene to life.

- Artist rendering. Interpretive waysides, exhibits in the visitor center, or podcasts that depict missing features through an artist's rendering can also bring the historic scene to life.

- Plantings and mow patterns. Alter vegetation management regimes, such as mowing schedules and planting palettes, in such a way as to yield a diversity of appearances and support interpretation of missing features. For example, mow grass to represent the outlines of missing historic buildings and structures and fencelines, recall historic patterns of spatial organization and delineate living areas (Figure 391).

FIGURE 391. Vegetation or mowing patterns can be used to delineate missing features.

- Supplement existing interpretive media and programs with new materials to enhance the depiction of the life and work of the inhabitants of the area when the battle began. Locate new interpretive media in as unobtrusive a manner as possible to avoid detracting from the historic scene.

2. Conduct archeological investigations to determine the potential impacts of proposed site improvements.

3. Establish the new interpretive exhibits and materials. Enlist a qualified archeologist to monitor ground-disturbing activities during construction.

4. Establish interpretive trails to link the new exhibits to the existing tour road.

5. Conduct related woodland clearing or thinning, and screen buffer planting to support the new interpretive exhibit area.

6. Provide directional and regulatory signage along trails, as well as interpretive information. Enlist qualified park staff or a landscape contractor to install the chosen representative features, as well as any wayside signage.

B. Earthwork Exhibit.

Description. Many of the earthworks located within Kennesaw Mountain National Battlefield Park are suffering from erosion caused by visitors walking on and traversing the soil parapet and ditch systems. Visitors engage the earthworks for several reasons, among them the opportunity to better understand their structure and to gain a visual prospect from the top of the parapet. The park is currently working to limit and deter visitor access to the Civil War earthworks that constitute a key historic resource connecting the site to the nationally-significant military events of June and July 1864. Providing a compelling interpretive alternative to visitors in the form of earthworks exhibits and displays in and around the visitor center, as part of a broader park-wide effort to preserve the earthworks and enhance interpretation, would support this initiative.

Exhibits that would benefit the visitor might include a historically-accurate replica parapet and ditch section, and examples of the various other features that comprised the military landscape

such as abatis, chevaux-de-frise, gun platforms, bombproofs, magazines, communications trenches, and encampment features. Offering these exhibits in association with the visitor center will ensure that most visitors will have an opportunity to experience them, and afford a non-historic setting that will not conflict with the original historic resources. The exhibits could be designed to accommodate living history demonstrations as well.

Location. This project is indicated for the environs of the visitor center. Temporary exhibits illustrating missing components of the military landscape within areas of high visitor use such as atop Kennesaw Mountain and Pigeon Hill may also be warranted.

Considerations. The proposed interpretive exhibits of demonstration earthworks will help visitors to explore, understand, and appreciate the resource in a non-historic setting. It is anticipated that the experience of learning more about the earthworks will instill a sense of stewardship in visitors that will translate into added protection for the historic resources.

Given that very little historic documentation of the military engineering and design of the earthworks at Kennesaw Mountain appears to survive, the proposed earthworks exhibit may incorporate both accurate and representative features. The planning and design of the exhibit would therefore benefit from the integral involvement of qualified military historians, interpretation specialists, landscape architects, park staff, and living history demonstration facilitators. Archeological investigation should also be considered for its potential to contribute to the design and planning process. The park should contact other parks and historic sites having undertaken similar design endeavors to gain perspective on an appropriate process. One example is the fortification exhibit located at Pamplin Historical Park near Petersburg, Virginia (Figure 392 through Figure 395).

Installation of the exhibit is likely to require specialized exhibit design, fabrication, and contractor services. Such an exhibit is likely to become a popular attraction and planners and designers should consider issues involving parking, access, and visitor services in the design.

Additional Studies Recommended.

- The Long-Range Interpretive Plan should address the need for the exhibit(s) and the goals and themes associated with proposed features.
- Archival research should be conducted as part of the data collection required to support development of the interpretive exhibit(s).
- Archeological investigations of a representative section of the park's earthworks system may be indicated to support the most accurate depiction of the historic resources in the exhibit.

Project Implementation Process.

1. Determine the exhibit(s) to be established, taking into consideration interpretive goals, available funding, special programming needs, and the maintenance capabilities of the park.
2. Enlist an exhibit designer, in coordination with a military historian, historical landscape architect, interpretation specialist, park staff, and living history demonstration facilitators to plan the exhibit features.
3. Design the exhibit to interpret a representative segment of the military landscape associated with the earthworks, using documentary or archeological evidence and knowledge of the design and construction of earthworks during the late Civil War period. Ensure that the exhibit is constructed of durable and sustainable materials. Incorporate interpretive waysides and other explanatory materials, circulation connections to parking and interpretive trails, benches, and shade into the design of the feature.
4. Enlist a qualified archeologist to monitor ground-disturbing activities during construction and to determine potential impacts of the construction of the exhibit.

5. Engage specialized exhibit fabricators and site development contractors to install the exhibit as appropriate.

FIGURE 392. An exhibit illustrating the historic spatial composition and components of the Civil War earthworks installed near the Visitor Center would enhance visitor understanding of the park's military resources. Pamplin Historical Park near Petersburg, Virginia, has installed a historically accurate exhibit, as shown, that might serve as a model for this project.

FIGURE 393. Exhibit earthworks at Pamplin Historical Park near Petersburg, Virginia.

FIGURE 394. Exhibit and interpretation at Pamplin Historical Park near Petersburg, Virginia.

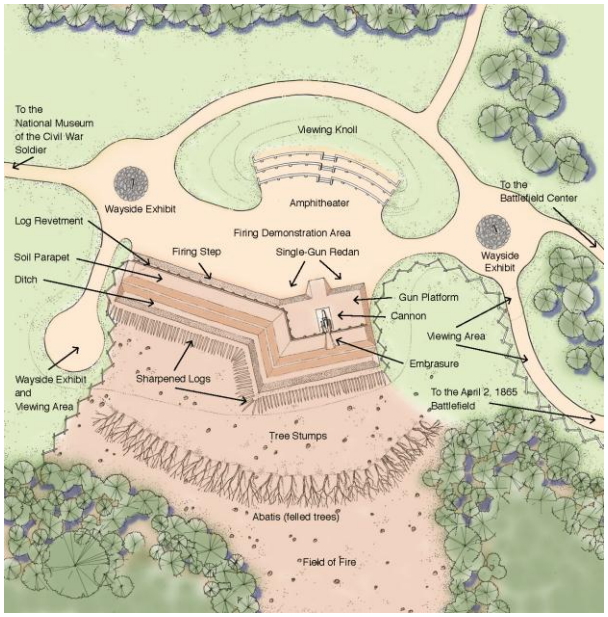

FIGURE 395. Site plan of the exhibit illustrating the historic Civil War earthworks at Pamplin Historical Park near Petersburg, Virginia.

7. Address Site Furnishing Needs

Description. Implementation of new interpretive and access improvements within Kennesaw Mountain National Battlefield Park will require the park to consider the design and character of the physical features associated with the improvements. Preparation of a design guide that establishes a comprehensive standard for contemporary site furnishings and signage would facilitate the addition of necessary new features, as well as the replacement of non-historic features currently in poor condition. The guide would illustrate standards for new site furnishings to accommodate visitors and associated interpretation. Site furnishings to be considered in the guide include benches, drinking fountains, trash receptacles, picnic tables, and lighting. The guide would identify products, materials, and dimensions for site furnishings, and include typical details and installation information. Use of the guide would enhance the park's unique identity, and simplify the palette of materials within the park, which in turn would diminish the impact of non-historic features on the historic scene.

Considerations. Design guidelines for contemporary site furnishings at Kennesaw Mountain National Battlefield Park would need to be compatible with National Park Service system-wide standards as well as the existing character of the park. New features should always clearly be a product of their own time, and as simple, sturdy, and unobtrusive as possible. The design guidelines would address appropriateness of scale, materials, and physical composition to ensure visual compatibility, consistency, and integration with the overall character of the battlefield landscape.

Park-wide standards for signage could also be developed. Consider developing a comprehensive signage program that would follow the guidance afforded in the National Park Service Sign Standards Reference Manual, National Park Service Uniguide Sign Program, National Park Service Uniguide Standards Manual, and National Park Service Graphic Identity Program.

Location. This project applies to the park as a whole.

Additional Studies Recommended.

- In anticipation of preparing site furnishing design guidelines, the park should collect the information available regarding National Park Service standards for contemporary landscape features.

Related Implementation Projects.

- Implementation Project 3. Rehabilitate the trail system to enhance the visitor experience.

Project Implementation Process

1. Assemble a design team, including a landscape architect, architect, and park maintenance staff to develop the park-wide site furnishings design guidelines.

2. Consider carefully the character and identity that is appropriate for contemporary site furnishings associated with Kennesaw Mountain National Battlefield Park that will convey a unique identity, but is compatible with the character of the historic landscape.

3. Review photographs of current examples of site furnishings, signage, and visitor use and interpretation features. Consider whether to use these existing features as park-wide standards.

4. Review product catalogues for images of additional appropriate features.

5. Review the individual elements proposed for inclusion within the design guideline.

6. Develop details, installation procedures, and other supporting information for each standard feature.

7. Consider the palette in its totality to ensure the individual elements are cohesive and work well together, and are consistent with National Park Service standards, before making final selections.

8. Adopt Best Management Practices for Storm Water Management, Tree Removal, New Landcover Establishment, Invasive Alien Plant Control, and Sustainable Management Practices

Description. Landscape maintenance and management techniques can serve to enhance environmental quality, or contribute to its degradation. Practices aimed at enhancing and protecting the environment can be consistent with the management of historic landscapes. Green and sustainable practices should be applied in specific ways and locations within Kennesaw Mountain National Battlefield Park to support environmental quality without diminishing the integrity of the historic landscape.

The CLR treatment plan recommends that the park adopt Best Management Practices (BMPs) to guide many of the actions and long-term management protocols for park resources, particularly those involving environmental features such as wetlands, soils, and vegetation. It is recommended herein that the park develop BMP information relating to four topics that relate to the treatment plan recommendations, including storm water management, new landcover establishment, tree removal, and invasive plant control. As part of the development and refinement of these BMPs, consideration should be given to maintenance practices required prior to and during maintenance activities.

Considerations for Storm water Management BMPs. One of the critical factors affecting environmental quality is the way in which storm water is handled. Within park boundaries, the National Park Service has the ability to apply engineering and landscape architectural solutions to managing storm water runoff quantity and quality, and enhance water quality through various means.

Storm water management BMPs are measures used to minimize on-site and off-site hydrologic and water quality impacts due to runoff by attempting to reestablish natural hydrologic processes and incorporate them into the built environment. These measures can be designed and implemented in new developments as well as retrofitted into existing development in cost-efficient ways. Storm water BMPs have the capability of significantly improving the quality of storm water runoff.

As a good steward of the land, the National Park Service can serve as a model for nearby landowners, broadening local understanding of sustainable land management practices and potentially contributing to additional benefits. Land uses that contribute to the degradation of water resources include paved roads, walks, and parking areas as well as ditches, lawns, buildings, and agricultural land. The park has the option of adopting a range of BMPs that will serve to enhance water quality without affecting the integrity of the historic landscape, including:

- **Green parking area design**. Several features can be used in conjunction with parking area design to promote sustainable storm water management and other green principles. Porous pavements can enhance storm water infiltration, as can filter strips and naturalized detention structures. Planting trees around paved areas helps to reduce the heat island effect caused by solar absorption and reflection. Porous pavement could be used for new parking facilities, while filter strips could be added along many road and path margins (Figure 396).

FIGURE 396. Filter strips could be added along many road and path margins.

- **Naturalized detention.** Site grading can contribute to naturalized detention, defined as the use of broad, shallowly-sloped planted areas that allow storm water to move slowly across land where water can infiltrate into the ground rather than flow directly into streams, ponds, and drainageways. These features could be used in association with parking facilities and trails.

- **Porous pavement.** Porous, pervious, or permeable pavement is composed of a permeable or perforated surfacing material, or pavers set with spaces between them, that allow transmission of water to an aggregate or subsoil base beneath. Runoff is temporarily stored in the base for infiltration into subsoils or for slow release into a storm drain system or catchment. Pervious pavements can also filter some pollutants from storm water. Porous pavements could be used for overflow and temporary parking additions to the historic Kennesaw Mountain National Battlefield Park area landscape (Figure 397).

FIGURE 397. Porous pavements could be used for overflow and temporary parking areas.

- **Rain barrels and cisterns.** Rain barrels and cisterns are vessels that capture and temporarily store rainwater for various uses, including greywater reuse and irrigation. Storm water can be collected from roofs and other impervious surfaces to be stored in the barrels or cisterns. Storage of storm water diminishes the undesirable impacts of runoff that might otherwise flow into streams and ponds in large quantities, and cause erosion. The stored water can also be used later for various purposes. Rain barrels best serve smaller applications, while cisterns can be used in larger application such as irrigation of gardens and plantings. Rain barrels are recommended for use at the visitor center.

FIGURE 398. A rain barrel could be used in association with the downspouts at the visitor center to reduce erosion and collect water to support plant maintenance needs.

- **Rain gardens.** Rain gardens are landscaped areas designed to retain and detain storm water runoff from paved surfaces, roofs, and planted surfaces that may be subject to erosion. These gardens are ornamental features that serve a sustainable function, and help infiltrate storm water into the ground. By minimizing the amount of storm water going into local storm drains, streams, and rivers, rain gardens help to reduce the potential for local flooding, as well as bank and shoreline erosion. Rain gardens are only recommended for non-historic landscape sites. At Kennesaw Mountain National Battlefield Park, the locations that might benefit from establishment of a rain garden include the visitor center parking area.

FIGURE 399. Rain gardens could be used in non-historic locations to collect storm water and promote infiltration.

- **Vegetated swales and filter strips.** Vegetated swales and filter strips are planted storm water management features that convey, retain, infiltrate, and cleanse overland flow. Vegetated swales serve to remove sediment, nutrients, and other contaminants, increase infiltration, and enhance aesthetics. Vegetated swales could be used wherever swales surfaced with grass already exist by altering the composition of the plant material.

- **Use of native plants for landscaping.** Native landscaping, as a BMP, recognizes the importance of vegetation in biodiversity, aesthetics, habitat, cooling of ambient air, and storm water management. Native landscapes benefit storm water management through the infiltration and cleansing of run-off. Consideration should be paid to replacing non-native plantings with native species.

Considerations for New Landcover Establishment BMPs.

- Re-vegetate all disturbed soil in a manner that optimizes plant establishment for that specific site, unless ongoing disturbance at the site will prevent establishment of invasive species.

- Use local seeding guidelines and appropriate mixes. Use locally native material where appropriate and available. Re-vegetation may include planting, seeding, fertilization, and mulching.

- Minimize disturbance to the surface when planting new cover.

- Monitor and evaluate the success of revegetation.

- When re-vegetating areas that were previously dominated by invasive plants, try to achieve at least 90 percent control of the invasive before attempting restoration.

Considerations for Invasive Plant Species Control BMPs.

- Before starting any ground-disturbing activities, inventory invasive plant infestations both on-site and in the adjacent area.

- Begin activities in uninfested areas before operating in infested areas.

- Use uninfested areas for staging, parking, and cleaning equipment. Avoid or minimize all types of travel through infested areas, or restrict to those periods when spread of seed or propagules are least likely.

- When possible, to suppress growth of invasive plants and prevent their establishment, retain relatively closed canopies.

- Minimize soil disturbance and retain desirable vegetation in and around the area to the maximum extent possible.

- Plant desirable species after removing invasive species.

- Monitor infested areas for at least three growing seasons following completion of activities. Provide for follow-up treatments based on inspection results.

- Quarantine soil from infested areas to prevent off-site spread.

- Invasive plants can be introduced and spread by moving infested equipment, sand, gravel, borrow, fill, and other off-site material. Inspect material sources at site of origin to

ensure that they are free of invasive plant material before use and transport.

For more information, see "Invasive Plant Responses to Silvicultural Practices in the South" by C. W. Evans, D. J. Moorehead, C. T. Bargeron, and G. K. Douce (Tifton, Georgia: The University of Georgia, The Bugwood Network, 2006), available on-line at www.bugwood.org.

Considerations for Tree Removal BMPs.

- Manage tree removal operations to protect environmental resources.
- Avoid clearing woodland in areas with slopes that are steeper than 15 percent, and on soils that are classified as highly erodible or stony, although removal of invasive species should be undertaken as possible.
- Avoid vegetation clearing or thinning in sensitive ecological areas and plant communities. Park wetlands should be delineated before field clearing begins.
- Engage a tree removal service to conduct the clearing that can demonstrate successful experience working at historically significant sites. The park should regularly inspect tree removal operations to monitor compliance with the terms of the contract and applicable laws. The archeologist, soil scientist, and/or other professionals should participate in these inspections.
- Perform cutting or thinning in the fall and winter, when there are fewer visitors at the park, dormant trees are less likely to be damaged, there are no nesting birds or animals in the vegetation, and sufficient time would be available to remove ground vegetation before spring growth.
- Minimize the use of heavy vehicles, use low tire-pressure vehicles, and avoid working the soil when wet to reduce the potential for ruts and compaction. Employ measures to stabilize soil and minimize erosion.
- Employ silvicultural methods that minimize the impacts and threats to cultural and natural resources and known and potential archeological resources.
- Remove felled trees without dragging, which gouges the ground surface.
- Ensure that woodland harvesting is monitored by a historical landscape architect and archeologist. An archeologist should be present during any clearing operation.
- Cut stumps to the ground; do not uproot or grind them. Treat stumps and sprouts on the earthworks with herbicide, such as glyphosate, to discourage and control woody regeneration. Remove stumps not located on the earthworks by using a stump grinder. Test the perimeter for archeological resources before grinding stumps. Fill resulting pits with local soil.
- Chemical control of woody plant regeneration should be conducted by a certified herbicide applicator—either qualified park staff, or a landscape contractor.

Location. These BMPs are recommended for the visitor center, Kennesaw Mountain overlook, and specific stream corridors, parking areas, and road and trail corridors.

Related Implementation Projects.

- Implementation Project 1. Prepare a vegetation management plan.
- Implementation Project 2. Address soil erosion problems associated with trails and slopes.
- Implementation Project 4. Clear and thin non-contributing woody vegetation to reestablish historic patterns of spatial organization and views.
- Implementation Project 5. Establish screen buffers.

- Implementation Project 6. Enhance interpretation within the park, emphasizing the cultural landscape of the battlefield.

Additional Studies Recommended.

- By law, any landscape management activity that moves, breaks, or disturbs soil is subject to review under Federal Section 106 and National Environmental Protection Act (NEPA) compliance.
- Consider applying green building principles to any new construction projects.
- Before conducting any ground-disturbing activities, undertake appropriate investigations relating to cultural and archeological resources.
- Examine current site conditions to determine appropriate plant species selections and planting seasons for features such as filter strips, naturalized detention areas, rain gardens, and vegetated swales by evaluating the following elements:
    - soil type
    - slope
    - stability of the soil organic layer
    - nearby vegetation types and communities
    - hydrology
    - land use history

Project Implementation Process.

1. Develop BMPs for the four topics indicated herein as they relate to proposed treatment recommendations and implementation projects.
2. For storm water management, consider implementing the various BMPs discussed herein:
    - Green parking area design
    - Naturalized detention
    - Porous pavement
    - Rain barrels and cisterns
    - Rain gardens
    - Vegetated swales and filter strips
    - Use of native plants for landscaping
3. Prepare the site for storm water management BMP features by protecting sensitive natural and cultural resources.
4. Engage an archeologist to monitor BMP installation.
5. Implement vegetation-related BMPs, removing existing vegetation, grading, and adding new plantings, or products such as rain barrels or cisterns and constructed features to include permeable pavements. Follow proper installation methods, including erosion control, and mulching and watering techniques to ensure survival of vegetation and protection of the environment.
6. Monitor post-installation site conditions. Evaluate plant health and monitor for the presence of invasive plants. Replace failed vegetation immediately and remove any invasive species observed.

See Implementation Projects 1, 2, and 4 above for additional implementation processes.

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Appendix A: Resource Inventory

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Natural Features and Systems									
Kennesaw Mountain	*			by P.O.S.	Cleared and trenched for battles, forest rejuvenated	good			VC
Little Kennesaw Mountain and Observation Rock	*			by P.O.S.	Cleared and trenched for battles, forest	good			E&T
Pigeon Hill	*			by P.O.S.	Cleared and trenched for battles, forest rejuvenated	good			E&T
Cheatham Hill	*			by P.O.S.	Cleared and trenched for battles, forest rejuvenated	good			CH
Springs	*			by P.O.S.		undetermined	Drunkard's Spring (north of Burnt Hickory Road east of Pigeon Hill) and unnamed spring near the former 20th century schoolhouse site between the rail line and Stilesboro Road		E&T
Noses Creek	*			by P.O.S.	rip rap placed on banks by CCC in the 1930s	good	channel altered after battle and during early park development period		E&T
John Ward Creek	*			by P.O.S.	rip rap placed on banks by CCC in the 1930s	good	channel altered after battle and during early park development period		E&T
Visitor Center West Branch	*			by P.O.S.		undetermined			VC
McBride Creek	*			by P.O.S.		undetermined			VC
Brumby Creek	*			by P.O.S.		undetermined	named after Civil War		VC
Twenty-four Gun Battery Creek	*			by P.O.S.		undetermined	named after Civil War		E&T
Burnt Hickory Creek	*			by P.O.S.		undetermined			E&T
Cheatham Creek	*			by P.O.S.		undetermined	named after Civil War		E&T; CH
Strah's Creek	*			by P.O.S.		undetermined	named after Civil War		E&T
Kolb Creek	*			by P.O.S.		undetermined	named after Civil War		E&T
Horse Creek	*			by P.O.S.		undetermined			E&T
Overlook Creek	*			by P.O.S.		undetermined			E&T

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Whitlock Creek	*			by P.O.S.		undetermined	named after Civil War		CH
Missing Natural Features and Systems									
none identified									
Responses to Natural Resources									
Kennesaw Mountain as a prominent landmark	*			by P.O.S.		good			VC
Siting of primary roads on level terrain	*			by P.O.S.		good			VC; E&T; CH; KH
Confederate earthworks occupying the region's high ground and key terrain	*			1864		good			VC; E&T; CH; KH
Union earthworks sited within view of targeted Confederate positions	*			1864		good			E&T; CH; KH
Signal Hill	*			by P.O.S.		good			N/A (Wallis House)
Battle events associated with terrain features	*			1864		good			VC; E&T; CH; KH
Kolb House use of native wood timbers and stone for the foundation	*			by P.O.S.		good			KH
Streambed restoration by the CCC	*			1930s		good			CH
Soil conservation by the CWA and CCC	*			1930s		good			VC; CH
Earthworks preservation by the CWA and CCC	*			1930s, 1940s		good			VC; E&T; CH
Design of trails to limit impact on the terrain	*	*		1930s-2000s		good-fair	erosion problems continue to plague trails located on steeper ground		VC; E&T; CH

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
CCC-era stone quarry	*			opened in 1939 by CCC		undetermined	located in north-east side of the park; to extract rock used for road projects		VC
Use of culverts to convey storm water beneath trails and roads	*	*		1930s-2000s		good-fair			VC; E&T; CH; KH
Use of bridges to convey trails and roads across stream corridors	*	*		1930s-2010s		good-fair			VC; E&T; CH
Missing Responses to Natural Resources									
Farmsteads and associated cultivated fields on level knolls and to take advantage of springs			*	19th and 20th centuries					
Mills sited to take advantage of stream corridors for water power			*	19th century					
Post Civil War cotton farming on less suitable terrain			*	later 19th and early 20th century					
Wells, privies			*	19th and 20th centuries					
Septic system of early park developed area			*	mid 20th century					
Water storage tank on Kennesaw Mountain			*	mid 20th century					
Patterns of Spatial Organization									
East-to-west road and rail line patterns	*				Vertical and horizontal alignments have been changed to meet contemporary engineering standards and widened to accommodate traffic volumes	good	four roads remain generally in historic locations from 1864		VC ; E&T
Confederate earthworks and relationship to Kennesaw Mountain/Little Kennesaw Mountain/Pigeon Hill ridgeline and Cheatham Hill	*			1864		good-fair			VC; E&T; CH
Union earthworks in lower lying areas facing Conf	*			1864		fair	Portions of the original system have been lost to farming		VC; E&T; CH; KH
Cheatham Hill commemorative landscape and restored open field	*			1899-1940s		good			CH

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Kolb Farm (portion)	*			by P.O.S.		fair	many of the components of the original farmstead have been lost		KH
Walls Farm (portion)	*			by P.O.S.		Undetermined			N/A
National Park Service boundaries and ownership patterns	*	*		1930s-present		good	the park has continued to grow since the period of significance		VC; E&T; CH; KH
Restored or surviving open fields defined by woodland vegetation	*	*		1940s-present		good	Peel field, Cheatham Hill field		VC, E&T, CH
CCC camp parade ground	*			1939-1942		fair	Some tree growth has occurred and the loss of the buildings has affected the patterns of spatial organization		VC
Maintenance yard configuration	*	*		1940; 1974; later changes		fair	The original oil house was replaced in 1974. Other additions have been made to the complex since		VC
Park visitor center complex		*		1964; 1997		good			VC
Park residences converted to administrative offices		*		1966		good			VC
Clusters of twentieth-century housing and other development along park boundaries		*		late 20th century		good			VC; E&T; CH; KH
Woodland encroaching on and obscuring historic open field patterns		*		post 1864		good			VC; E&T; CH; KH
Missing Patterns of Spatial Organization									
Antebellum farmsteads, including portions of the Kolb Farm			*	1864					
Agricultural fields and fencing			*	1864					
Clearings with commanding views of the landscape associated with infantry and artillery positions, obscured by encroaching woodland			*	1864			infantry and artillery positions now stand in midst of mature, second-growth trees		

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Topographic Modifications									
Civil War earthworks	*			1864		fair			VC; E&T; CH; KH
Illinois Monument terrace establishment	*			1914		fair			CH
CWA and CCC soil conservation, erosion control measures, and stream restoration	*			1930s		good			CH
CCC quarry	*			1939-1942		undetermined			VC
Grading to accommodate the maintenance complex	*			1940		good			VC
Road construction and grading, Kennesaw Mountain Drive and Cheatham Hill Drive	*	*		1930s, 1940s		good			VC; E&T; CH
Agricultural terracing		*		post Civil War		fair			VC
Grading to accommodate the Kennesaw Mountain overlook structure, steps, and parking		*		1964	the original structure was replaced by the National Park Service	good			VC
Grading to accommodate the visitor center, terrace, parking, picnic area, and residences		*		1964-1997		good	grading was conducted to accommodate the expanded structure in 1997		VC
Parking lots established along public road corridors		*		2000-present		good			VC; E&T; CH; KH
Inholding residential lot development		*		late 20th century		good			VC; E&T; CH; KH
Missing Topographic Modifications									
Segments of Union earthworks			*	1864					
Portions of the Confederate line lost to Kennesaw Mountain Drive and parking area development			*	1864					
Land Uses and Activities									
Agriculture	*	*	*	present		good	private land surrounding park and within its edges still used for agriculture by special use permit or other agreements with NPS for interpretive purposes		VC; E&T; CH; KH

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Commemoration	*	*		1914-1942; 1964	additional markers were placed at Kennesaw in 1964	good			VC; CH
Commercial		*	**1964**				Bookstore at the VC constitutes commercial land use		VC
Interpretive/museum	*			1930s		good			VC; E&T; CH; KH
Lodging		*		1964		good			KH
Maintenance	*			1940		good			VC
Park administration	*			1940	The facilities associated with park administration have changed since the period of significance	good			VC
Recreation						fair to good			VC; E&T; CH; KH
Transportation	*	*		six of nine roads existed prior to the battle; still follow course of historic road beds					VC; E&T; CH; KH
Utility	*	*		Most of the original utility systems present during the early park development period have been updated			sewer systems, electrical lines, telephone, gas and cable, water tank, systems have supported park and visitor activities since the 1930s		VC; CH; KH
Visitor Services	*		1930s	The facilities associated with visitor services have changed since the period of significance					VC; CH

Missing Land Uses and Activities									
Education			*	late 19th and early 20th centuries			Shiloh School		
Industry			*	19th century			mills		
Military				1864					
Religion			*	19th and 20th centuries			New Salem Church, Shiloh Church		

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Residential			*	19th and 20th centuries			sites of various 19th century dwellings are known including the Hardage House, Cass House Ballenger House, and Tierce House		
Circulation									
Western & Atlantic Railroad rail line	*			by P.O.S.			retains its historic alignment		VC; E&T
Stilesboro Road	*			circa 1840-1864	has been paved, straightened, and widened since the 19th century	good		901-49 HS-24	VC; E&T
Burnt Hickory Road	*			circa 1840-1864	has been paved, straightened, and widened since the 19th century	good	is edged by parking	90148 HS-23	E&T
Dallas Highway	*			circa 1840-1864	has been paved, straightened, and widened since the 19th century	good		90145 HS-21	E&T
Powder Springs Road		*		circa 1840-1864; late 20th century changes	has been widened and aligned away from its historic roadbed	good			E&T; KH
Old U.S. Highway 41		*		20th century; late 20th century changes		good	construction made access to park difficult; CCC involved in improving margins of road, shoulders and slopes		VC
Gilbert Road	*			circa 1840-1864		good	11/2 lane, one-mile-long, gravel-paved	90147 HS-22	E&T
Old Mountain Road	*			circa 1840-1864	has been paved and widened since 19th century	good			E&T

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Old John Ward Road	*	*		circa 1840-1864	remained unimproved until Cobb County paved it in 1963; portions have been abandoned	good	20-25' width, surfaced with packed gravel	90146 HS-20	CH
Ridenour Road	*			by 1930s		good			E&T
Cheatham Hill Drive	*			1939-1940		good	Constructed by CCC	90156 HS-26	CH
Kennesaw Mountain Drive	*	*		1920s; 1938-1942; 1950	improvements by CCC in the late 1930s; not finished until	good			VC
Old Antebellum Road (road trace)	*			circa 1840-1864		good	Exists only as a trace in the landscape	90198 HS-19	VC
Military road to the crest of Little Kennesaw Mountain (trace)	*			1864		fair	used by Confederate artillery to place guns on the two crests during battle		VC
Marietta-Cassville Road (trace)	*			19th century		poor	this sunken road trace near the visitor center was present at the time of the battle and used as a major thoroughfare		VC
CCC camp road	*			1939		fair			VC
Kennesaw Battlefield Association/CCC Road	*			1939	portions have been incorporated into the contemporary road to the summit				VC
Maintenance yard access road and courtyard	*			1940		good			VC
Burnt Hickory Road parking	Undetermined								E&T
CWA and CCC trails at Cheatham Hill, Kennesaw Mountain	*			1934-1942		good-fair	some erosion threatens these trails (Mountaintop Trail, Cheatham Hill trails)		VC

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Visitor center parking area, paths, terrace, ramps, stairs, picnic area; administration building access road		*		1964-1997		good-fair			VC
Kolb House parking area, gravel driveway, stepping stone path, hard-packed earth path		*		1960s through the 1980s		good	parking lot constructed for park visitors		KH
East and west park trails (Mountaintop Trail, Pigeon Hill Trail, New Salem Church Trail, Burnt Hickory Loop Trail, Cheatham Hill Connector Trail, Kolb Farm Loop, West Trail)		*		1960s, 1970s		good-fair	some incorporate historic road traces		E&T
Concrete steps and metal tube rail at the trailhead of Little Kennesaw Trail		*		Undetermined		good			VC
Old U.S. Highway 41 parking area		*		2010		good			VC
Old Highway 41 sidewalk		*		circa 2010		good			VC; E&T
Parking areas along public road corridors (Recreation Areas 1, 2, 3, Gilbert Field)		*		2000-2010s		good			E&T, CH
Post 1942 trails		*		post 1942		good-fair	named trails within the park include Pigeon Hill Trail, New Salem Church Trail, Cheatham Hill Connector, Burnt Hickory Loop Trail, West Trail, and Kolb Farm Loop Trail)		VC; E&T: CH
Boy Scout Trail		*		1963	1967	good-fair			Undetermined
Horse trailer parking area (off Cheatham Hill Road		*		1987		good			E&T
Missing Circulation Features									
Early road to the top of Kennesaw Mountain			*	by 1940					
War Department access road to Cheatham Hill			*	by 1917					
Initial parking lot at Cheatham Hill			*	early park development period					
Old John Ward Road (portions)			*	by P.O.S.					

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Cultural Vegetation									
Woodland consistent in location with that present during the Civil War	*			19th century; 20th century		good-fair	exotic plants have encroached and other changes in composition have occurred since the 19th century		VC; E&T; CH; KH
Fields present during the Civil War	*			19th century, 20th century		good-fair	vegetative composition may not be consistent with historic conditions		VC; E&T; CH; KH
Loblolly tree plantations and other woodlands established by the CWA and CCC to conserve soil and limit erosion	*			1934-1942		good-fair	exotic plants have encroached and other changes in composition have occurred		VC; CH
Large oak trees at the visitor center	*			by 1940		good			VC
CCC camp plantings including eastern red cedar tree circle and oaks	*			1939-1942		fair			VC
Ornamental plantings at the visitor center		*		1966, 1990s		good			VC
Woodlands not present in 1864, 1942		*		post-1864; post-1942		good-fair	exotic plants have encroached and other changes in composition have occurred		VC; E&T; CH; KH
Visitor center ornamental plantings		*		1964; 1997		good-fair			VC
Fields not present in 1864; 1942		*		post-1864; post-1942		good-fair			VC; E&T; CH
Invasive plant species		*		20th century			some planted by CCC as an erosion control measure		VC; E&T, CH
Missing Cultural Vegetation									
Orchards			*	pre 1864					
Crop fields			*	19th and 20th centuries					
Buildings and Structures									
Kolb House	*			circa 1836	1963, exterior restored to period of Battle of Kolb Farm of 1864	good	only remaining historic building of group of structures forming a farmstead from the 1830s	*12175 HS-1*	KH
Wallis House	*				Undetermined	Undetermined			N/A (Wallis House property)

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Maintenance building complex (original: office and garage buildings; later additions: machine shelter, storage building, metal storage locker)	*	*		1940-1941 constructed by the CCC	1974 oil house replaced. Subsequently small additions to buildings and new shelters constructed	good	complex of buildings and structures used for maintenance offices shops, equipment and utilities		VC
Illinois Monument	*			1914	eagle structure on top damaged by lightning in 1984 and replaced in 1991	good		*12177 HS-3*	CH
Union Tunnel Marker	*	*		circa 1914; 1960	the stone wall was added to limit erosion of the bank above the monument	good-fair	the inscription has been vandalized	*90142 HS-9*	CH
Stone and brick footbridge at CCC camp site		*		U		fair	has not been maintained		VC
Kennesaw Mountain National Battlefield Park Visitor Center		*		1964	renovated and expanded in 1997-1999	good	steel frame, horizontal brick banding references Mission 66 era of park design; on raised terrace at base of Big K Mt.		VC
Park Headquarters and Park Rangers/Law Enforcement buildings		*		1965	adaptively reused as offices	good	constructed as park staff residences, rectangular in plan, small garage		VC
Kennesaw Mountain overlook		*		1964; 1981	renovated 1981 to provide vista of wide expanse of countryside where Battle of Kennesaw was fought	good	concrete and masonry structure with interpretation of battle views to Marietta and further east to Stone Mountain		VC
Trail footbridges		*		Undetermined-1970s?		good			VC; E&T; CH
Fire road bridge crossing Noses Creek		*		2011		good			E&T
Communications tower and service building		*		2000s	2005 antenna were consolidated to a monopole from four separate telephone poles	good	Quonset huts house transmitters and other telecom equipment; generators supply backup power; power lines buried		VC
Culverts	*	*		pre-1942; post-1942		good-fair			VC; E&T; CH
Footbridges	*	*		pre-1942; post-1942		good-fair			VC; E&T; CH

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Earthworks									
Kennesaw Mountain, including Confederate rifle pits	*			1864		fair to good	series of surviving artillery positions and gun emplacements		VC
Pigeon Hill	*			1864		fair to good	2,000 foot long line of Confederate infantry earthworks northeast/southwest	*90136 HS-15*	E&T
Little Kennesaw Mountain and Observation Rock	*			1864		fair to good	associated with both infantry and artillery positions; Fort McBride - 6 artillery positions		E&T
Cheatham Hill	*			1864		good	Confederate earthworks occupy CH ridge. Objectives of Sherman's two-pronged attack	*90133 HS-12*	CH
Confederate line extending from Burnt Hickory Road to Dallas Road	*			1864		good	extend through wooded terrain paralleling Noses Creek between Burnt H. and Dallas		E&T
Strahl's Fort	*			1864		good	well preserved line of artillery work and forward line of infantry trenches; southeastern corner of the park	*90134 HS-13*	E&T
Casemated battery	*			1864		good	fortified gun emplacement below Kennesaw Mt. loc. between Old US Highway 41 and the Railroad line		E&T
Federal Twenty-four Gun Battery	*			1864		good	collection of artillery positions; located past an open field near Gilbert Road	*90137 HS-16*	E&T
Davis' Division Line	*			1864		good	south of Gilbert Rd; established to fire on Lit. Kennesaw		E&T
Army of the Tennessee line	*			1864		good	north of Burnt Hickory facing Pigeon Hill		E&T

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Noses Creek Earthworks	*			1864		good	v-shaped artillery battery, closely faces the Confederate line south of Burnt Hickory Road.		E&T
General Thomas's Headquarters works	*			1864		good	Union earthworks part of approach and attack on Dead Angle at CH, associated with headquarters, Army of the Cumberland		CH
Twentieth Army Corps or Hooker's Corp site	*			1864		fair to good	two groups of Union earthworks; near southwestern corner of park and Kolb Farm		E&T; KH
Federal earthworks on recently acquired parcel	*			1864		good			E&T
Missing buildings and structures									
Antebellum buildings and structures (approximately 50 total dwellings, barns, outbuildings, mills, churches were located within current park boundaries)			*	19th century					
CAA/FAA beacon			*	20th century					
CCC camp site structures			*	1939-1942					
Hyde House and associated park utility structures			*	late 19th century through 1964					
Water tank			*	1940					
George Channell House and Gilbert House			*	early 20th century					
Pit Toilets			*	mid 20th century					
Ranger Building at Cheatham Hill			*	mid 20th century					
Temporary tool house and office			*	1930s-1940s					
Temporary interpretive exhibits			*	1930s-1940s					
Views and Vistas									
Views from Kennesaw Mountain	*			1864					VC
View from Little Kennesaw Mountain	*			1864					E&T
Views from Pigeon Hill (portion)	*			1864					E&T
Views from Cheatham Hill	*			1864					CH
Views along road corridors	*	*		1864; 1942; post-1942					VC; E&T: CH; KH
Views across open fields	*	*		1864; 1942; post-1942					VC; E&T: CH; KH

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Views to residential subdivisions		*		1960s to present					VC; E&T: CH; KH
View of development from Kennesaw Mountain overlook		*		post 1942					VC
Views into woodlands where fields were present at the time of the battle		*		post 1864					VC; E&T: CH; KH
Views of the CCC camp parade	*			1930s					VC
Missing Views									
Views from Little Kennesaw Mountain (portion)			*	1864					
Views from Pigeon Hill (portion)			*	1864					
Federal fields of fire (portion)			*	1864					
Views across some open fields including historic farmstead elements			*	1864					
Small Scale Elements									
Site Furnishings									
Flagpole		*		1964		good			VC
Bike racks		*		Undetermined		good	double entry design with 1-5/8 " OD galvanized pipe frame/ length 9'2"		VC
Lighting		*		Undetermined		good	parking lot: tall poles with "shoebox" fixtures, painted brown; paths have six inch tall lights in planting beds		VC
Trash receptacles, recycling bind, and plastic bag dispensers		*		Undetermined		good	provision for handling pet waste		VC; E&T; CH
Benches		*		Undetermined					VC; E&T; CH
Drinking fountains, metal		*		Undetermined		good			CH
Drinking fountains, exposed aggregate		*		Undetermined		good			VC
Kiosks		*		Undetermined		good			VC; E&T; CH

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Boulder edging		*		Undetermined		good	on overlook drive, for safety; at the parking lot, for landscape feature		VC; E&T
Picnic tables		*		Undetermined		good	New all wood? tables, seating and table surfaces and supports (since CLI)		VC; E&T
Grills		*				good	grills are located in both designated picnic areas; metal grills mounted on single posts		VC; E&T
Handrails		*		Undetermined		good			VC; E&T
Fences and Gates									
Snake rail fencing at parking lot on Burnt Hickory Road, along portions of the park boundary		*		Undetermined		good			VC; E&T
Post and rail fencing across Burnt Hickory road from parking, along portions of the park boundary, at Kolb House		*		Undetermined		good			VC; E&T; KH
Post and rail fencing at parking lot on Burnt Hickory Road		*		Undetermined		good			VC; E&T
Fences around cannon placements or earthworks for safety, snake rail and post-and-rail		*		Undetermined		good			VC
Fences along hiking trails and pedestrian trails on heavily-trafficked roads (from overflow parking), post-and-rail fences		*		Undetermined		good			VC; E&T; CH; KH
Chain link fencing around the maintenance complex and in the rear of the visitor center		*		Undetermined		good	used for security of maintenance area and to protect utility boxes at rear of the visitor center		VC
Gates at entrance to visitor center parking lot; parking lot entrance and exit at Cheatham Hill Road activity area and at entrance to Cheatham Hill Drive		*		2010		good	all similar;		CH; E&T
Metal bar gates, painted brown and used throughout the park		*		Undetermined		good			VC; E&T; CH; KH
Signs and Exhibits									
Park brick entrance monument signs (8)	*			1939-1942	Constructed by the CCC	good	Constructed by the CCC	901332-901333 9, HS-27, HS-34	VC; E&T; CH
Directional signs		*		Undetermined		good			VC; E&T; CH; KH
Wayfinding signs		*		Undetermined		good			VC; E&T; CH; KH

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Interpretive waysides		*		Undetermined		good			VC; E&T; CH; KH
Small metal interpretive signs		*		Undetermined		good			VC; E&T; CH; KH
Traffic safety signs		*		Undetermined		good			VC; E&T; CH; KH
Cell phone audio tour signs		*		Undetermined		good			VC; E&T; CH; KH
Cannon	*	*		1940s-1980s		good	cannon are placed throughout the park at vc, ch, summit of Big Kennesaw, etc.		VC; E&T; CH
Wooden viewing platform at Pigeon Hill		*		1990s		good			E&T
Commemorative Markers/Monuments									
Neighbour Marker		*		1914	Replaced in 1985	good	designated as non-contributing	*90140 HS-7*	CH
Fellows Marker	*			circa 1914		good		*12178 HS-4*	CH
C.H. Coffey Marker	*			circa 1914		good		*90139 HS-8*	CH
Grave of Unknown U.S. Soldier	*			1864; 1934		good		*12179 HS-5*	CH
McCook Brigade Marker	*			circa 1914		good		*90141 HS-6*	CH
Texas Monument		*		1964		good		*90143 HS-10*	CH
Georgia Monument		*		1964		good		*90144 HS-11*	VC
Georgia State historical markers		*		Undetermined		good			E&T
USGS marker		*		Undetermined		good			VC
Kolb Cemetery Headstones	*			1839-1955		fair	eleven marked graves with marble headstones; oldest is rounded shaft mounted on a pedestal	*90150 HS-25*	KH
Kolb Cemetery Wall		*		U		good	two to four foot high concrete wall; family cemetery		KH
Utilities									
Fire hydrants		*		post 1942		good			VC
Large concrete box, 8" to 1' off the ground		*		post 1942		good			VC
Concrete flume		*		post 1942		good			VC
Water standpipe		*		post 1942		good			VC
Geodesic survey marker		*		post 1942		good			VC
Manhole covers		*		post 1942		good			VC
Power lines and poles		*		post 1942		good			VC; E&T; CH; KH

Feature Name	Contributing	Non-Contributing	Missing	Date of Origin	Modifications	Condition	Notes	LCS #	Character Area: Visitor Core (VC); Earthworks and Trails (E&T); Cheatham Hill (CH); Kolb House (KH)
Storm water retention pond				post 1942			behind parking lot on Cheatham Hill Road		E&T
Missing Small-scale Features									
Various sign systems			*	1930s-1960s					VC; CH
Barbwire fencing at Cheatham Hill			*	1930s-1940s					CH
Picnic tables at Cheatham Hill			*	1930s-1940s					CH
Registration desk at Cheatham Hill			*	1940s					CH
Well near Cheatham Hill			*	1930s-1940s					CH
Utilities associated with original administrative complex			*	1940s-1964					VC
Audio-visual interpretive devices			*	1960s					VC
Fire boxes			*	20th century					VC

Appendix B: Earthworks Management Plan

Management Summary

No account of Civil War terrain would be complete without an acknowledgement that the natural qualities of the ground—whether close country or open fields—were often radically altered by the works of man. The battlefields as they were fought over were not always recognizably the same landscapes as had existed in the early spring of 1861. Nor were the changes just a matter of routine pioneering to enhance communications by building bridges or corduroying roads. It was often a case of constructing large-scale fortifications—an attempt to remodel the whole shape of the ground and its combat value.[1]

Introduction

Earthworks are one of the few tangible aboveground resource types that survive from military landscapes. Comprised of engineered systems of mounded earth and excavated ditches, often reinforced with stone and wood, earthworks suggest the military strategy of the battlefield commander, and illustrate the way in which terrain features influence battle events. Earthworks are particularly fragile resources that can be lost to erosion caused by the movement of water over their sloped earthen surfaces. The best protection against erosion is to maintain a healthy stand of vegetation over top of the earthworks with the ability to prevent storm water from dislodging and carrying away soil particles. Human activities, such as access by visitors and maintenance personnel, can damage, through trampling and compaction, the vegetation protecting the earthworks. Earthworks are also subject to damage from tree falls and windthrows and from wildlife burrowing. Careful management is required to protect earthworks from these types of threats to ensure their survival. Effective earthworks management strategies mitigate identified threats through resource maintenance and monitoring and visitor education and control.

Kennesaw Mountain National Battlefield Park was created to protect the site of two Civil War battles of the 1864 Atlanta Campaign—Kennesaw Mountain and Kolb Farm—and attendant surviving evidence of Confederate and Union military activities. The park preserves and protects more than eleven miles of Civil War-era earthworks that constitute some of its most significant resources. High volumes of visitors, and active recreational use of the park have added to the natural deterioration of the earthworks resulting from age, environmental stresses, and other factors, resulting in condition problems and concerns for their survival. This Earthworks Management Plan (EMP) has been prepared to provide guidance to the park for protecting these fragile Civil War-era resources, including Best Management Practices (BMPs) for preservation and maintenance.

Work on this project was initiated in October 2009, when the National Park Service engaged Wiss, Janney, Elstner Associates (WJE), in association with John Milner Associates, Inc. (JMA), to prepare a combined Cultural Landscape Report (CLR)/ EMP for Kennesaw Mountain National Battlefield Park. The components of the EMP, which was designed to support the CLR in the form of an appendix, include a description of the park's overall historical development; documentation of the current condition and threats to the viability of the existing Civil War earthworks; identification of an overall approach to earthworks management; and detailed recommendations and guidelines for their day-to-day and long term management. The plan also

1. Paddy Griffith, *Battle Tactics of the Civil War* (New Haven, Connecticut: Yale University Press, 1987), 123.

includes implementation projects that will allow the park staff to prioritize and submit detailed project proposals within the National Park Service's Project Management Information System (PMIS) for funding consideration.

Study Area

Kennesaw Mountain National Battlefield Park is located in Cobb County, Georgia, approximately twenty-three miles northwest of the city of Atlanta, and two miles west of Marietta (Figure B-1 and Figure B-2). The 2,923-acre park lies within an area of rolling hills and rocky outcrops that marks the southern end of the Appalachian Mountains. The most dominant physical characteristic of the park is a prominent north-to-south ridge, composed of Kennesaw and Little Kennesaw mountains, over and around which the Battle of Kennesaw Mountain and the Battle of Kolb Farm unfolded. The park also contains historic buildings, structures, and monuments; historic roads, trails, and road traces; a number of prehistoric and historic archeological sites; historic patterns of forest and open fields; and modern visitor amenities, including a visitor center, interpretive trails, and parking areas. The park is also crossed by several public roadways that provide access to the park's various attractions and resources.

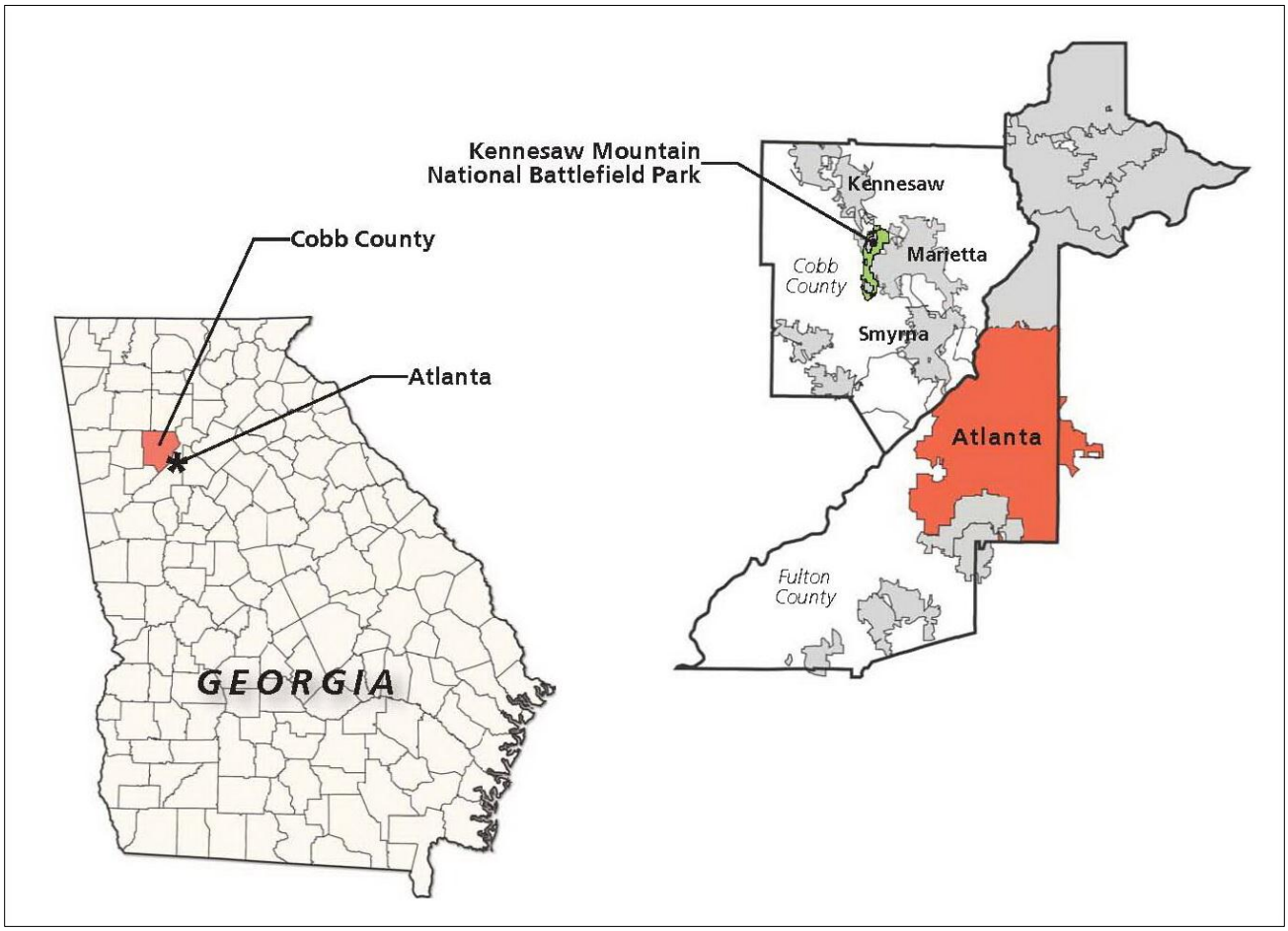


FIGURE B-1. Context and location maps.

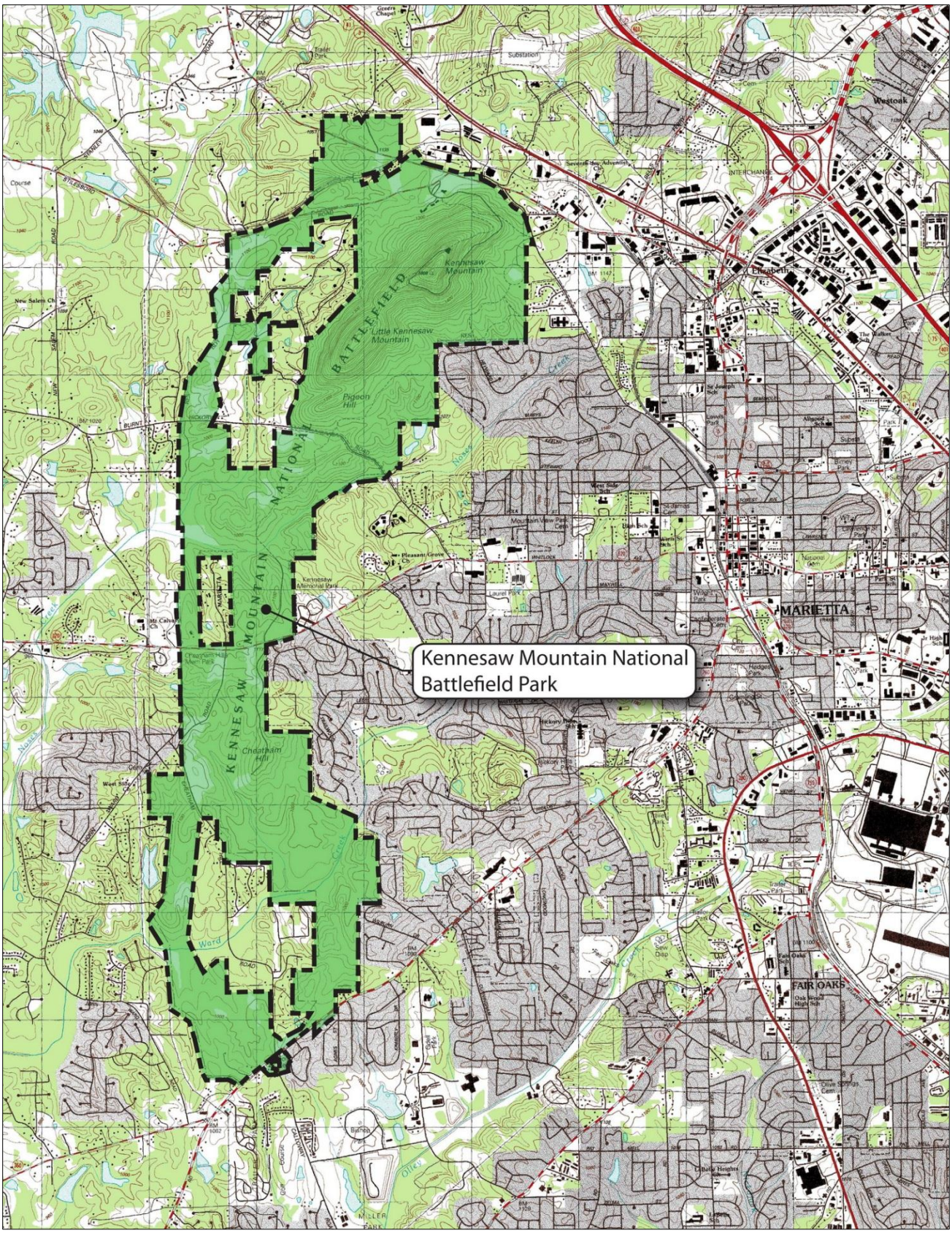


FIGURE B-2. USGS map of Marietta, Georgia, with the boundary of Kennesaw Mountain National Battlefield Park indicated.

The park's visitor center is located near the intersection of Old U.S. Highway 41, Stilesboro Road, and Kennesaw Avenue. These roads connect the park to Barrett Parkway to the west, U.S. Highway 41 and Interstate 75 to the north, and County Roads 360 and 5 to the east and south. Interstate 75, which connects the major cities of Chattanooga, Tennessee, and Atlanta, Georgia, passes within a mile or so of the park. To the south of Old U.S. Highway 41 and Stilesboro Road, the park is crossed in an east-west direction by Burnt Hickory Road, Dallas Highway (County Road 120), and Powder Springs Road (County Road 360). Roads that cross through or edge the park in a north-south direction include Old Mountain Road and Gilbert Road in the northern half of the park, and Cheatham Hill and Old John Ward roads in the southern half.

Kennesaw Mountain National Battlefield Park preserves the site of some of the most intense combat associated with the Civil War's Atlanta Campaign. During late June 1864, the Confederate Army of Tennessee under the command of Gen. Joseph E. Johnston took up a defensive position around Marietta, Georgia, to serve as an outer line of protection against Union invasion of Atlanta. The position was anchored by Kennesaw Mountain—a rocky ridge that rises dramatically above the surrounding level terrain. Johnston's army strengthened their position atop the high ground by constructing a formidable line of earthen entrenchments designed to defend all possible Union avenues of approach toward Atlanta, including the Western & Atlanta Railroad. Over the course of mid to late June 1864, Union troops under the command of Gen. William T. Sherman, determined to probe the Confederate position and possibly outflank it, constructed their own system of entrenchments, which they used to protect artillery and infantry positions supporting attacks against the Confederate defenses.

The focus of this EMP is understanding and providing recommendations for preserving the surviving evidence of the Civil War earthworks established by Johnston and Sherman located within the park, including remnant parapets, ditch systems, rifle pits, artillery positions, and batteries.

Several key earthworks segments are addressed in more detail by the plan. These include Kennesaw Mountain, Little Kennesaw Mountain, Pigeon Hill, Cheatham Hill, Strahl's Fort, the Union Twenty-Four-Gun-Battery, Casemated Battery, Army of the Tennessee line, Fourth Corps line, Noses Creek earthworks, Davis' Division line (Morgan's Brigade), Thomas Headquarters works, Davis's Division line, and Twentieth (or Hooker's) Corps site (Figure B-3 through Figure B-5).

FIGURE B-3. Artillery position on Kennesaw Mountain.

FIGURE B-4. Visitor viewing area near the earthworks on Pigeon Hill.

FIGURE B-5. Earthworks at Cheatham Hill.

Overview Site History

The Battle of Kennesaw Mountain, a decisive event of the Atlanta Campaign, occurred on June 27, 1864. It followed several clashes between Confederate and Union forces in northwest Georgia during the spring and early summer of 1864. Kennesaw Mountain held a strategically important position as the last commanding elevated position before the Chattahoochee River, the final obstacle that Union forces would encounter before reaching Atlanta; for the Confederates, Kennesaw Mountain served as key and decisive terrain that they were determined to hold at all costs in order to prevent the Union from making additional progress towards their key stronghold and manufacturing center in Atlanta.

By spring 1864, Union forces had gained control of the Mississippi River and most of Tennessee. The major manufacturing and production centers of the Confederacy, however, had not yet been directly affected by the war, and continued to support the South's war effort. One of these industrial centers was Atlanta, which also served as a major railroad junction for the Southeast.

In March 1864, President Lincoln promoted Ulysses S. Grant to the rank of lieutenant general and placed him in charge of all Union armies. Within the Eastern Theater, Grant ordered Maj. Gen. William T. Sherman to take command of the Union forces in Chattanooga, Tennessee. Grant quickly determined the importance of disrupting key Confederate strongholds, such as supply and manufacturing centers. Grant's strategy suggested the Union conduct several simultaneous attacks on Virginia's Shenandoah Valley, the Breadbasket of the Confederacy, the Confederate Capital at Richmond, and the manufacturing center of Atlanta. Grant would move his own army southward in Virginia toward Richmond, while Philip Sheridan would initiate a campaign to control Virginia's Shenandoah Valley, and William Sherman would travel southeast toward Georgia.[2]

In early May, 1864, 100,000 Union troops under Sherman's command began to move south from Chattanooga. Their progress was opposed by 65,000 Confederates under the command of Gen. Joseph E. Johnston. Throughout May, using his superior numbers, Sherman was able to outmaneuver Johnston, who was forced to retreat several times to avoid being cut off from his supply route along the Western & Atlantic Railroad.[3]

Recognizing the strategic importance of Kennesaw Mountain, Johnston initiated efforts to establish defensive trenches on the high ground that would halt the advance of the Union Army.[4]

Confederate Lt. Col. S. W. Presstman oversaw the construction of the Confederate defensive lines on and around Kennesaw Mountain in May and June 1864. The Confederate defenses consisted of an almost six-mile-long network of earthen fortifications, extending across the Western & Atlantic Railroad and along the western military crests of Kennesaw and Little Kennesaw mountains south to Powder Springs Road east of the Kolb Farm.[5] The line was protected with 187

2. Wiss, Janney, Elstner Associates, Inc., and John Milner Associates, Inc., *Kennesaw Landscape, Kennesaw Mountain National Battlefield Park, Cultural Landscape Inventory* (Atlanta, Georgia: National Park Service, January 2009), 26–28.
3. Ibid.
4. EDAW, *Kennesaw Mountain National Battlefield Park: Lost Mountain to Brushy Mountain Earthworks Preservation Plan* (Atlanta: Georgia: National Park Service, January 1998), 1.
5. Terms such as "military crest" are defined in Appendix C of the CLR.

cannon, emplaced within artillery positions at Kennesaw Mountain, Little Kennesaw Mountain, Pigeon Hill, Cheatham Hill, and Kolb's Farm. Batteries were placed on the highest ground, sited so gunners could aim at all probable avenues of approach.

The earthworks were designed to protect both artillery and infantry troop positions from direct fire by establishing packed soil berms or parapets for their protection. Military weaponry had changed over the course of the nineteenth century and was now capable of destroying most traditional materials used to protect military sites, including wood and masonry. Piled earth, it was found, offered the best protection against the new artillery weapons by absorbing the impact of incoming projectiles.

Earthworks are designed as linear defensive structures, broken periodically by geometrically-shaped projections called redoubts, redans, and salient, where artillery are placed. They are often cut into the military crest, or forward slopes of a hill facing the anticipated direction of an enemy advance. To construct the earthworks, soldiers borrow soil from an excavation zone located in front of or behind the line, and pile the soil to form a stable mound—the parapet. When located in front of the parapet, the borrow site is shaped into a ditch that becomes an obstacle to an approaching enemy. When dug behind, the ditch offers additional protection for the soldiers manning the work.

As part of earthworks construction, trees in front of the line are traditionally felled to establish a clear field of fire for the weaponry. Cut trees are sometimes fashioned into obstacles called abatis, placed in front of the works with the branch-ends forward to slow the approach of an attacking army. Rifle pits or lines of pickets are also excavated forward of the main line of parapets. Men stationed in the pits serve as an early warning system and initial, albeit secondary, line of defense.[6]

The Confederate earthworks at Kennesaw were part of a larger system of defensive positions used to protect against Union advance toward Atlanta. To support their position at Kennesaw Mountain, Johnston's Army also dug a 10-mile-long trench and redoubt line between Lost, Pine, and Brushy mountains to the west. When General Sherman rode the length of the line prior to the battle, he was said to have commented that Johnston must have stretched his troops thinly to man the extensive line. Sherman's analysis proved correct, and Johnston would eventually move his troops from the Brushy Mountain line to the Kennesaw Mountain defenses.[7]

On the way to the engagement at Kennesaw, Johnston and Sherman would clash at Gilgal Church on June 15 and at Lost Mountain on June 16, 1864. As a result of these engagements, the Confederates were forced to concede ground, contributing to Johnston's decision to retreat to the earthworks at Kennesaw Mountain. Following the departure of the Confederate troops, Sherman moved to occupy their earthworks at Brushy Mountain.[8]

Sherman quickly began to approach Johnston's position at Kennesaw. As Sherman's men approached, they established their own trenches and parapets within the low-lying farmland at the base of Kennesaw Mountain to protect against Confederate fire and began to move 254 artillery pieces into place.

On June 20, Sherman initiated his attack, sending a cavalry division along the rail line, flanking the northern end of the Confederate works. At the same time, Sherman sent another division to flank the south end of the line via Powder Springs Road. Johnston, determined to hold his position, sent troops under the command of Lt. Gen. John Bell Hood to reinforce and extend his line to the south, resulting in a temporary stalemate.

6. Wiss, Janney, Elstner Associates, *Kennesaw Mountain Cultural Landscape Inventory*, 26–28.

7. EDAW, *Kennesaw Mountain National Battlefield Park: Lost Mountain to Brushy Mountain Earthworks Preservation Plan*, Executive Summary.

8. Ibid.

Two days later, on June 22, Sherman's Union forces again advanced eastward along Powder Springs Road. Johnston countered, sending two divisions to meet the advance. The two armies clashed in the subsequent Battle of Kolb Farm. By establishing their position behind hastily-constructed field fortifications, Sherman's men were able to repulse Johnston's counterattack. The Confederates were forced to retreat to their positions on the higher ground, having suffered 1,000 casualties to the Union's 350. The battle did not result in forward movement for the Union army, however, leading Sherman to question his ability to outflank Johnston's commanding position. Instead, Sherman determined to use a two-pronged coordinated frontal attack on the Confederate position, targeting Kennesaw Mountain, Little Kennesaw, and Pigeon Hill as part of one thrust, and Cheatham Hill in the other.

On the morning of June 27, troops under the command Maj. Gen. John A. Logan attacked the junction of Little Kennesaw and Pigeon Hill, while another large force simultaneously approached Cheatham Hill a mile to the south. At Cheatham Hill, the Union troops were to concentrate their attack on the "Dead Angle," a supposedly vulnerable bend in the Confederate line that appeared unsupported by the rest of the Confederate line. Unbeknownst to the Union forces, however, the Confederates had created a strong secondary position to ensure protection of the Dead Angle, establishing unusually deep trenches along the contour of the ridge and concealed artillery positions on either side of the bend. To the front of the works, they had placed extensive abatis, supplemented by sharpened sticks known as cheveaux-de-frise.

The battle began with 5,500 Union troops moving toward Pigeon Hill through the dense underbrush and abatis placed along Burnt Hickory Road. Slowed by the rough terrain, the abatis, and subsequent heavy fire from the Confederate batteries on Pigeon Hill as well as Little Kennesaw Mountain, the Union troops were unable to challenge the Confederate position.

The coordinated attack at Cheatham Hill, where Sherman had committed 9,000 men, would fare no better. Maj. Gen. John A. Newton's division approached the western end of the line, while the brigades of Col. Daniel McCook and Col. John G. Mitchell attacked the center at the Dead Angle. Their initial approach was through a grove of trees, which provided the troops with cover and concealment. However, once they reached the open field directly below the Confederate line, they were met with a barrage of fire from the opposing infantry and artillery stationed behind the fieldworks. Colonel McCook was mortally wounded in the attack.

Union troops able to reach the vicinity of the Confederate trenches established defensive trenches quickly in a small depression near the opposing line. Under the protective cover of the landform and their trenches, the Union troops began to tunnel toward the Confederates in an attempt to use explosives to disrupt and possibly break the line. The effort failed, and the men eventually retreated under cover of darkness. The opposing armies remained in a stalemated position for five days.

Between the two attacks, Sherman suffered 3,000 casualties, while Johnston lost 1,000 men. The frontal attack had been a costly mistake. Fortuitously, a small diversionary move by Maj. Gen. John M. Schofield at the southern end of the line near the Kolb Farm would prove instrumental in the events that followed. This small flanking move provided a large enough break to allow the Union cavalry to advance south toward the Chattahoochee River. In response, Sherman sent reinforcements to Schofield's section of the line. The threat of again being outflanked led Johnston to retreat in hopes of holding a position further south that would protect Atlanta from Sherman's army.

On July 2, the Confederates withdrew from Kennesaw Mountain, first taking up a position around Smyrna Station four miles southeast of Marietta, and subsequently moving to the north bank of the Chattahoochee River on July 4, 1864. Despite these efforts, the Union cavalry were able to cross the river upstream of Johnston's main position, and the Confederates were forced to retreat across the river to the outer defenses of

Atlanta on July 9. The two armies clashed in a series of battles throughout the month of July. Sherman subsequently began an artillery bombardment of the city in August. Initially unsuccessful in this approach, Sherman changed his tactics and began to move counterclockwise around Atlanta, systematically gaining control of the supply routes, including the rail lines entering the city from the south. On September 1, with all railroads in Union hands, the Confederates were forced to surrender the city.[9]

Within a national context of national military park development, reunification, and remembrance, veterans of the Civil War worked to acquire the heart of the Cheatham Hill section of the battlefield in the 1890s. By1899, they had secured sixty acres of hallowed ground that included the earthwork known as the Dead Angle, later placing several monuments on the site to commemorate the battle. This parcel, as well as portions of the larger battlefield landscape, were authorized for protection by the War Department in 1917. In 1933, the battlefield park was transferred to the National Park Service, which expanded the area of the battlefield protected by the federal government, continued to protect historic battlefield resources, but also began to offer interpretive programs as it opened the park to the public. This work continues today.

9. Wiss Janney, Elstner Associates, *Kennesaw Mountain Cultural Landscape Inventory*, 26–28.

Project Scope of Work and Methodology

Scope of work

Development of this EMP followed the guidance afforded in the scope of work provided to the consultant team by the National Park Service. Scope elements identified for inclusion in the plan are:

- an overview description of the 1864 earthworks landscape
- an overview description of the current conditions associated with the earthworks, and identified threats to their condition
- earthworks landscape management recommendations and guidelines
- a plan of action for their implementation

The scope of work also indicated that the earthworks management recommendations should support the preservation of landscape resources while also taking into consideration the enhancement of interpretation and the visitor experience. The implementation actions were to be collected into projects for which funding can be sought by the National Park Service through PMIS.

Methodology

Research. This report includes an overview description of the 1864 military landscape of the Kennesaw Mountain battlefield, focusing primarily on the earthworks and associated areas. This information has been derived primarily from secondary sources prepared previously for the park, including a 1941 Master Plan (Historical Base Map narrative), 1994 National Register of Historic Places nomination, 1998 EDAW Earthworks Preservation Plan, 2001 Archeological Survey, and 2009 Cultural Landscape Inventory (CLI). The National Park Service's List of Classified Structures also proved useful in understanding the history and management of the

park's earthworks. Narrative descriptions of the earthworks and associated military landscape are illustrated using available primary and secondary source maps, photographs, renderings, and diagrams.

Start-up Meeting. On November 16, 2009, members of the EMP team from the National Park Service and the consultant firm of John Milner Associates, Inc., met at Kennesaw Mountain National Battlefield Park to discuss the project. In attendance at the meeting were

- Dr. Stanley Bond, Superintendent, Kennesaw Mountain National Battlefield Park
- Lloyd Morris, Chief Ranger, Kennesaw Mountain National Battlefield Park
- Thomas Sparks, Facility Manager, Kennesaw Mountain National Battlefield Park
- Willie Ray Johnson, Historian, Kennesaw Mountain National Battlefield Park
- Tracy Stakely, Historical Landscape Architect, Southeast Regional Office, National Park Service
- Laura Knott, Historical Landscape Architect, John Milner Associates
- Liz Sargent, Historical Landscape Architect

During the meeting, the group discussed several topics pertaining to the project. The park indicated that a new parcel of land had been added to the park since completion of the CLI, and that plans were underway to extend trails into the area. Park staff described the areas of concern they hoped could be addressed by the plan, including

- infestations of native plant communities by invasive plant species;
- trees growing on the earthworks;
- tree falls damaging the earthworks;
- the intrusion of adjacent residential development on historic vistas;
- the need to enhance vistas from atop Kennesaw Mountain;
- the need to protect potential encampment sites behind the earthworks; and
- the need to prevent social trails, looting, and erosion at Cheatham Hill and Pigeon Hill.

The group then discussed strategies for this project, including conducting interviews with other sites currently managing similar resources.

The consultant team indicated that the plan would potentially discuss battlefield resources in accordance with the KOCOA military terrain analysis process if sufficient information was available to support the approach; utilize historic groundcover mapping provided as part of previous master plans; and be consistent with the interpretive approach recommended in the Long-Range Interpretive Plan concurrently being prepared for the park.[10] The park also noted that funds were available for tree removal and cyclical maintenance associated with earthworks management, and that the plan should specify the priority needs to be addressed using this funding.

Site Investigations. On November 16–17, 2009, project team historical landscape architects Laura Knott and Liz Sargent conducted pedestrian-level site reconnaissance and survey of the park's earthworks. Park Superintendent Dr. Stanley Bond provided access to several areas of interest as well as background information about the sites, and their management needs and objectives. During this survey effort, the earthworks and their environs were photographically documented. Site-specific conditions and issues of concern were noted on base maps derived from Geographical Information Systems (GIS) files provided previously by the

10. The KOCOA acronym stands for **K**ey Terrain, **O**bservation and Fields of Fire, **C**over and Concealment, **O**bstacles, and **A**venues of Approach.

park for use in developing the CLI. Representative segments of the earthworks and associated tree cover were measured for reference.

The condition of extant earthworks was assessed using the guidance afforded by David Lowe in *05 Currents: Sustainable Military Earthworks Management:*

> Much depends on the original form of the earthwork and how much it has been disturbed over the years. A simple rifle trench might be in good condition even though its relief is only three feet, whereas a larger curtain wall or battery position might be judged poor even with a surviving relief of six feet. Deep relief relative to the earthwork's original size, a well-defined parapet, and sharper, cleaner angles imply little past erosion and good surviving integrity. A wider, poorly defined parapet, shallower relief, and blurred angles at ground level, show that the parapet has eroded and spread out to fill the ditch. In extreme cases, a parapet may have eroded almost flat, leaving only the shallow remnant trough. Various intrusions through the parapet, such as logging or farm roads, would degrade the condition of a parapet segment, as would areas of erosion or other damage. A simple rating system is good, fair, poor, and remnant. While this is a subjective approach, it is useful during the inventory process to identify resources that are most in need of protection.[11]

Review of Earthworks Management Precedents. While the protection of military earthworks has been a component of preservation practice since at least the nineteenth century, the first coordinated federal effort to develop a comprehensive approach to earthworks management did not occur until the mid-1980s, when the National Park Service conducted a study of the resources associated with seven battlefield parks located in the eastern United States: Richmond National Battlefield Park, Yorktown Battlefield, Fredericksburg National Military Park, Petersburg National Battlefield, Ninety-Six National Historical Site, Stone's River National Battlefield, and Kennesaw Mountain National Battlefield. The resulting 1989 *Earthworks Landscape Management Manual* identified two objectives critical to earthworks preservation: combating erosion and maintaining healthy vegetative cover with as little human intervention as possible. The study also concluded that military earthworks under forested conditions exhibited the least erosion and retained the sharpest profiles and most legible features.[12]

The National Park Service followed this effort with a study prepared in 1995 by Andropogon Associates, specialists in ecology, native plants, and forestry, titled the *Guide to Sustainable Earthworks*. The consultants worked with several military parks in the Mid-Atlantic and Southeast regions to study the condition of and threats to their earthworks. In addition to supporting the primary findings of the *Earthworks Landscape Management Manual*, the study identified native warm-season grasses as an alternative to cool-season turf grasses as a landcover capable of protecting against erosion. The advantages of warm-season grasses, as discussed in the study, included adaptability to a wide range of environmental conditions, including drought, and diminished maintenance and mowing requirements after establishment.[13]

In 1998, forester Dr. James E. Johnson of Virginia Polytechnic Institute and State University, under contract with the National Park Service, prepared a study and guide titled *Managing Earthworks under Forest Cover* to address issues associated with sustainable earthwork management not considered in the *Earthworks Landscape Management Manual.* Johnson's guide indicates methods for actively managing earthworks under forest cover in an approach described as tree husbandry.

In 2005, the National Park Service assembled a comprehensive guide to earthworks management

11. National Park Service, *05 Currents: Sustainable Military Earthworks Management,* <www.nps.gov/hps/hli/currents/earthworks/index.htm>, accessed February 6, 2010.
12. National Park Service, "Introduction: Management Context" in *05 Currents: Sustainable Military Earthworks Management,* <www.nps.gov/hps/hli/currents/earthworks/intro_page2.htm>, accessed February 2010.
13. Ibid.

titled *05 Currents: Sustainable Military Earthworks Management* that incorporate the findings of the earlier studies into a comprehensive manual addressing the philosophy, approach, and implementation of treatments for a range of current and desired future conditions.

Earthworks management remains an evolving science. The various historical military sites administered by both the public and private sectors employ a variety of techniques in an ongoing attempt to expand the range of successful management practices.[14]

Each of the documents referenced above was reviewed on behalf of this project and consulted for technical information and guidance. In addition, past project experience involving earthworks management by project team members was considered in developing the approaches to earthworks protection, preservation, and interpretation conveyed herein.

Recommendations and Action Plan. As noted, the earthworks management recommendations and action plan were developed within the context of available federal guidance developed since the 1980s by the National Park Service. The EMP has also been prepared in accordance with the historic preservation and resource management guidance afforded in the following federal documents:

- *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*
- NPS Director's Order 28: *Cultural Resources Management*
- NPS Director's Order 77—Reference Manual 77: *Natural Resource Management*
- NPS-SER-82: *Biotic Cultural Resources: Management Considerations for Historic Districts in the National Park System, Southeast Region*
- National Register Bulletin 40: *Guidelines for Identifying, Evaluating and Registering America's Historic Battlefields*

The recommendations and action plan are also intended to be consistent with the information presented in the park's Long-Range Interpretive Plan. Cultural landscape management and interpretation are often integrally linked and the recommendations provided herein take into consideration interpretive values in the development of all historic resource management strategies.

14. Ibid.

Summary of Findings

The earthworks resources surviving at Kennesaw Mountain National Battlefield Park are threatened by natural processes as well as cultural activities. Erosion, the process whereby particles of soil are dislodged and transported away by storm water, poses the greatest threat to the survival of the earthworks. Over time, erosion has the potential to completely destroy these fragile resources.[15]

Professionals considering the most effective strategies for managing military earthworks have concluded that mature deciduous woodland cover and the leaf litter it generates can be one of the most effective agents for protecting against soil erosion (Figure B-6). However, large trees growing on or adjacent to the earthworks can also uproot and dislodge soil, or fall on the resources, gouging and damaging them (Figure B-7 and Figure B-8). For preservation purposes, earthworks managed under mature forest cover must therefore be actively maintained. Approaches to the management of earthworks under forest cover include 1) evaluation of trees within proximity of the earthworks that have the potential to fall on and damage these resources; 2) removal of high-risk and hazardous trees; and 3) promotion of healthy deciduous woodland around the earthworks that can supply a protective layer of leaf litter and shelter them from rainfall.

Secondary to protection of the earthworks from soil erosion and tree falls is enhancing visitor understanding and appreciation of the historic resource. Many of the earthworks currently managed under forest cover were historically set in open fields, or within areas where trees and structures were cleared in front of the parapet to establish a field of fire for emplaced artillery and infantry rifles. Maintaining visual access to the earthworks through the removal of limited areas of woodland, low-lying branches, and tall shrubs in order to illustrate and interpret the historic field of fire may be a desirable accompaniment to earthworks management.

FIGURE B-6. Kennesaw's earthworks are primarily managed under woodland cover, as shown above, which presents several challenges. These are addressed by this Earthworks Management Plan.

FIGURE B-7. One of the threats to the earthworks addressed in the plan is windthrow where mature trees are blown over, displacing large amounts of soil with the rootball.

FIGURE B-8. Another threat addressed by the plan is trees falling on and damaging the earthworks.

15. National Park Service, "Sustainable Military Earthworks Management," <www.nps.gov/hps/hli/currents/earthworks/index.htm>, accessed February 6, 2010.

In some cases, existing and proposed trails that provide visual access to the earthworks may be acting as an enticement for visitors to walk or climb on the resource for a better look (Figure B-9). Also addressed by the EMP is the issue of visitor access control, the use of signage to advise visitors against walking on the earthworks, and the potential for providing viewing platforms that might replace the need for visitors to walk on the earthworks.

The plan also provides recommendations for interpretive exhibits illustrating the military design and resulting battle events associated with the fortifications, as well as their fragility and sensitivity to erosion (Figure B-10). These topics, however, are addressed in more detail as part of the CLR.

Earthworks protection, enhanced interpretation, and visitor safety are the primary goals of the resource management recommendations, guidelines, and action plan included in this report. The guidelines establish principles to be followed by the National Park Service in conducting all current and future work associated with the park's earthworks. The earthworks management treatment recommendations identify general and site-specific projects that the park can undertake to protect the earthworks from erosion and potential damage from hazard trees and invasive alien plant species, and to enhance visual accessibility and interpretation of the earthworks. The recommendations are aimed at improving the safety and accessibility of the trail system and policies for protecting the park's resources. Recommended treatments range from trail repair, tree removal, shrub and sapling thinning, pruning, and removal to enhance views of the earthwork resources; control or eradication of invasive plants; realignment of certain trail sections; relocation of certain directional and informational signs; possible replacement of existing benches; and construction of new boardwalk and ramp sections within the interpretive trail to preserve resources and improve site accessibility.

FIGURE B-9. Visitor access of the earthworks often leads to erosion and needs to be controlled.

FIGURE B-10. The plan recommends strategies for enhancing interpretation of the battlefield landscape.

Recommendations for Further Study

Given the apparently limited availability of primary source information relating to the design and construction of Kennesaw's earthworks, archeological investigations of the historic structures and their surrounds appear to be merited. Archeology has the potential to yield important information related to the locations of encampments, sinks (latrines) and abatis, and currently unmapped fortification features, as well as the character of the landscape. A greater understanding of the earthworks through archeology is likely to support informed decisions regarding future landscape management and interpretation and contribute to the enhancement of the visitor experience. Research conducted on behalf of archeological study and investigation could potentially yield more in-depth information about the military landscape, including the design, construction and use of the fortifications and associated areas.

Also of interest are the conservation activities conducted by the Civilian Conservation Corps (CCC) in the 1930s and 1940s. These activities played an important part in Civil War-era resource protection and land conservation, but have been little studied to date. Additional research and documentation of the activities of the CCC at Kennesaw are clearly warranted in the future.

To ensure the continued protection of the earthworks through the benefits afforded by woodland vegetation, the National Park Service should continue to update its base of natural resource information to include evaluation of the health and composition of the forest community, and its regenerative capability.

Finally, the park should continue to collect data relating to demographic trends and visitation. The projection of visitation trends will support informed management decisions involving the earthworks. Issues such as the most appropriate surfacing materials for interpretive trail segments, and the efficacy and need to add barriers alongside the trail to protect the earthworks from unauthorized access, are directly related to visitation numbers, and can be properly planned using well-founded projections.

Historic Site Conditions, Significance, and Context

Introduction

The Atlanta Campaign, which occurred late in the Civil War, lasted from May 6 to September 15, 1864. After the fall of Atlanta, the way was open for Sherman's infamous march to the sea through Georgia, culminating in the capture of Savannah in December 1864. These events proved to be defining moments of the Civil War. The battles waged in and around Kennesaw Mountain were of critical importance to the outcome of the Atlanta Campaign. Kennesaw Mountain National Battlefield Park conserves and interprets the location and surviving resources associated with the battles, and is one of only a few sites associated with the campaign that are protected and accessible to the public. In fact, the park is the single largest and best developed in terms of access and interpretation of any Atlanta Campaign battlefield.

Development of appropriate management techniques for preserving the surviving earthworks contained within Kennesaw Mountain National Battlefield Park depends on an understanding of the military events of June and July 1864, and the context and setting within which they occurred. The chapter that follows is intended to establish a framework for understanding the cultural landscape history of the park and the role of earthworks in the events that unfolded in June 1864. The chapter is comprised of an overview description of the 1864 landscape, including the cultural patterns derived from antebellum agriculture and their modification by Confederate and Union troops to support military activities, the evolution and physical development of the site since the Civil War, the National Register-level significance of the site and its resources, an assessment of its historic integrity, and consideration of the earthworks within a broader historic context of military engineering.

European Settlement and Development of the Kennesaw Mountain Area, 1830–1864

Prior to European settlement, the Kennesaw Mountain region was inhabited by Creek and Cherokee Indians. During the early nineteenth century, traders and settlers of European-American descent began to move into north Georgia. When gold was discovered near Dahlonega, Georgia, in 1829, non-native settlement in the area increased rapidly, leading to conflict with the native tribes.[16]

Beginning in 1805, the state of Georgia began to hold lotteries to distribute Creek and Cherokee lands to European-American settlers. By 1827, the Creek Indians no longer retained territory within the state. The sixth land lottery and a gold lottery were held within Cherokee country in 1832, despite Supreme Court rulings that found the state's land-taking system unlawful. With the support of President Andrew Jackson, the state of Georgia ignored the Supreme Court ruling and continued division of Cherokee lands; the U.S. Army was engaged in 1838 to forcibly relocate Cherokee residents from Georgia to Oklahoma.

16. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 26.

The relocation has come to be known as "The Trail of Tears."[17]

Cobb County was established in 1832 from former Cherokee country, which had previously encompassed all of northwest and north-central Georgia.[18] In 1834, Marietta was incorporated and made the county seat (Figure B-11 and Figure B-12).[19]

The region proved desirable to European-American settlers for its agricultural potential derived from the cultivation of cotton. By the time pioneering farmers began to acquire land within Cobb County, cotton had become a prominent cash crop. The value of cotton to regional farmers grew exponentially after the introduction in 1786 of a long-fibered cotton that could be grown on the uplands and the interior in eastern Georgia, and the 1793 invention of the cotton gin.[20] After the 1832 lotteries, the region began to experience rapid growth as settlers moved in to establish small cotton plantations in the Chattahoochee River valley. African and African-American slaves provided the labor to clear and cultivate land associated with these plantations; the number of slaves steadily increased within the former Cherokee territory during the antebellum period, from 381 individuals in 1838 to 3,819 in 1860.[21]

In 1838, work to establish the first rail line through the area was initiated. By 1842, nearly thirty miles of track had been laid. Regular train service between Chattanooga and Atlanta began in 1850, and extended through Cobb County. The Union advance toward Atlanta during the 1864 campaign followed the route of this rail line, known as the Western & Atlantic Railroad (Figure B-13).[22]

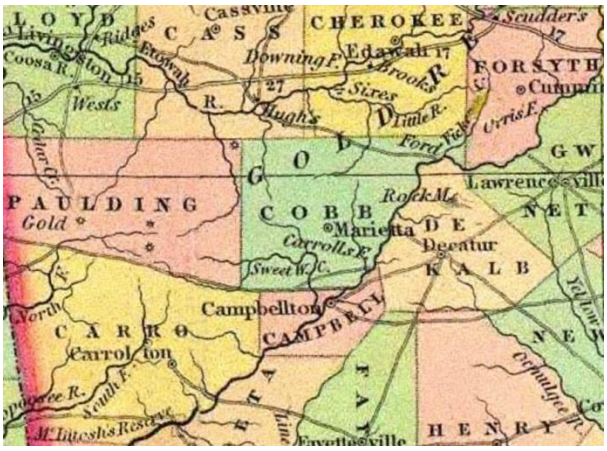


FIGURE B-11. A circa 1830s map of Cobb County, Georgia.

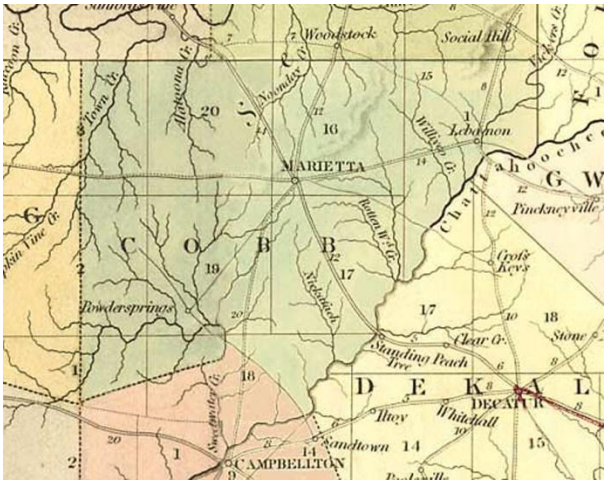


FIGURE B-12. A circa 1838 map of Cobb County, Georgia, indicating the importance of the county seat at Marietta.

17. Ibid.
18. Thomas H. Gresham, Principal Investigator, *An Archeological Survey of the Proposed Kennesaw Mountain Multi-Use Trail, Cobb County, Georgia* (Athens, Georgia: Southeastern Archeological Services, October 2, 2001), 7.
19. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 26.
20. Gresham, *Archeological Survey*, 7.
21. Ibid, from S. B. Temple, *First 100 Years, a Short History of Cobb County* (Covington, Georgia: Cherokee Publishing Company, 1935, reprinted 1980).
22. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 26.

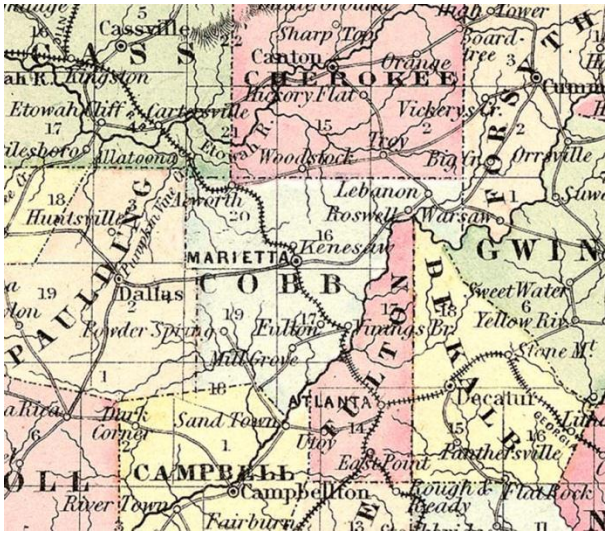


FIGURE B-13. A mid-nineteenth-century map of Cobb County, Georgia, indicating the alignment of the Western & Atlantic Railroad line.

Area farms typically ranged from 50 to 150 acres.[23] Only land intended for cultivation was cleared. As cattle grazed by roaming free, it was necessary to fence cultivated fields to protect the growing crops. Rail fences were the most prevalent type used for this purpose within the area. Fields were typically located near dwelling precincts and on the hill tops that proved easier to clear and cultivate. To limit erosion, fields followed the contour of the hills. Few local farmers employed conservation practices such as adding fertilizers or other soil amendments, or rotating crops, however. As the natural fertility of the soil waned, cultivated fields were typically abandoned and allowed to lie fallow, while new ground was cleared.[24]

By the 1860s, the area encompassed by contemporary park boundaries included small farms characterized by clusters of farm buildings, fields, and orchards concentrated in flatter, low-lying areas. The slopes and ridges of Kennesaw Mountain remained forested, although timber was likely harvested along its lower slopes for firewood and construction materials (Figure B-14).[25]

An antebellum farmstead owned by early settler Peter Valentine Kolb survives within the park. At the onset of the Civil War, Kolb appears to have been a prosperous landowner, with 600 acres and ten slaves. In addition to the extant log house, Kolb's farm included slave quarters, a smokehouse, a summer kitchen, and a barn. A family cemetery stood west of the house.[26]

Also located within the park is the Wallis House, a farmstead appropriated for use as a headquarters during the battle by Union Gen. O. O. Howards, and later used as a Confederate hospital. The dwelling was built circa 1835–1836 by Josiah Wallis.

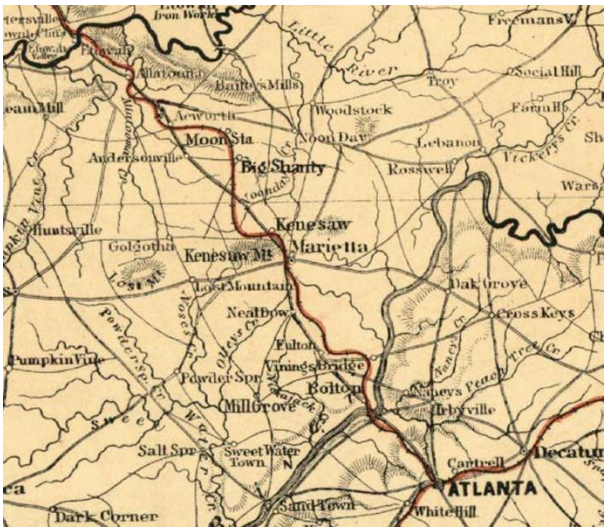


FIGURE B-14. Another mid-nineteenth-century view of Cobb County and the rail line, illustrating the relationship between Atlanta, Marietta, Kennesaw Mountain, Lost Mountain, and other features that played prominent roles in the military events of spring and summer 1864.

23. Ibid.
24. National Park Service, "Historical Base Map, Part of the Master Plan, Kennesaw Mountain National Battlefield Park, Marietta, Georgia," Sheet No. 4, January 1941 edition, annotations for Kennesaw Historical Base Map section.
25. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 26.
26. Ibid.

The Atlanta Campaign and the Battle of Kennesaw Mountain, May–September 1864

By spring 1864, the Union had successfully gained control of the Mississippi River, and much of the state of Tennessee. There remained several prime manufacturing and production centers in cities in the South, however, that survived unscathed and continued to support the Confederate war effort. These were soon to become targets of Union military action intended to cripple Confederate operations. Lt. Gen. Ulysses S. Grant, promoted by President Lincoln and placed in charge of all Union armies in March 1864, soon devised a plan to strike and gain, or disrupt, the ability of the Confederacy to continue manufacture of arms and goods supporting the war effort. Atlanta, an industrial center as well as a major railroad junction for the Southeast, was one of Grant's targets. Grant's strategy involved simultaneous attacks southward in Virginia and southeast from Chattanooga into Georgia. While Grant led the campaign in Virginia, he placed Maj. Gen. William T. Sherman in command of the Armies of the Cumberland, Tennessee, and Ohio that would move through Georgia.[27]

On May 1, 1864, with the objective of capturing Atlanta, Sherman assembled the 100,000 Union troops under his command, along with 254 cannon, and began to move south from Chattanooga, Tennessee. Opposing his advance within the area were 65,000 Confederates and an artillery corps of 187 cannon under the command of Gen. Joseph E. Johnston. Throughout May, Sherman used his superior numbers to outmaneuver Johnston, forcing him to retreat in order to avoid being cut off from the supply and approach route associated with the Western & Atlantic Railroad.

The first encounter between Sherman and Johnston occurred at Dug Gap, also known as Rocky Face Ridge, near Dalton, Georgia, on May 8 through 10, 1864. While Gen. George Thomas commanded troops ordered to approach Dug Gap where entrenched Confederate lay waiting, soldiers under the command of Maj. Gen. James B. McPherson were sent by Sherman to flank the Confederates. Understanding that the Confederate earthworks sited in the steep and rocky mountains afforded the opponent a huge advantage, Sherman initiated a tactic here that he would return to again and again throughout the campaign—rather than approach directly, he would try and circumnavigate the enemy to reach his objective. Realizing on the morning of May 11 that Sherman had slipped by and was moving south under cover of Taylor Ridge, the Confederates retreated south along a road that Johnston had ordered built before reinforcing Dalton. Johnston and his troops continued to Resaca, Georgia, on May 12 where they would reinforce other waiting troops.[28]

Sherman continued south, forcing a second confrontation on May 14 and 15 along Camp Creek. The Confederates directed their artillery on the Western & Atlantic Railroad line and trestle bridge to discourage Union appropriation of this key transportation route into Atlanta. Sherman's troops experienced far heavier casualties in the exchange; Johnston was also able to inflict damage to several important communications and transportation systems that would hamper Sherman's forward progress. Johnston then quietly moved his troops south during the night of May 15 to Cassville, a small town east of Rome. Realizing that the new position remained vulnerable, Johnston pushed on to the Altoona Hills, which he determined could be fortified with fieldworks to provide a much needed advantage to his forces (Figure B-15 through Figure B-17).[29]

27. Ibid.

28. Gresham, *Archeological Survey*, 7–8.
29. Ibid.

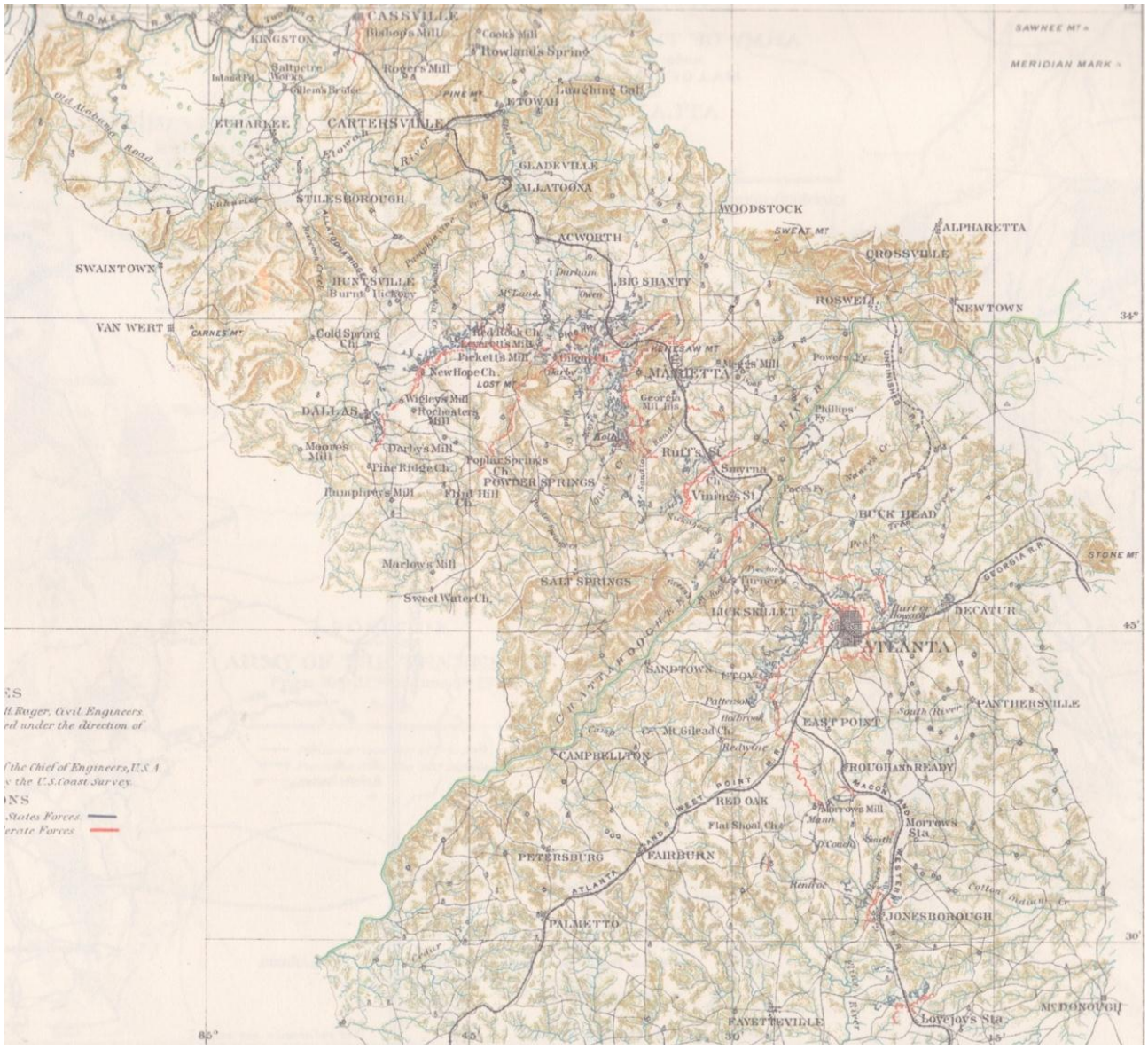


FIGURE B-15. Entrenchments around the city of Atlanta and the line around Marietta, Georgia, June 1864. From the *Military Atlas of the Civil War*.

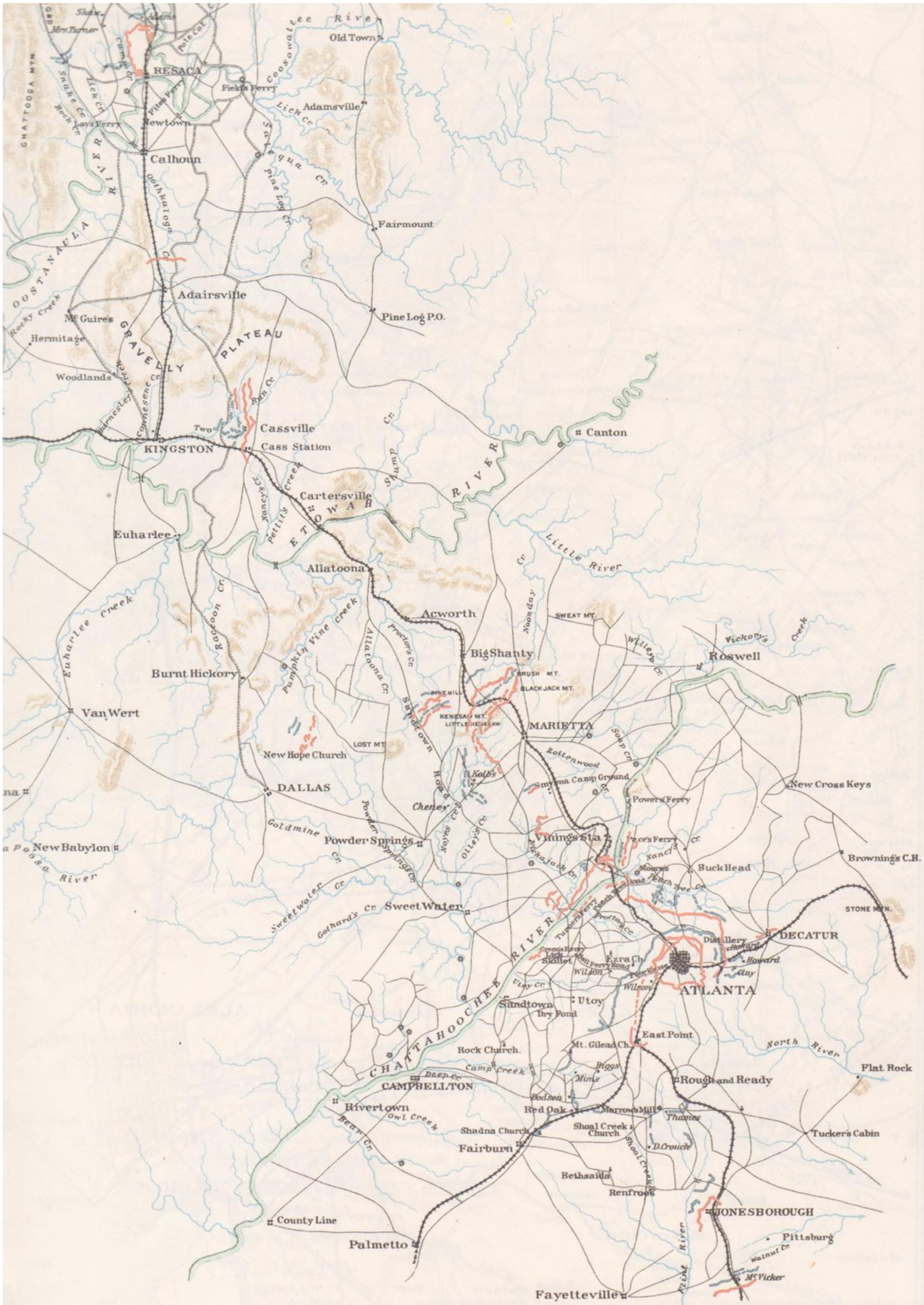


FIGURE B-16. Entrenchments around the city of Atlanta and the line around Marietta, Georgia, June 1864. From the *Military Atlas of the Civil War*.

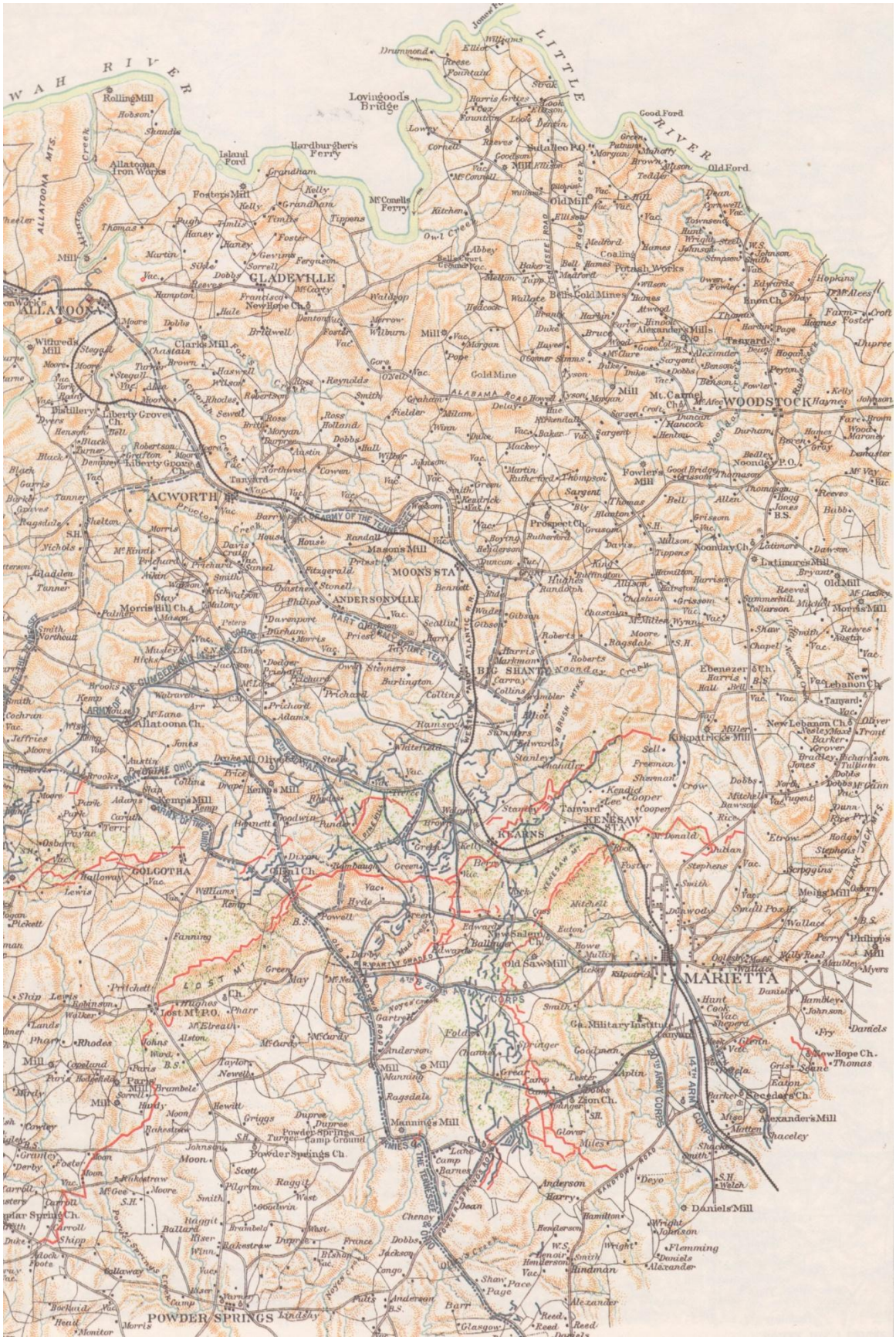


FIGURE B-17. Entrenchments around Marietta, Georgia, June 1864. From the *Military Atlas of the Civil War*.

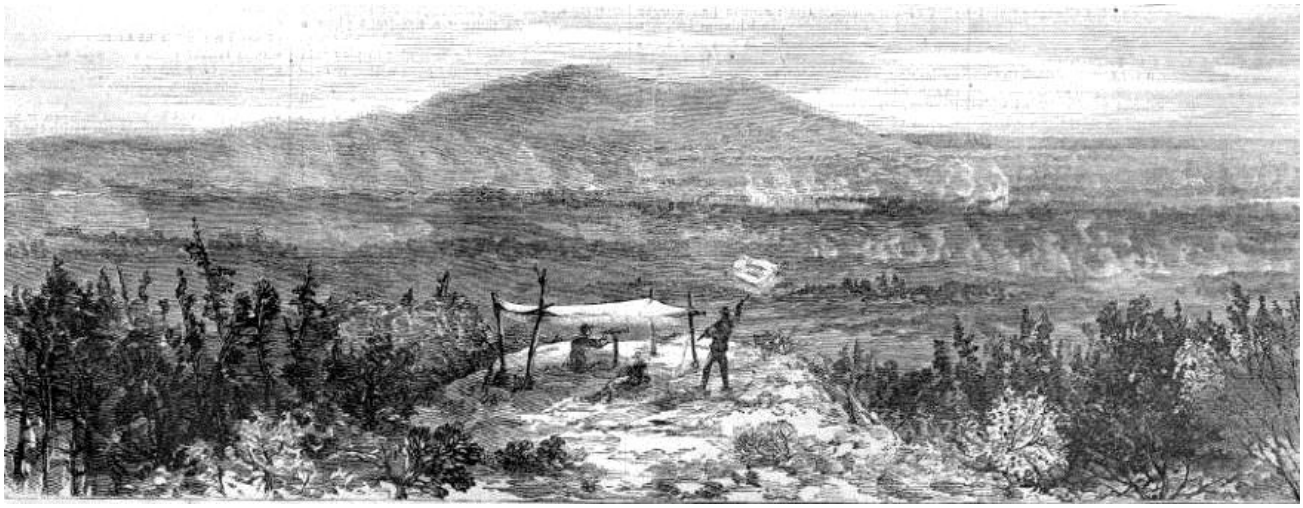


FIGURE B-18. View of Kennesaw from Pine Mountain.

Based on his understanding of the local terrain from previous visits to the area, Sherman understood that Johnston's fortified position in the hills could not be taken without severe penalty. He therefore determined to continue his previous approach of flanking, rather than directly engaging, Johnston's troops. He was determined to follow the road leading toward Atlanta from nearby Dallas, Georgia, abandoning earlier plans to approach via the railroad line. Johnston anticipated Sherman's decision and sent a strong force to meet him. The forces engaged at the New Hope Church crossroads. The ensuing battle occurred on May 25 and 26, extending along a six-mile-long skirmish line. Maj. Gen. Joseph Hooker was ordered to attack directly and suffered the penalty. Overall, the Union lost 1,600 men, and the battle.[30]

Sherman was unable to make substantial headway toward Atlanta after this, and returned to his original pursuit of the rail line as the most appropriate avenue of approach to the city. Heading northeast in their return to the rail line, they encountered Gen. Patrick Cleburn's Division (Hardee's Corps) at Pickett's Mill on May 27, losing additional men. By the end of the day, the campaign had taken its toll on the Union troops, with more than 9,200 casualties recorded to Johnston's nearly 5,400.[31]

Sherman's progress was also impeded by the onset of heavy rains that began on June 1 and would continue for nearly two weeks. Roads became muddy and nearly impassable for the heavy artillery. As the Union forces slowly moved south and east along the rail line, the Confederates took the opportunity to establish strong fortifications on high points within the Cobb County area.[32]

By the first week of June, Johnston's forces had entrenched along this new line some 30 miles northwest of Atlanta in Cobb County. His fieldworks followed high ground extending between Lost Mountain, Brushy Mountain, and Pine Mountain, and others at Kennesaw Mountain, which was particularly well positioned to control movement along the rail line(Figure B-18). Federal forces continued their advance until they reached the Confederate line, achieving positions as close to the trenches as possible, sometimes within 200 yards.[33] In front of the Kennesaw Mountain line the Union placed only a few artillery, which they would use to occupy the Confederates while attempting to assault weaker positions elsewhere. Sherman believed the center of the Confederate line, located between Kennesaw and Lost Mountain, to constitute its weakest point. The rains had finally begun to slow by June 15, allowing Sherman's troops to mount a concerted attack on the Confederate positions, focusing on the perceived

30. Ibid.
31. Ibid.
32. Ibid.
33. Ibid., 8.

weakness (Figure B-19 and Figure B-20). To counter, the Confederates were forced to swing the west end of their lines south and east. After being shelled continuously by the Union forces, Johnston's men positioned atop the most advanced position at Pine Mountain elected to retreat. Realizing the danger, Johnston decided to remove his troops from Brushy Mountain as well, relocating the majority of his forces to the formidable entrenchments on Kennesaw Mountain, which they stubbornly held until Sherman outflanked them on July 2, 1864.[34]

The events of early June were reported by Federal Maj. Gen. John Logan, Commander of the 15th Army Corps (Figure B-20):

> At 6 a.m. of June 10, as directed in Special Field Orders, No. 34, Department and Army of the Tennessee, I moved in the advance on the Marietta road, carrying ten days' subsistence with about 150 rounds of small-arm ammunition per man. Smith's division had the advance, followed by divisions of Harrow and Osterhaus, respectively. The infantry skirmishers of the enemy were found posted about one mile south of Big Shanty Station behind slight rail piles, from which they were soon dislodged by our artillery. It was soon evident that the enemy intended making a decided stand, and that they had a formidable line of works in front of Kennesaw Mountain. This line was developed crossing the Marietta road at the distance of two miles and a half from Big Shanty. On the east and west of the road the course of the main line was not determined for several days, the enemy keeping his wings well advanced, and erecting several lines of temporary works, retiring afterward from one to another of them as he was pressed by our troops.[35]

34. Ibid., 10.
35. Ibid., 8–9, from the *Official Records of the War of the Rebellion*, 1880–1901: 38 (3) 97–98.

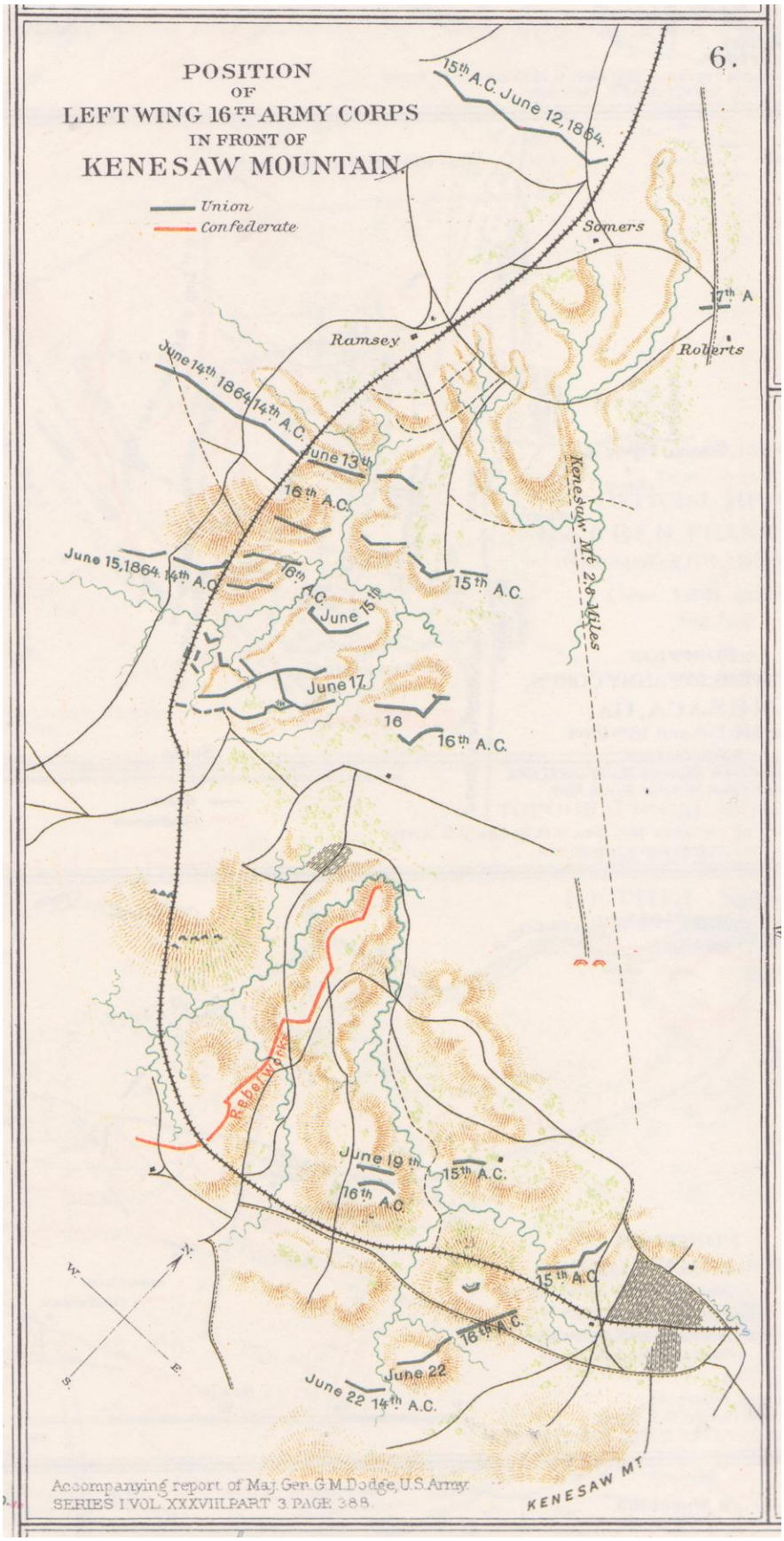


FIGURE B-19. Military movements of the left wing, 16th Army Corps in front of Kennesaw Mountain, June 1864. From the *Military Atlas of the Civil War*.

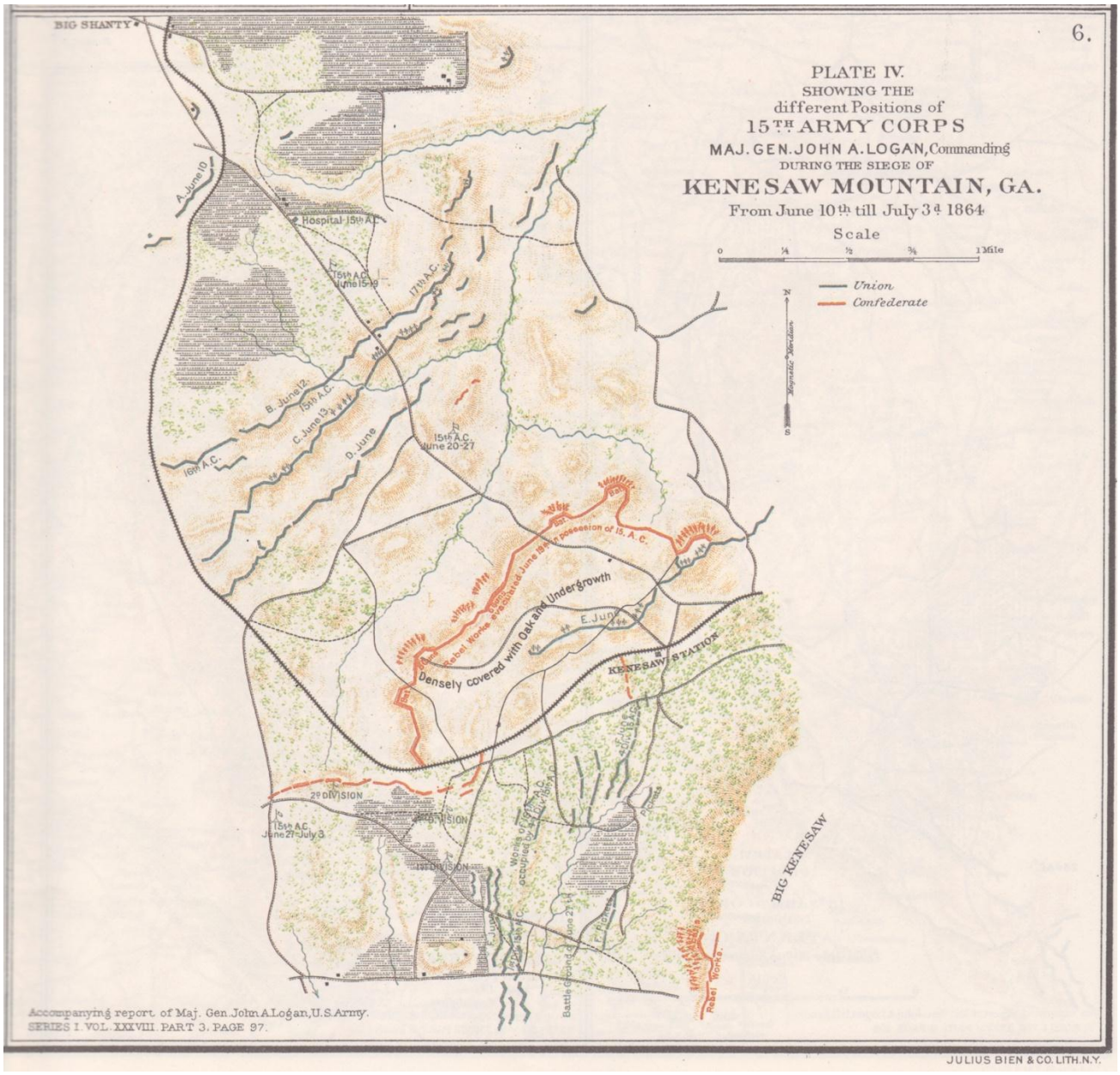


FIGURE B-20. Military movements of the 15th Army Corps under the command of Maj. Gen. John A. Logan, June 1864 near Kennesaw Mountain. From the *Military Atlas of the Civil War*.

The Role of Earthworks at Kennesaw Mountain

For more information, see the earthworks context section at the end of this chapter. See also the glossary of terms included in Appendix C of the CLR.

Kennesaw Mountain and the curving ridgeline that extends to the northeast and southwest around Marietta, Georgia, offered Confederate Gen. Joseph E. Johnston high ground that afforded long views of the potential avenues of approach toward Atlanta for the Union army, and an easily defended natural bastion.[36] Confederate troops and slaves under the command of Lt. Col. S. W. Presstman initiated work on a system of defensive earthworks on and around Kennesaw Mountain in May 1864. The works were substantial, indicating their importance to the Confederates' defensive strategy. The line extended for nearly 6 miles from a point east of Kennesaw Mountain around the west face of the mountain, across the Western & Atlantic Railroad line, to an area east of the Kolb Farm. The fortifications included a single infantry line of mounded earth referred to as a parapet, punctuated periodically by more substantial works that protected the artillery positions that overlooked key avenues of approach. The parapet was constructed from borrow material dug from either the front or the rear, or both. The resulting ditches enhanced the obstacle posed by the parapet when placed to the front, or offered additional depth and protection from direct fire when established behind. The earthen parapets at Kennesaw were reinforced with available stone and wood. These reinforcements, referred to as revetments, strengthened the earthworks and provided additional protection for the soldiers. Logs placed at the upper limit of the parapet were referred to as headlogs for their role in protecting this part of a soldier's body (Figure B-21 and Figure B-22).

FIGURE B-21. View of the Kennesaw Mountain battlefield and earthworks, circa 1864.

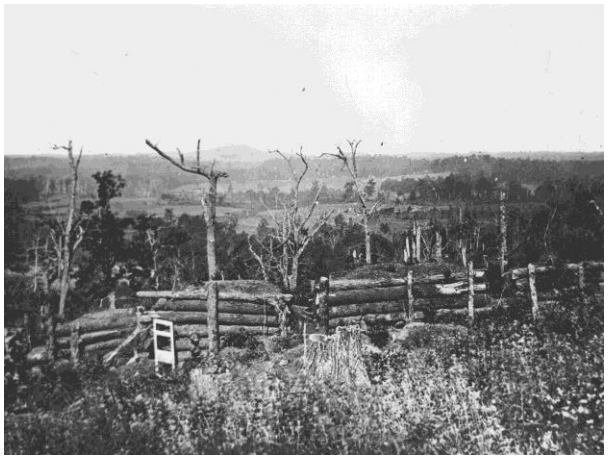


FIGURE B-22. View of the Kennesaw Mountain battlefield and earthworks, circa 1864.

The rains of early June had caused the local streams to swell in size. The Confederates established several protected entrenched positions behind these streams that would create obstacles to Union advance on Kennesaw Mountain.

Weak areas of the main line were supported by secondary lines. At Cheatham Hill, for example, secondary lines were used to reinforce the trouble spot at the salient referred to as the "Dead Angle." As defined by military engineers, dead angles are areas in front of salients that cannot be fired upon due to the combination of parapet positioning and the inability to deploy artillery in the needed direction because of the angle created by a combination of parapet design and terrain. Any sector ahead of a line that could not be defended

36. National Park Service, "Historical Base Map," Sheet No. 3, Topographical Base Map section.

by artillery was extremely vulnerable unless defended by another part of the fortification.

Artillery positions were also established on the commanding crests of Kennesaw and Little Kennesaw mountains (Figure B-23) to protect the rail line and road corridors leading toward Atlanta from Union access.

To enhance visibility and the ability to direct ordnance from their earthworks, the Confederates cleared obstructions such as trees and structures in the direction of the enemy, establishing an unobstructed field of fire for their artillery and rifles. Cut trees, sometimes with their branches sharpened into points, were placed in front of the earthworks as an obstacle to attackers. These features, known as abatis and chevaux-de-frise, were often arranged in several parallel lines. The cleared area in front of the earthworks otherwise offered an attacker little in the way of protective cover. Below the Confederate earthworks in many locations were agricultural fields that made a direct assault on the Confederate lines difficult. Also fronting the main earthworks were rifle pits, excavated areas large enough to be used for cover and concealment by a soldier whose duty was to fire an early volley at incoming assailants and alert the main line of approaching danger. Cut trees also supplied revetments and headlogs to support the efficacy of the parapet as a protective structure, stabilized the rifle pits, and provided fuel for cooking and heating. Trees growing on the hillsides above the works offered additional cover and concealment for the Confederate troops.

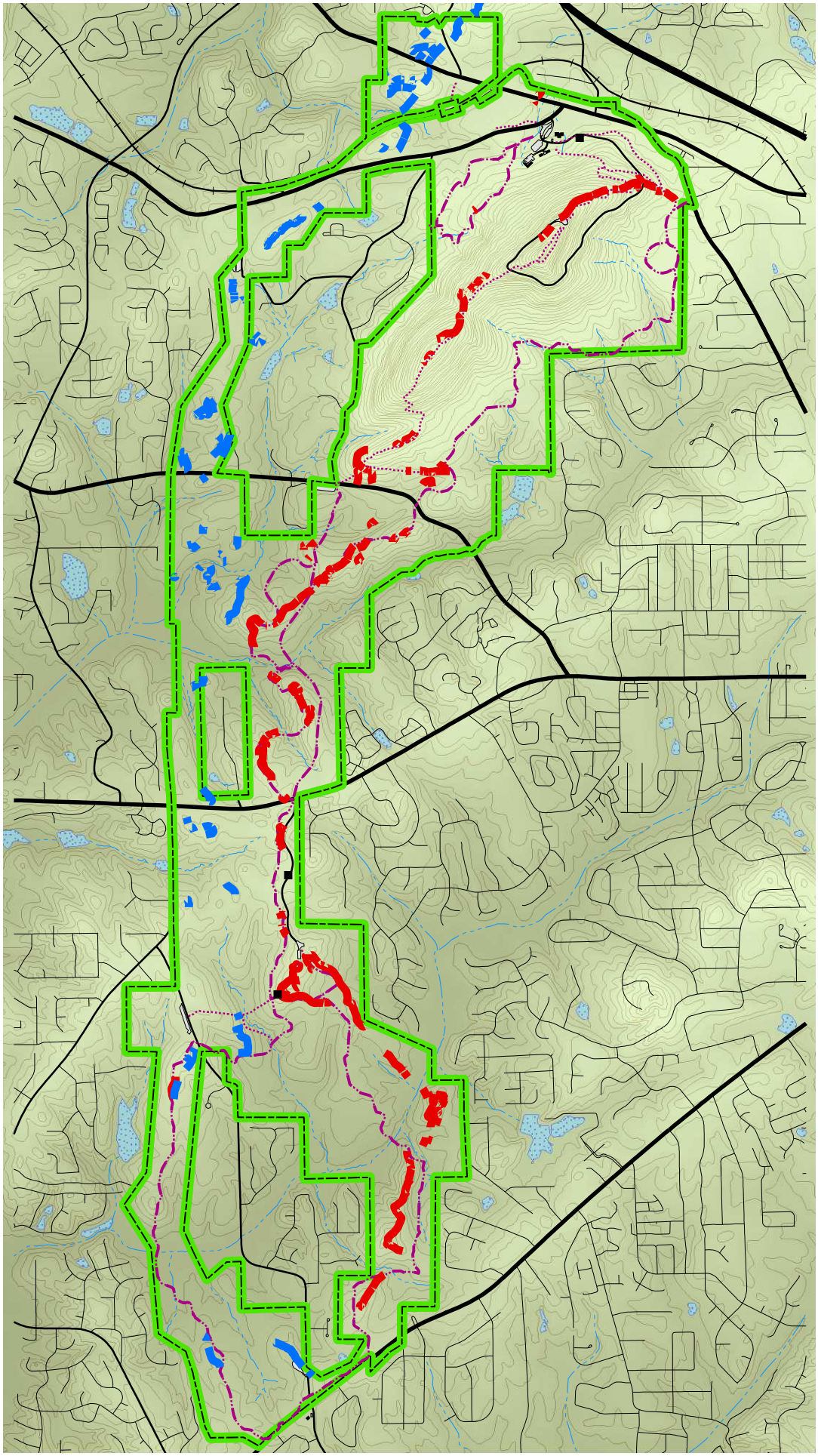
Surviving evidence of these earthworks today extends along the upper western slopes of Kennesaw and Little Kennesaw mountains and Pigeon Hill, along the eastern slope of Cheatham Hill, and south to Strahl's fort and beyond, continuing as far as Powder Springs Road (Figure B-24). Artillery played an important part in the Battle of Kennesaw Mountain; many of the battery positions survive today.

When the Union forces approached the Confederates positioned on Kennesaw Mountain, they dug their own system of trenches and fortifications for protection from Confederate fire. They, however, had substantially less time to design and construct their works than the Confederates, and the resultant structures may have been less sturdy and well-revetted.

FIGURE B-23. "Confederates dragging guns up Kennesaw Mountain. From the 'Valentine,' published by the Western & Atlantic Railroad Company."

The Union works formed a series of overlapping lines, rather than a single continuous line, with several large artillery batteries.[37] For the most part, the Union lines were positioned in low lying agricultural land along the western base of Kennesaw Mountain and parallel to the Confederate line to its west.[38] The Union line, like the Confederate line, included rifle pits for skirmishers in advance of the main parapet system.

37. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 34.
38. Ibid., 27.



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Legend

- Park Boundary
- Buildings
- Parking Lots
- Ponds
- Contours
- Streams
- Railroads
- Hiking Trail
- Equestrian Trail
- Monuments

Earthworks

- Confederate
- Federal

Roads

- Primary
- Secondary
- Residential

N

0 500 1,000 2,000 3,000 Feet

Figure B-24.

Kennesaw Mountain
National Battlefield Park
Earthworks Management Plan

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The role of earthworks in the events of June and July 1864 is expressed in the accounts of Federal officers involved, including this excerpt from the report of John A. Logan, Major-General and Commander of the 15th Army Corps:

> On the night of June 18 and 19, the enemy abandoned his line, and retired to a second line about two miles in the rear. His line in our immediate front was on the crest of Kennesaw Mountain proper, his skirmish line being at the foot of the mountain. On the 19th of June, I advanced my line to near the base of the mountain, and intrenched. On June 20th I remained in that position, with skirmishers and artillery engaged. From the 20th to the 25th, the position of my command remained unchanged, with severe skirmishing and artillery practice along my entire line. The enemy shelled my position from the summit of Kennesaw Mountain continually, doing but little damage.[39]

The report of Col. Oscar Malmborg, Chief Engineer of Operations, 55th Illinois Infantry, June 6–21, 1864, also provides descriptive information regarding the use of earthworks in the area:

> Captain: I have the honor to transmit the following report of the engineering operations of the 17th Corps from the 6th instant, when I, pursuant to orders, entered upon the duties as chief engineer officer of the corps up to the present state. On my return to the front in the evening of the 11th, I found the corps in line of battle, facing southeast, and intrenching along the edge of woods, about one mile and a half from Big Shanty, the right resting on the main road to Marietta [old U.S. 41] and the left on another road leading in an easterly direction, both diverging from Big Shanty. A belt of mostly open land intervened between our and the rebel lines of from 1,000 to 2,000 yards across, and intersected longitudinally by the Noonday Creek. Immediately in our front, extending from right to left and traversed only at two points by ravines, extended a ridge of moderate height, offering several advantageous positions for batteries, which were erected and armed during that night, and by the 15th, the day of our successful demonstration against enemy, a second line of works, from 400 to 600 yards in advance of the first, was ready and occupied, besides rifle pits still farther to the front for the protection of our skirmishers. After our occupation of the enemy's principal works on the 19th, they were at once remodeled wherever necessary, or new ones built roads and bridges [*sic*] across the Noonday Creek, which the heavy rains had raised to as to widen it by hundreds of yards beyond the natural banks.
>
> Every intrenching tool has been kept employed night and day; details from regiments have frequently relieved the hard-worked pioneer companies, all working well and cheerfully, encouraged by the presence, zeal, and attention of their officers from the division general down. With the limited supply of intrenching implements at our disposal, averaging less than six to a regiment, I beg to call your attention to the extraordinary amount of work accomplished. Estimate the aggregate number of linear feet of fieldworks of all kinds built by the corps since it took position in front of the enemy on the 11th instant at not less than 20,000 besides 2,000 feet of corduroy road, 150 feet of bridging, and six miles of road cut through the woods in rear of our first line. . . .[40]

Military Actions at Kennesaw Mountain, June 20–July 2, 1864

Sherman began his attack on the Confederate positions at Kennesaw Mountain on June 20 with a cavalry raid around the north end of the Confederate line along the railroad, and a simultaneous attack on the south end of the line along Powder Springs Road. Johnston countered by shifting troops under the command of Lt. Gen. John Bell Hood to reinforce and extend the south end of the Confederate line.[41]

Soon thereafter, on the morning of June 22, the Union forces advanced eastward, following Powder Springs Road. They were immediately challenged by two divisions of Hood's forces in an engagement that came to be known as the Battle of

39. Gresham, *Archeological Survey*, 9, from the *Official Records of the War of the Rebellion*, 1880–1901: 38 (3) 97–98.

40. Ibid., 558–560.

41. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 27.

Kolb's Farm. The Union troops quickly established fieldworks for cover against a Confederate counterattack. Although Sherman counted only 350 casualties to Hood's 1,000, he grew increasingly concerned about his plan to outflank the Confederate line to the south, and began to consider alternatives.[42]

Part of Sherman's ensuing strategy was based on reconnaissance of the Confederate line, which indicated that the Confederate troops were placed along a long line that extended south toward what is now Austell Road. Sherman determined that Johnston's army did not contain enough troops to man the entire line with strength, reporting on June 25, "I shall aim to make him [Johnston] stretch his line until he weakens it and then break through."[43]

Battles of June 27

The June 27, 1864, Battle of Kennesaw Mountain was comprised of military engagements that occurred concurrently at two locations: Cheatham Hill, and Pigeon Hill/Little Kennesaw Mountain. At Cheatham Hill, Federal forces under Gen. William Tecumseh Sherman were ordered to directly assault the so-called "Dead Angle" at the center of the Confederate line defended by Maj. Gen. Benjamin F. Cheatham. Despite the apparent military advantage to the attackers, Sherman's men received heavy fire, suffered heavy casualties, and failed in their attempt to take the Confederate position. They also lost the commander of the Third Brigade, Col. Dan McCook.[44] At Pigeon Hill/Little Kennesaw, Federal troops would also be thwarted by the commanding strength of the Confederate earthworks, and were forced to retreat under cover of night, after sustaining heavy losses.

The assault on Cheatham Hill was part of Sherman's synchronized, two-pronged direct frontal attack on the Confederate line, an approach which he had previously avoided in his efforts to reach Atlanta (Figure B-25). While Maj. Gen. John A. Logan's corps would attack the junction of Little Kennesaw and Pigeon Hill, a larger force would attack at Cheatham Hill, a mile to the south, all beginning at 8:00 a.m. Given the fact that the assaults were synchronized, it would be impossible for Confederate troops stationed in one area to aid in repulsing an assault on the other. Sherman had determined that the earthworks at Cheatham Hill were a weak point and presented an opportunity to break the Confederate line. The Union forces would attempt to concentrate their fire and attack on the apparently vulnerable Dead Angle. Unbeknownst to the Federal forces, however, the Confederates had established unusually deep trenches along the contour of the ridge, concealed artillery positions on either side of the bend, and placed extensive abatis supplemented by chevaux-de-frise in front to slow the approach of attackers to address the deficiencies in the salient's defense.[45]

FIGURE B-25. "General Sherman and General Thomas during the assault at Kennesaw Mountain, June 27, 1864. From a sketch at the time."

42. Ibid.
43. National Park Service, "Historical Base Map," Sheet No. 5-A, Federal Assault on Cheatham's Salient section.
44. National Park Service, *Long-Range Interpretive Plan* (Harpers Ferry, West Virginia: Harpers Ferry Center, Interpretive Planning, December 2010),2.
45. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 27.

Little Kennesaw Mountain and Pigeon Hill

At Little Kennesaw Mountain and Pigeon Hill (Figure B-26), Sherman found two areas of interest for planning the assault on the Confederate entrenchments: a salient south of the Burnt Hickory Road, and the southern end of Little Kennesaw Mountain, known as Pigeon Hill, both of which appeared vulnerable. The landscape encountered by Sherman's troops was a study in opposites. The steeply-sloped hillsides were covered in dense woods, while the lower-lying areas were relatively level and open where crop fields were cultivated. Burnt Hickory Road separated the two conditions. The wooded stream valley of the Noses Creek tributary, known today as Burnt Hickory Creek, snaked through the lower-lying areas approximately half way between the Confederate and Union lines. The Confederate skirmish line lay east of the creek.[46]

FIGURE B-26. Artist rendering of the June 27, 1864, Battle of Kennesaw Mountain. From a lithograph by Kurtz and Allison.

The Confederate line located along the south end of Little Kennesaw Mountain and Pigeon Hill was commanded by French's Division of Hardee's Corps, while the line below Burnt Hickory Road was formed by Walker's Division of Hardee's Corps. Together, these divisions totaled 7,289.[47]

Three Federal brigades, with forces totaling 5,500, were involved in the assault. Each brigade was ordered to charge the Confederate positions. They included Walcutt's Brigade, which was to charge the gap between Little Kennesaw Mountain and Pigeon Hill; Smith's Brigade, intended to take the Confederate positions on Pigeon Hill; and Lightburn's Brigade, which would work to break the Confederate line south of Burnt Hickory Road.[48]

Walcutt initially made good progress, moving quickly to the dense woodlands at the mountain's base and capturing the Confederate pickets without being detected. Soon, however, they encountered heavy musket fire, and were forced to halt in the woods and construct fieldworks to protect themselves. Several men picked their way up the slopes of one of Little Kennesaw's spurs, hiding behind rocks and trees, until they were in a position to fire down on Pigeon Hill.[49]

Smith divided his line into two in his attack on Pigeon Hill. Initially protected by the cover of heavy woods north of the York House, they suddenly encountered Confederate pickets as they crossed a small stream. Escaped pickets reached the Confederate position on Pigeon Hill before Smith's lines, preparing them for what was to come. As Smith approached the waiting enemy, he was met with a discouraging site—a nearly unassailable Confederate position composed of a steeply-sloped hillside crowned with strong fortifications. Smith's division was immediately fired upon and forced to fall back to safety. Here, at the base of Pigeon Hill, they built a line of earthworks for their protection. Those who reached the hilltop had taken cover behind rocks or in crevices; they would be unable to retreat until dark when they could move undetected before the muskets of the Confederates.[50]

While Smith was thwarted at Pigeon Hill, Lightburn approached the Confederate line across cleared fields and the wooded bottomlands associated with Burnt Hickory Creek. Although they made good progress across the field and were able to reach and capture numerous pickets stationed in the wooded stream valley, the cleared

46. National Park Service, "Historical Base Map," Sheet 5-B.
47. Ibid.
48. Ibid.
49. Ibid.
50. Ibid.

area beyond was in the direct line of the Confederate artillery positioned on Little Kennesaw Mountain. Unable to move forward, they were forced to remain in the woods and occupy the site of the former Confederate picket line.[51]

Despite their well-laid plans, the Federals were thwarted in their attempts to reach the Confederate earthworks at Kennesaw Mountain. In the attempt, they lost nearly 10 percent of their engaged forces, including thirty officers.[52]

Cheatham Hill

To the south, Sherman had amassed 9,000 federal troops in five brigades, who were poised to approach the Confederate earthworks on a knoll referred to today as Cheatham Hill for its defense by Cheatham's Division, through an area of open fields and forested land (Figure B-27).

FIGURE B-27. Confederate defensive earthworks at Cheatham Hill.

The Confederate earthworks were generally well constructed and included headlogs, protection against enfilading fire known as defilades, and abatis, although the salient attacked by Davis's Division did not feature abatis or a frontal ditch. The Confederates also maintained a ten-gun battery on the ridge behind Cheatham Hill.

The division commanded by Maj. Gen. John A. Newton, which included three brigades, was to attack the west-facing portion of the line, while two brigades led by General Mitchell would focus on the center of the Confederate line. Of his three brigades, Newton initially sent two, with Brig. Gen. Charles Harker on the right and Brig. Gen. George D. Wagner on the left. The men formed up in dense columns to increase their chances of a breakthrough of the Confederate line. However, in this formation, only the front line would be able to fire effectively, and as a whole they presented a substantial target for the Confederates. As soon as they emerged from the forest below the Confederates, the Federal forces were assailed by the heavy fire of both infantry and artillery positions along the line, which slowed their progress. Harker, the only commander to enter the field on horseback, was killed trying to rally his troops for a second attack. A few men were able to break through the line of abatis and reach the base of the Confederate works. Newton subsequently ordered his third brigade, under the command of Brig. Gen. Nathan Kimball, to advance. Similarly unsuccessful, only a few of Kimball's men reached the Confederate works, where they were either killed or captured.[53]

At the same time, two brigades of the Union army under the command of General Davis attacked the center of the Confederate position on Cheatham Hill. The first brigade was commanded by Col. Daniel McCook, while the second was led by Col. John G. Mitchell. Between the Union forces and the center of the Confederate line lay a wheat field that offered little in the way of protective cover. As soon as they were visible to the Confederates, the Union troops were subject to intense fire similar to that experienced by Newton's division to the north. During the assault, the heavy gunfire set the nearby woods on fire, and Federals retreating to the protection of the treed areas were in danger of burning alive.[54]

51. Ibid.
52. Ibid.
53. National Register nomination, Section 8, page 27.
54. National Park Service, "Historical Base Map," Sheet No. 5-1, Federal Assault on Cheatham's Salient.

McCook's Brigade charged directly toward the salient. Moving in double quick step, but exposed to heavy fire, McCook's men raced up the hillside. During the charge, General McCook was mortally wounded as he led his column, falling a few steps from the Confederate works. Col. O.F. Harmon quickly assumed command, but less than five minutes later was also mortally wounded near the Confederate line. Unable to scale or breach the Confederate works, the remaining men of the brigade sought shelter within a depression under the crest of the hill. The Confederates, unable to fire upon the Union soldiers, pelted their position with stones. Given the raking Confederate fire, the men positioned in the depression were also unable to retreat. Instead, they chose to improve their position with hastily-constructed entrenchments, using tin cups and bayonets to facilitate their excavation work. By the end of the day, they had established relatively strong works and determined to hold them. From their position near the Confederate line, the Union soldiers initiated work on a mine that they hoped could be used to explode gunpowder and breach the earthwork at the Dead Angle.[55] Although this effort was not successful, the Union soldiers remained in the position in a stalemate with the Confederates entrenched nearby for nearly a week.

On June 27 alone, the casualties suffered by Sherman's forces totaled 3,000, while Johnston's division registered less than 1,000. Sherman, determined to avoid similar defeats, devised a new strategy to continue his forward motion toward Atlanta involving continued flanking movements. The small area gained during the battle by Maj. Gen. John M. Schofield at the south end of the line near the Kolb Farm provided the opening needed for the Union cavalry to continue south toward the Chattahoochee River.

June 28–July 2

In the days following the battle, Sherman determined to reinforce Schofield's sector of the line and, in so doing, to probe the possibility of returning to his earlier flanking strategy. Unable to counterattack from his entrenchments, Johnston was forced to retreat to avoid being outflanked. On July 2, the Confederates withdrew from Kennesaw Mountain to a position around Smyrna Station four miles southeast of Marietta. On July 4, unhappy with the terrain, Johnston moved again, this time to the north bank of the Chattahoochee River. After Union cavalry were able to cross the river upstream of Johnston's main position, the Confederates were forced to retreat again, this time across the river to the outer defenses of Atlanta on July 9. After a series of battles in July and the bombardment of the city by Union artillery throughout August, Sherman decided to abandon his lines and move counterclockwise around the city, cutting the railroad connections to the south. On September 1, with all railroads in Union hands, the Confederates were forced to surrender the city.[56]

55. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 27.

56. Ibid., 28.

Post-Battle Landscape

After the Civil War, local residents returned to their agrarian lifeways, but with the fundamental difference that a labor force of slaves no longer existed. Stands of pine grew up to replace the hardwoods removed from Kennesaw ridge by the Confederate soldiers in 1864, while the lower-lying terrain was intensely cultivated. Farmers began to practice soil conservation measures including terracing their fields. Over time, as agricultural technology improved, farmers expanded the area under cultivation, eventually destroying several segments of Union earthworks.

Beginning in 1899, veterans of the Civil War, including survivors of the brigade led by fallen commander Col. Dan McCook, initiated efforts to commemorate the military events at Cheatham Hill during the Battle of Kennesaw Mountain, forming the Colonel Dan McCook Brigade Association. One of the members of the Association subsequently purchased 60 acres of land at Cheatham Hill in support of the endeavor, including the location where McCook was killed. He later transferred the tract to the Association. This group was later superseded by the Kennesaw Mountain Battlefield Association, a non-profit organization chartered under the laws of the State of Illinois for the purpose of erecting a monument on the site. After years of fundraising, monument design, and construction, the Illinois Monument was unveiled on the fiftieth anniversary of the battle on June 27, 1914.

Within two years, however, the members of the Kennesaw Mountain Battlefield Association recognized that they were in possession of insufficient funds to restore the battlefield as they had planned. Hoping to find a suitable entity to manage the property, they wrote to the Secretary of War, offering to transfer title to the 60-acre parcel at Cheatham Hill to the U.S. government. Due to the fact that the Secretary of War could not accept the property without prior authorization by Congress, Rep. Joseph G. Cannon of Illinois was tasked with introducing a bill to facilitate transfer of the battlefield land. On February 8, 1917, Congress passed a bill authorizing the establishment of Kennesaw Mountain National Battlefield Site. It would be another nine years before the U.S. government could secure clear title to the property so that it could be transferred from the association.

Once clear title was assured, additional legislation was passed on April 5, 1926, authorizing inspection of the battlefield to determine whether it met the criteria for becoming a national military park. A three-man commission that included an officer of the Army Corps of Engineers and a veteran of each of the opposing armies met in Atlanta on June 25 to initiate the inspection. During their visit, they compared Kennesaw with the nearby battlefields of Lost Mountain, New Hope Church, and Peachtree Creek. All three voted to pursue national military park designation for Kennesaw Mountain. In addition to the 60-acre Cheatham Hill parcel, they recommended that an additional 1,050 acres be set aside for the park that included Kennesaw and Little Kennesaw mountains, and the ridgeline between them. Proposed and existing development in the area contributed to a higher than anticipated price for acquisition of the key parcels; an appraisal by the Atlanta Real Estate Board indicated that the land might cost as much as $307,550. Parts of the lower reaches of Kennesaw Mountain had been laid out in building lots, with 130 of these having been provisionally sold for $350 to $550 each. Tracts adjoining Highway 41 were also considered developable and were more expensive. Working through the Marietta Chamber of Commerce, the commission obtained one-year options on some of the recommended lands. Despite the commission's findings and recommendations, the several bills introduced into Congress over the next nine years to establish a national military park at Kennesaw failed to gain sufficient support and did not pass.[57]

Meanwhile, the 60-acre parcel at Cheatham Hill was placed under the jurisdiction of the U.S. War Department. The site was administered by the Superintendent of the Marietta National Cemetery and the Atlanta Quartermaster Office of the Fourth Corps Area. Little in the way of funds was appropriated, however, to improve or even

57. National Park Service, Team Long-Range Interpretive Plan, 3.

maintain the parcel for the first five years that the site was under the stewardship of the War Department. It was not until June 8, 1931, that the Acting Inspector General was able to visit the site. Alarmed at its condition, the Inspector General recommended that a caretaker be appointed to manage the site, that it be surveyed, the boundaries marked and fenced, and that the Illinois Monument be cleaned and repaired. To accommodate these recommendations, a $500 appropriation was allocated for hiring a part-time caretaker for the site in 1932, and to estimate the cost of surveying, fencing, and repairs. Another $500 was dedicated to repairing the monument. The War Department also determined the need for a new approach road, fences, and a gate that would facilitate access to the site.[58]

By the time of the Inspector General's second inspection of the site in June 1933, a caretaker had been appointed, an entrance road had been constructed from John Ward Road, and barbwire fencing had been installed along portions of the site boundary. The Inspector General recommended additions and changes to the site, including completion of the boundary fencing, construction of a better road, clearing of underbrush around the monuments and trenches, and at least partial restoration of the earthworks. These recommendations were not specifically carried out as the property, along with all of the historic properties under the administrative responsibility and care of the U.S. War Department, were transferred to the administrative responsibility of the National Park Service in August 1933.

Two years later, the concept of establishing a national military park at Kennesaw became a reality when the site was renamed Kennesaw Mountain National Battlefield Park. Plans for the new park included winding trails and drives, additional commemorative monuments, and general beautification of the property.[59] Property acquisition began in earnest after 1934.

The designated purpose of the national battlefield park was to: "Provide for the ascertainment and marking of the route of the Union and Confederate armies from Chattanooga, Tennessee, through Georgia, and of principal battle lines, breastworks, fortifications, and other historical features along such route, and for the maintenance of such markers to such extent as deemed advisable and practicable."[60]

Under the Civil Works Administration and later the Civilian Conservation Corps (CCC), the federal government worked during the 1930s and early 1940s to correct the soil erosion problems at Kennesaw caused by post-Civil-War farming. Work included tree, grass, and vine planting on park lands to establish landcover over bare earth, terracing, and stream bank rehabilitation. The CCC workers also constructed much of the existing park trail system, and were early stewards of the earthworks, advising visitors to avoid accessing the historic structures. Today, much of the planting, repair, and stabilization work conducted by the CCC remains in evidence within the landscape.

The patchwork of open fields and wooded areas that characterized this agricultural area in 1864 is now decidedly more wooded, because most agricultural production has ceased and many fields have been released to forest succession. Many infantry and artillery positions that were once situated in clearings with commanding views of the landscape now stand in the midst of mature, second-growth trees.[61] Much of the earthworks system survives today.

58. Ibid.
59. Ibid.
60. 16 USC sec. 430 from National Park Service, Team Draft *Long-Range Interpretive Plan*, Legislation section.
61. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 34.

Historic Significance

Kennesaw Mountain National Battlefield Park was first listed in the National Register of Historic Places on October 15, 1966, as part of the National Historic Preservation Act. A detailed nomination for the property was completed in 1995 that identified the park as a historic district. The nomination indicated the historic district as significant for its associations with the important Civil War battles of Kolb's Farm and Kennesaw Mountain, and as a commemorative property developed by veterans and others beginning in 1899 to mark, protect, and honor the hallowed ground of the battlefield.

Under the Military area of significance, the Battle of Kennesaw Mountain was a major battle that witnessed some of the heaviest fighting of the Atlanta Campaign and held important military and political implications in the final phases of the Civil War.

Kennesaw Mountain National Battlefield Park is the single largest and most highly developed publically-accessible battlefield site associated with the Atlanta Campaign. Other related sites include:

- **Pickett's Mill Battlefield State Historic Site.** Pickett's Mill is a 765-acre state-owned historic park west of Kennesaw Mountain National Battlefield Park in Dallas, Georgia, that protects the site of the May 27, 1864, Battle of Pickett's Mill. The state describes the site as "one of the best preserved Civil War battlefields in the nation. Visitors can travel roads used by Federal and Confederate troops, see earthworks constructed by these men, and walk through the same ravine where hundreds died. . . . The Confederate victory resulted in a one-week delay of the Federal advance on Atlanta."[62]

- **Resaca Battlefield State Historic Site.** A 512-acre parcel associated with the May 13-15, 1864, Battle of Resaca, is in the process of being developed as a state park, open and interpreted to the public. Resaca is located northwest of Kennesaw Mountain National Battlefield Park.

- **Gilgal Church Battlefield.** Gilgal Church is a 20-acre site protected but not currently interpreted by the Atlanta History Center. The church, destroyed during the June 14, 1864, battle, was located west of Kennesaw.

- **Battle of Cassville.** This site is a small, state-administered park located in Barstow County that commemorates the May 18, 1864, clash between forces commanded by Confederate General Johnston and Union Lieutenant General Schofield.

- **Johnston's River Line, Cobb and Smyra Counties.** These are portions of Johnston's River Line along the Chattahoochee River currently contained within land owned and protected by the Cobb and Smyrna Counties. The River Line earthworks were constructed in June and early July 1864. The Confederate segment contained unique fortifications called Shoupades, after their designer Brigadier General Francis Shoup, Chief of Artillery for the Army of Tennessee. The Federal earthworks constructed opposite the Confederate line were occupied for a week until Federal crossings of the Chattahoochee River farther north led to another Confederate withdrawal.

- **Tanyard Branch Park.** This is a small urban park that includes several large markers that commemorate the action associated with the Battle of Peachtree Branch that occurred on July 20, 1864.

- **Mozley Park.** This is another small urban park that commemorates battle events associated with the Atlanta Campaign. The July 28, 1864, Battle of Ezra Church occurred on and nearby this park land and is interpreted through a series of markers.

62. Georgia Department of Natural Resources, "Pickett's Mill Battlefield Historic Site," <www.gastateparks.org/net/go/parks.aspx?LocationID=36&s=0.0.1.5>, accessed July 4, 2010.

The park landscape contains several historic landscape resources that contribute to its significance, such as earthworks, circulation routes, landform and topography, water resources, field and forest patterns, a single antebellum dwelling, and views. The earthworks in particular are significant physical vestiges of the Union and Confederate campaigns at the Battle of Kennesaw Mountain that clearly indicate the areas of combat and engagement. Several roads that extend through the park are known to have been present at the time of the battle and continue to be used for vehicular traffic, including visitors to the park. These include Gilbert, Old John Ward, Stilesboro, Dallas, Old Mountain, and Burnt Hickory roads. Stilesboro, Dallas, and Burnt Hickory roads served as transportation corridors for the approaching armies. The Old Antebellum Road, which was used by the Confederates to haul artillery to Kennesaw Mountain's summit, also survives as a trace, as does the Marietta-Cassville Road.[63] Commemorative markers at Cheatham Hill, particularly the Illinois Monument, also contribute to the park's significance as representations of the efforts of Illinois veteran organizations between 1899 and 1917 to recognize the participants in the battle.[64] Cheatham Hill Drive, Kennesaw Mountain Drive, the CCC camp road, and the CCC road to the summit of Kennesaw Mountain are also significant resources that contribute to the early park development period.

Although not currently listed in the National Register of Historic Places under Criterion D, the earthworks within the bounds of the park are potential archeological resources that are likely to yield important information about Civil War-era occupation and the military events associated with the Battle of Kennesaw Mountain in June and July 1864.

The role of the battle in the Atlanta Campaign, the grand strategy of the war, battlefield tactics, and the life of the average soldier are represented by these resources.

63. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 24.
64. Ibid.

Integrity

Overall, the integrity of the park landscape remains high due to the numerous surviving resources that may be tied to the 1864 battles, such as eleven miles of Civil War earthworks; landforms and topography; Kolb House and cemetery; antebellum roads such as Stilesboro, Dallas, Burnt Hickory, and traces of the Old Antebellum Road and the Marietta-Cassville Road; and the Western & Atlantic Railroad line.

The condition and historic integrity of individual earthworks segments varies, however, with some sections retaining a more distinct profile than others. The more intact earthworks contain their original front and rear ditches and a well-defined parapet wall.[65] Segments exhibiting a greater degree of erosion have lost soil from the parapet through the effects of gravity and storm water washing particles downslope to fill the ditch, or have been affected by cultivation and plowing. Most of the surviving earthworks are currently in stable condition, with tree cover and leaf litter checking erosion.

Tree cover currently extends over most of the park's earthworks. While this in and of itself may be seen as diminishing the integrity of the earthworks by establishing a non-historic condition and obscuring the patterns of spatial organization characteristic of the battle, changes in vegetation are considered a reversible condition that does not necessarily lead to a loss of integrity. According to *National Register Bulletin 40: Guidelines for Identifying, Evaluation, and Registering America's Historic Battlefields*,

> Battlefields cannot be frozen in time. . . . Even where efforts to preserve the battlefield were initiated almost immediately, as at Gettysburg, it proved impossible to perpetuate the scene in the exact form and condition it presented during the battle. Instead, Gettysburg presents several layers of history, including its post-battle memorialization. The best-preserved battlefields appear much as they would have at the time of the battle, making it easy to understand how strategy and results were

65. Ibid., 35–36.

> shaped by the terrain. All properties, however, change over time and nearly all battlefields will contain non-contributing properties. The impact of non-contributing properties on a battlefield as a whole depends not only on their number, but also on their nature and location and the size and topography of the battlefield. While this is a subjective judgment, there are some general principles for assessing integrity. If the type of non-contributing property reflects a continuing layer of development of traditional land use, then the impact of these properties may not be as great as that of modern properties that do not reflect the historic use of the land. For example, in battlefields located in rural or agricultural areas, the presence of farm related buildings dating from outside the period of significance generally will not destroy the battlefield's integrity. It is important that the land retain its rural or agricultural identity in order for it to convey its period of significance. The impact of modern properties on the historic battlefield is also lessened if these properties are located in a dispersed pattern. If a battlefield is characterized by rolling topography, the impact of later non-contributing properties may also be lessened. The covering of former open fields with trees is a natural and reversible alteration to the landscape. *If it can be demonstrated that, despite the forestation of an area, the battle took place in that particular spot, then the battlefield retains integrity of location.*[66]

Park management has elected to retain the existing woodland cover and interpret this change in landscape character due to the efficacy of the woodland cover in protecting the earthworks from erosion.

In limited areas, the integrity of the earthworks has also been compromised by visitor impacts. This is particularly problematic atop Kennesaw Mountain, at Pigeon Hill, and at Cheatham Hill, the park's most visited attractions aside from the visitor center. On Kennesaw Mountain, a popular destination for visitors, trails closely edge artillery positions to provide access for visitors. Despite protective fencing that has been placed around some of these earthworks, visitors continue to climb and walk on the resources. Elsewhere, there is evidence that visitors leave the trails that edge or follow the alignment of the earthworks to walk along the crest of the parapet walls. Pigeon Hill in particular is suffering from overuse of a steeply-sloped trail, and visitors leaving the trail to walk directly on the earthworks. These actions lead to erosion and diminished resource integrity.[67]

66. Patrick W. Andrus, *National Register Bulletin 40: Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields* (Washington: U.S. Government Printing Office, 1992), 11–12.

67. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 36.

Historic Context

Consideration of the military events that occurred at Kennesaw Mountain in June and July 1864 illustrate the key role that earthen fortifications had come to play by the final year of the Civil War. Although officer training at military academies such as West Point included military engineering, and both armies at Kennesaw were aware of the use of fortifications in battle, their use increased greatly over the course of the Civil War. The standard manual used by both Confederate and Union engineers at the time of the Civil War—*A Complete Treatise on Field Fortification with the General Outlines of the Principles Regulating the Arrangement, the Attack, and the Defence of Permanent Fortifications*—was developed by West Point professor Dennis Hart Mahan in 1836, and updated in 1845. Mahan's writings on field fortifications were key to the strategies employed by both Confederate and Union officers in the Civil War, and later adopted by military engineering educational programs in the United States. While Mahan was not a theorist, he introduced and interpreted the best European models in trench warfare to American military students. Additionally, his methods advanced the practice of using topography and terrain to gain advantage on the battlefield.

As noted by David Lowe and Paul Hawke in *05 Currents: Sustainable Earthworks Management*,

> American officers entered the Civil War with two conflicting military doctrines. The first hearkened back to Napoleon's reliance on mobility, surprise, and attack; the second favored the entrenched defense. . . . In Jomini's terms, the debate raged between a "modern" system of rapid marches and the old system of a war of positions. The Union Army of the Potomac's Chief of Artillery, O. E. Hunt, wrote:
>
> > At the beginning of the Civil War, the opinion in the North and South was adverse to the use of fieldworks, for the manual labor required to throw them up was thought to detract from the dignity of a soldier. . . . The epithet of dirt-diggers was applied to the advocates of entrenchments. Expressions were heard to the effect that the difference ought to be settled by a fair, stand-up fight in the open.
>
> By 1864, "dirt diggers" predominated on the battlefield, whether due to war weariness or to combat experience. Historians suggest that both sides fell into "an escalating spiral of ritualistic trench-building" that eventually strangled the doctrine of mobility—all due to the overweening influence of Mahan and his trench-obsessed engineers. Some suggest that the spade overcame the bayonet because of a discipline failure and loss of the will to attack. The fact remains, however, that hasty entrenchments, ritualistic or not, significantly improved the combat value of the landscape. Defenders increased the effectiveness of their fire and their survival odds by digging. Most units entered the war armed with smoothbore muskets, but by 1864, both sides had equipped their front-line troops with rifle-muskets with longer and more accurate range. A few elite Federal units carried expensive repeating rifles—Spencers and Henrys—that could lay down a tremendous volume of fire. Entrenching, for the common soldier, became the rational response to the increasing lethality of the battlefield.
>
> Because military earthworks and the Civil War are inseparable, there is no easy synopsis of the critical role this technology plays in the progress of the war. Mahan's prediction that entrenching would dominate future American battlefields has its proof in the Civil War landscape (Wilderness, Spotsylvania Courthouse, and Kennesaw Mountain to name a few). It is true that the type of earthworks constructed during the Civil War look backward to the eras of Vauban and Napoleon as much as they herald future efforts and forms. The greatest number of surviving earthworks in America date to the Civil War, which is not surprising. By war's end, as witnessed in the siege of Richmond and Petersburg, the world is offered a sobering glimpse into the twentieth century and the terror of trench warfare.[68]

68. David Lowe and Paul Hawke, "A History of Earthworks in the United States," in *05 Currents: Sustainable Earthworks Management* (Draft 02/02/2000, page 16), <www.nps.gov/hps/hli/currents/earthworks>.

Earthworks Design and Construction

Military earthworks are variously referred to as entrenchments, fortifications, breastworks, fieldworks, and trenches (Figure B-28). Earthworks are linear features that reflect the deployment of military formations on the ground. The underlying premise of the earthwork is that it places a barrier between an army and its enemy. During the Civil War, earthworks were sited according to principles of military engineering such as that taught in military academies such as West Point.

The entrenched landscape was designed as a spatially ordered composition and a clearly-marked sequence of components: earthen fortification (salient, traverse, ditch, dam, parapet with log revetment and notched headlogs, redans, and batteries); forward lines of defense (abatis, cabled brush, and chevaux-de-frise) placed in an open field (glacis) that constituted the initial field of fire; and beyond, the picket line of rifle pits. Secondary components of the landscape included "sinks," sewage holes in front of the abatis; internal circulation connecting elements of the fortification line and the picket line known as military roads; bombproofs or underground and covered spaces to protect soldiers from incoming fire; encampment areas; and magazines and munitions storage and supply areas, to name a few.

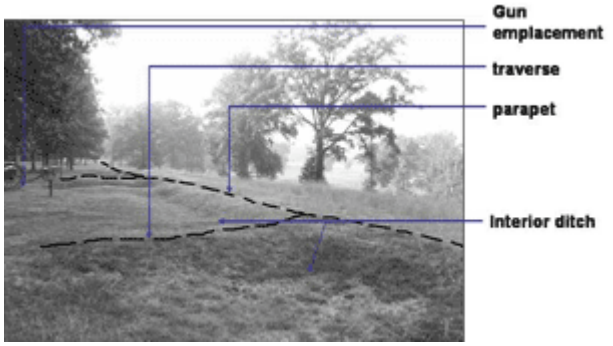
Earthworks design and construction was overseen by military engineers.[69] During the Civil War, most military engineers followed the direction laid forth by Dennis Mahan in his 1836 manual, *A Complete Treatise on Field Fortification, with the General Outlines of the Principles Regulating the Arrangement, the Attack, and the Defense of Permanent Works*, which was designed to be taken in the field.[70] The manual suggested that "[T]he Military Art, in all its branches, is founded upon a comprehensive and thorough knowledge of the exact and physical sciences; and in no one branch is the importance of this knowledge more felt, than in that of Engineering."[71] Mahan's explanation for the use of "intrenchments" was linked to a defensive strategy aptly defining the Confederate position around Atlanta:

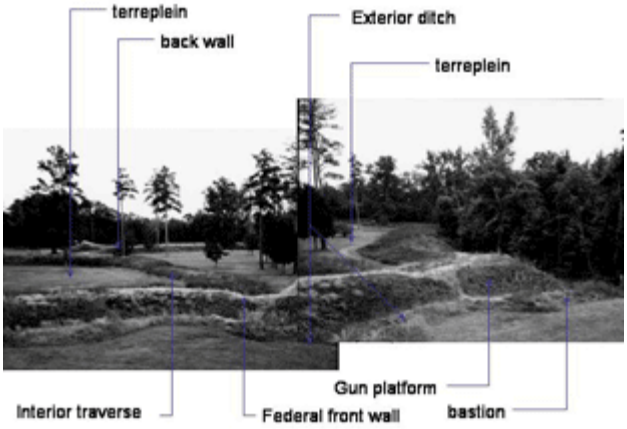
> All dispositions made to enable an armed force to resist, with advantage, the attack of one superior to it in numbers, belong to the *Art of Fortification* . . . when the position is to be occupied only for a short period, or during the operations of a campaign, perishable materials, as earth and wood are mostly used, and the works are denominated *Temporary* or *Field Fortification.*[72]

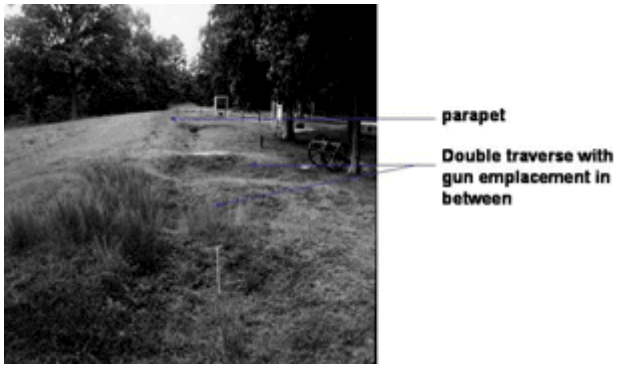
The primary components of earthworks are the parapet and ditch. Although earthworks take many forms, the primary construction method encompasses the establishment of a mounded earthen wall intended to protect the positions of artillery or infantry. The protective embankment or mound, the parapet, is formed of earth constructed from borrowed material excavated from a ditch. In constructing the earthworks, soldiers would line up along the designated fieldwork position and excavate the soil for the parapet area using available shovels, picks, cups, bayonets, and whatever else might be available and at hand. Simple field fortifications could be constructed in an hour or two.

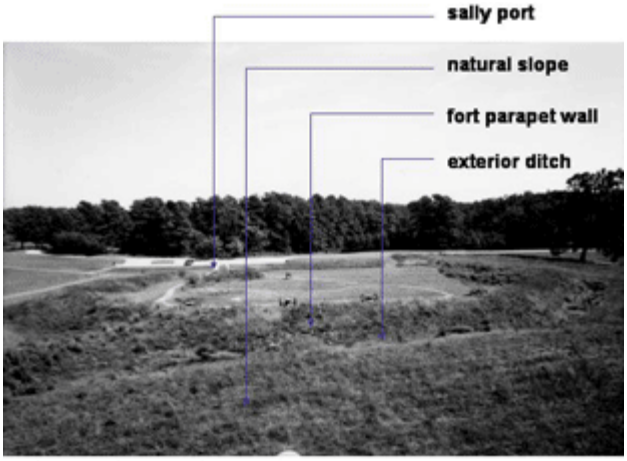
69. Discussion adapted from Liz Sargent, ASLA, in West Main Design Collaborative, PC, "Fieldworks Landscape Management, Pamplin Park Civil War Site" (Charlottesville, Virginia: Pamplin Park Civil War Site, 1996).
70. D. H. Mahan, *A Treatise on Field Fortification with the General Outlines of the Principles Regulating the Arrangement, the Attack, and the Defense of Permanent Works*, (New York: Wiley and Putnam, 1846 ed.).
71. Ibid., viii.
72. Ibid., 1.

Diagrams Showing Fortification Parts









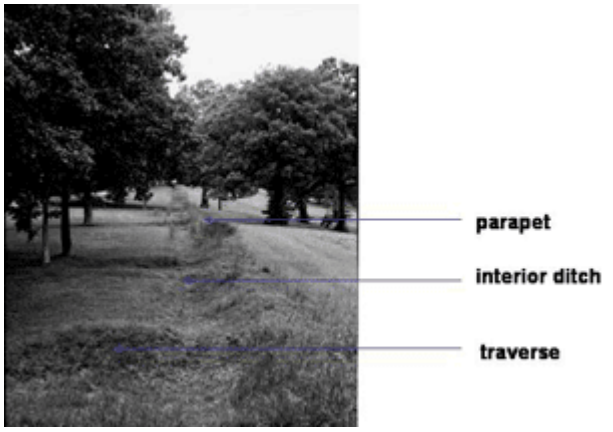


Figure B-28.

The earth thrown atop the growing parapet was excavated in accordance with the design of the earthworks. As noted above, earth was either excavated from in front of the parapet to create an exterior ditch that served as an obstacle to approach by an attacking army, or from the rear to form an interior ditch that provided additional cover for those positioned behind the parapet. Rear-ditch construction was the simplest and most common method used during the Civil War. Sometimes, ditches were established both in front and to the rear of the parapet resulting in double ditch construction.

Because the engineering properties of soils and local materials varied, parapets were often reinforced or strengthened with revetments fashioned from logs, stone, brick, sandbags, fence rails, or gabions. When constructing earthworks with frontal ditches, soldiers typically first established a revetment retaining wall of logs or other structural materials and piled soil on top from the excavation of the ditch. The front ditch was typically deeper than that used to the rear of the parapet, between six and ten feet or more. The combination of the revetment and the extra soil allowed for the construction of a higher and wider parapet. This type of fortification was stronger and more permanent than the rear ditch type, and was often used when there was more time available. It was always used for detached works, such as redans and redoubts, and was typically also used for artillery batteries. Double-ditch construction was used to accommodate special conditions such as uneven terrain, add bulk as needed to an existing rear ditch work, or add a covered way behind a frontal ditch type fieldwork. It was also used when an enemy work was captured and reoriented to convert the rear to the front.

Lines of earthworks ranged from a few feet to many miles in length. The width of the system depended on the complexity of the work and the anticipated power of incoming fire, although earthworks generally ranged in width from about 10 to 40 feet.

The earthen parapet could be built as a line facing the direction in which the soldiers manning the earthwork intended to point their rifles, or could include angled projections to fire in more than one direction. Several specialized features were designed by military engineers to adapt the basic parapet and ditch system to the profile and specific conditions of the site. These are referred to as salients, redans, redoubts, lunettes, and traverses. Redans, lunettes, and redoubts included parapets oriented in various directions, with angled connections. These were typically built with a frontal ditch. Redans were open to the rear, while redoubts formed closed polygons. A lunette was half-moon-shaped. All of these earthworks were typically used to emplace artillery; long straight segments that connected artillery positions called curtains often included frontal ditches to maintain the strength of the position, and were manned by infantry. Infantrymen could stand within the rear ditch and fire over top of the parapet, which usually reached 3 to 5 feet in height. Some earthworks were linked by excavated communications trenches or covered ways that allowed protected movement between positions.

One of the most important components of the field fortification system was the gun platform that would allow artillery to be emplaced along the main line. Mobile or field artillery was often entrenched individually behind crescent-shaped parapets known as demilunes. These features were generally between 12 and 15 feet across, large enough to accommodate the gun and its crew. Guns emplaced together in a group of four to six were known as a battery. Guns were fired either across the top of the parapet (*en barbette*) emplaced atop a mound of earth, or through a specially-constructed opening known as an embrasure from a ramped platform. The platforms were typically lined with planks or split logs used to create a level surface.

Also often associated with the main line of fortifications were traverses, short parapet sections extending perpendicular from the parapet to the rear. Traverses were built to prevent enemy enfilading fire from sweeping down the length of a trench and inflicting heavy casualties, or to allow for a position to fire on enemy troops that might overrun the parapet. Traverses were also used to separate the guns entrenched together to form a

battery. Similar to traverses, balks were earthen berms or areas left undug within a ditch system. Balks were typically used either to support structural members or to separate units stationed along the line.

Other features associated with a complex of field fortifications included secondary defensive lines, feeder trenches, and military roads. The longer a military unit remained stationed in association with a line of earthworks, the more elaborate the fortification system was likely to become. There were often command posts and hospitals, supply caches, and bombproofs that protected soldiers not on duty. Soldiers also constructed dugouts, shelter holes, or fire pits behind the lines. A line of picket or skirmish holes was typically located between 50 and 200 yards in front of the main line to guard against a surprise assault.

National Park Service military historian David Lowe notes that:

> Soldiers build earthworks today as they did in ancient times—to defend a fixed position, to enable a smaller number of defenders to resist a larger number of attackers, or to seal off an enemy town or strong point.[73]
>
> While modern soldiers may use bulldozers or backhoes, historically, soldiers or laborers dug earthworks with shovels, picks, or ad hoc tools. . . . Over time, the form and complexity of military earthworks evolved in direct response to artillery technology.
>
> The expertise to construct military earthworks was brought to America by the first professional soldiers and these structures came to play a vital role in nearly every conflict fought on American soil. Like the armies who built them, American military earthworks were adaptations of European models. Therefore, earthworks found in our nation's battlefield landscapes have connections to a long military tradition reaching back to classical times.[74]

The engineering principles in practice at Kennesaw were based, as noted above, on European models and their interpretation for American military personnel by West Point professor Dennis Mahan, who describes the various elements comprising the system, and their roles, as follows:

> . . . the component parts of every intrenchment should consist of a covering mass, or embankment, denominated the *parapet*, to intercept the enemy's missiles, to enable the assailed to use their weapons with effect, and to present an obstacle to the enemy's progress, and of a *ditch*, which, from its position and proximity to the parapet, serves the double purpose of increasing the obstacle which the enemy must surmount before reaching the assailed, and of furnishing the earth to form the parapet.[75]
>
> The *banquette* is a small terrace on which the soldier stands to deliver his fire; the top of it is denominated the *tread*, and the inclined plane by which it is ascended the *slope* . . . . The tread of the banquette is placed four feet three inches below the interior crest; this will admit men of the lowest ordinary stature, to fire conveniently over the parapet. Its width is two feet for a defence with one rank....The tread of the banquette should receive a slope of two inches to the rear to drain off the surface water.[76]
>
> A *revetment* consists of a facing of stone, wood, sods, or any other material, to sustain an embankment, when it receives a slope steeper than the natural slope . . . *Plank revetment* [comparable to the log revetment described] may be made by driving pieces of four-inch scantling about three feet apart, two feet below the tread of the banquette, giving them the same slope as the interior slope. Behind these pieces, boards are nailed to sustain the earth.[77]
>
> The troops may be drawn up for the defence [*sic*] either in one, two, or three ranks; and there should moreover, be a reserve proportioned to the importance attached to the work. The free interior space, denominated the *terre-parade plein* should be sufficiently great to lodge the troops, with the cannon and its

73. Ibid., 2.
74. National Park Service, "Historical Overview; General History" in *05 Currents: Sustainable Earthworks Management*, <www.nps.gov/hps/hli/currents/earthworks>.
75. Ibid., 2.
76. Ibid., 3, 21–22.
77. Ibid., 36, 40.

> accessories, and will therefore depend on the nature of the defence.[78]

Several types of artillery and rifle fire were to be accommodated when laying out the shape of the fieldworks:

> A fire is said to be *direct, slant,* or *enfilading,* according as its direction is perpendicular to, makes an angle of 30 [degrees] with, or is on the prolongation of the line at which it is aimed; when the line is taken in the rear the fire is denominated a *reverse fire*; and when a given space is defended by the fire from several points crossing over it, the defence is denominated a *cross fire.*[79]

With regard to the salient's role, its composition was designed as follows:

> [A]n angle formed by two faces is denominated a *salient angle*; that formed by two retired parts a *re-entering angle*; and one made by a face and the opposite flank, an *angle of defence*...the distance from a salient to its opposite flank is a *line of defence.*[80]

The process of laying out the fieldwork design was called "profiling," and was engineered in detail according to Mahan's instructions:

> Poles...having been planted at the angles of the work, and the height of the interior crest marked on them, a line is traced on the ground, with a pick, showing the direction of the interior crests. At suitable distances, say from twenty to thirty yards apart, cords are stretched between two stout pickets, in a direction perpendicular to the line marked out by the pick; these cords should be exactly horizontal. A stout square picket is driven firmly into the ground, where the cord crosses above the pick-line, and a slip of pine, on which the height of the interior crest is marked, is nailed to the picket. The thickness of the parapet is measured on the cord, and a picket driven into the ground to mark the point. The base of the interior slope, and the tread of the banquette, are set off in a similar manner; and a slip of deal is nailed to each of the pickets. The height of the interior crest, and the tread of the banquette, are easily ascertained, from the position of the cord, and the interior crest; these points having been marked on their respective slips, the outline of the parapet is shown by connecting them by other slips, which are nailed to the uprights; the banquette slope, and exterior slope, will be determined by a similar process.[81]

Mahan suggested that "the plan of intrenchments in general should be so arranged as to procure a mutual defence of the parts," with advanced parts or faces jutting out toward an assaulting force, and their adjoining retired parts or flanks capable of protecting the faces.[82]

Mahan also noted: "A flanked disposition should be the basis of the plan of all intrenchments," and "[T]he flanks sweep with their fire the ground in front of the faces; remove sectors without fire and dead angles; cross their fire in front of the salients; and take the enemy's column in flank."[83] The "Dead Angle" at Cheatham was recognizably an undesirable condition that the Confederates worked to offset with other special features as noted above.

The landscape of glacis and lines of obstacles in front of the fieldworks through which assaulting Federal forces would have to pass was a formidable and dangerous course which constituted the field of fire, "a killing ground in which an attacker could be brought fact to face with the full dangers of his enterprise."[84]

Mahan described the use of abatis as obstacles placed in front of earthworks to slow or limit the approach of enemy forces as follows:

> The large limbs of trees are selected for an abatis. The smaller branches are chopped off, and the ends, pointed and interlaced with some care, are presented towards the enemy. The large end of the limb is secured to the ground

78. Ibid., 16.
79. Ibid., 11.
80. Ibid., 4.
81. Ibid., 32–33.
82. Ibid., 3-4.
83. Ibid., 6.
84. Ibid., 129.

> by a crotchet-picket, and may be partly imbedded to prevent its being readily torn up.[85]

Knowledge of military engineering principles and construction techniques is important background information that supports the development of the EMP in several ways. First, it helps in understanding the original form, character, and use of the earthworks so that current conditions may be better comprehended in the field. It can also be used to support recommendations for protection of the resources, and to suggest research questions and areas where targeted archeological investigations may yield important information. Finally, this information can be used when developing recommendations for interpretation of the earthworks for visitors.

The connection between terrain, features of the battlefield landscape, and the military tactics employed by the commanders engaged has been formalized by U.S. Armed Forces in an analysis system known as KOCOA. The system is an acronym that stands for

K – Key Terrain
O – Observation and Fields of Fire
C – Cover and Concealment
O – Obstacles
A – Avenues of Approach

KOCOA is founded on the principle that "terrain has a direct impact on selecting objectives; location, movement, and control of forces; effectiveness of weapons and other systems; and protective measures."[86] Specifically, the KOCOA process assesses natural and man-made features within a prospective battlefield to "provide military commanders with an understanding of the limitations and opportunities of the terrain in which they must operate."[87] The use of earthworks to establish military advantage and command the KOCOA principles is of interest in understanding and interpreting Civil War landscapes.

The topography and hydrologic and vegetation patterns of Kennesaw Mountain clearly influenced the composition of the military landscape. Defensive fieldworks were constructed so as to deliver a comprehensive field of fire to any assault mounted by the Federal forces along anticipated avenues of approach, and maintaining control over key terrain considered to include the tactical advantage of high points and ridgetops such as Kennesaw Mountain, Little Kennesaw Mountain, Pigeon Hill, and Cheatham Hill. The earthworks constructed by the Confederate troops served as cover and concealment. Trees were cleared from the landscape in front of the works for observation to provide a clear field of fire for artillery. Obstacles were established in the form of abatis and chevaux-de-frise; the swollen creeks carrying weeks of heavy rain also served as obstacles to enemy attack.

This information has been taken into consideration in the design of resource management strategies and interpretive planning recommendations included herein.

85. Ibid., 45.
86. U.S. Army Field Manual No. 6-0, *Mission Command: Command and Control of Army Forces* (Washington, D.C.: Department of the Army, 2003), Appendix B.
87. U.S. Army Corps of Engineers Engineer Research and Development Center, "Terrain Analysis," <www.erdc.usace.army.mil>, accessed May 2006.

2009 Earthworks Conditions

Introduction

This chapter describes through narrative text, contemporary photographs, and labeled base mapping the current conditions of the Civil War earthworks associated with Kennesaw Mountain National Battlefield Park. The chapter also documents the concerns and issues to be addressed in the recommendations and guidelines chapter that follows. Also included below is a summary of the park's environmental and cultural context and setting, as well as its identified purpose, significance, mission, and interpretive programs and themes.

FIGURE B-29. Civil War-era earthworks, also called field fortifications, are located throughout the park, and interpreted to visitors

Environmental and Cultural Context and Setting, and Overview Park Description

Kennesaw Mountain National Battlefield Park is part of the National Park System administered by the National Park Service. Located in Cobb County, Georgia, approximately three miles west of Marietta and twenty-three miles northwest of the state capital of Atlanta, the park protects the site of the Civil War Battles of Kolb Farm and Kennesaw Mountain.

Cobb County's population in 2000 was approximately 607,000. Cobb County is considered part of the Atlanta metropolitan area and is thickly settled. The park is generally surrounded by suburban developments of single family residences and businesses, most of which have been constructed since the late 1960s as the Atlanta metropolitan area expanded northward. As a result, the park, which was established to commemorate and interpret the Battle of Kennesaw, is becoming increasingly popular as a local recreational facility for hiking, jogging, and other outdoor activities.[88] Approximately 1.4 million visitors enjoy the park's history and natural resources each year.[89]

The park, which began as a 60-acre reservation, today extends over some 2,987 acres. Generally rectangular in form, the park is oriented north to south to follow the alignment of the high ground occupied by Confederate forces in June 1864 to

88. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory,* 13.
89. National Park Service, *Long-Range Interpretive Plan,* Introduction. December 2010. Introduction.

block the advance of the Union army toward Atlanta.

Portions of the interior of the park's rectangular form are in private ownership, and have been developed as residential subdivisions. Some of these are large-lot residential subdivisions. In addition, within the authorized boundary of the park, 0.61 acres are controlled by the state of Georgia and 1.40 acres by Cobb County as road rights-of-way (Figure B-30).

The landscape associated with Kennesaw Mountain National Battlefield is characterized generally as a rural agricultural and residential district containing a mixture of historic and contemporary residences, historic road corridors, successional woodlands on abandoned farm and timber land, cropland and hay fields, a number of pre-historic and historic archeological sites. Park features include a visitor center, maintenance facilities, interpretive trail system, monuments, overlooks, parking pull-offs, and signage.

Eleven miles of earthworks constructed in May and June 1864 by both Union and Confederate forces have been documented within the park.

Nine paved and one unpaved roads extend through the park, and approximately 23 miles of trails connect the battlefield's historic features and visitor use areas.[90] Access to the visitor center occurs from Old U.S. Highway 41; other sections of the park are accessible via a number of local roads and trails.[91] The majority of the park's trails are overseen by the Kennesaw Mountain Trail Corps, a group of volunteers established circa 2005 to assist the park with repair and maintenance. The Trail Corps has planned to expand their assistance by serving as "Trail Ambassadors," providing basic park information to visitors and reporting any observed violations to park rangers. The park plans to extensively increase trail offerings in the near future, suggesting continued growth of the role of the Trail Corps.[92]

Today, the primary land uses of the park include commemoration, interpretation, and recreation. Commemoration is reflected in the monuments and markers that have been erected to honor historic events and individuals associated with the Civil War Battle of Kennesaw Mountain. Interpretation occurs as part of the visitor center programming, as well as along the road corridors and trail system which include interpretive nodes marked by signs. Because of the extent of residential development around the park, and lack of publically-accessible open space, the park has become an important local recreational resource, used for walking, running, hiking, and nature study.

The park lies within the Atlanta plateau portion of the Piedmont physiographic province of Georgia, an area of rolling hills and rocky outcrops located between the Appalachian Mountains and the Atlantic Coastal Plain. The park follows a crescent-shaped ridge northwest of Marietta that serves as the hydrographic divide between the Etowah and Chattahoochee rivers. Noses and John Ward creeks traverse the park. These creeks flow southwest to the Chattahoochee River. A few small unnamed drainages flow north, eventually emptying into the Etowah River. Kennesaw Mountain, at an elevation of 1,808 feet above mean sea level (AMSL), is the highest point within the park and the region. Little Kennesaw Mountain stands just below, with its summit reaching 1,610 feet AMSL. The summits are joined by a prominent north-south ridge. This landform constitutes the most dominant physical characteristic of the, and was the tactically-important high ground around which the Battle of Kennesaw Mountain unfolded.

90. National Park Service, *Long-Range Interpretive Plan*, 23.
91. Wiss, Janney, Elstner Associates, *Kennesaw Landscape Cultural Landscape Inventory*, 1.
92. National Park Service, *Long-Range Interpretive Plan*, 24.

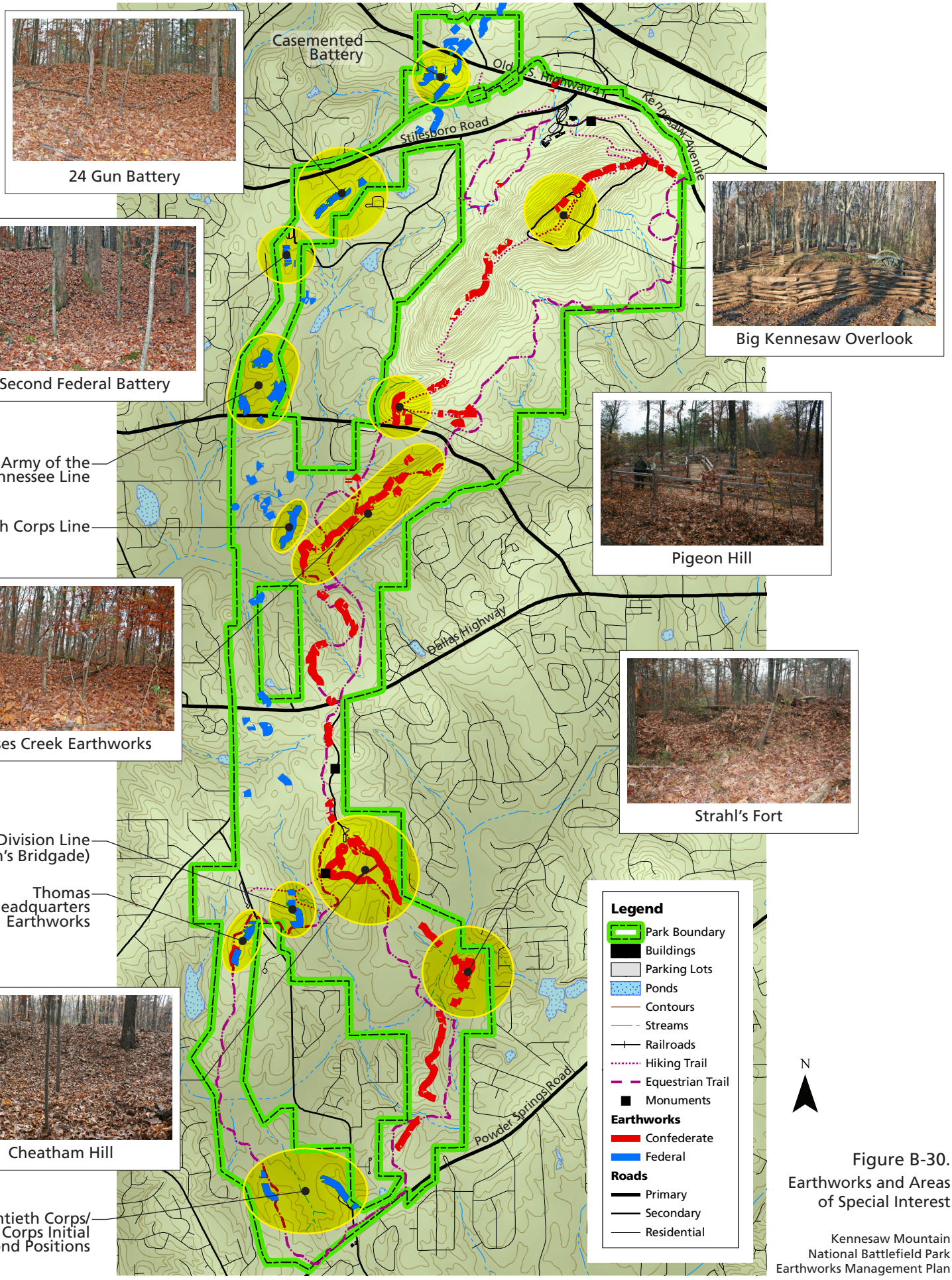


Figure B-30.
Earthworks and Areas of Special Interest

Kennesaw Mountain
National Battlefield Park
Earthworks Management Plan

Surrounding the ridge are rocky hills and a relatively level plateau etched by perennial and intermittent streams forming medium-density dendritic drainage patterns. The park also includes more level terrain at the base of the ridge and mountain summits, where the Union army established its own entrenchments to protect infantry and artillery positions prior to and during its attack on the Confederate earthworks. The lowest elevations within the park stand at 945 feet AMSL and occur in association with the drainage corridors of John Ward and Noses creeks.

The park's hills and ridges are primarily wooded. In fact, the majority of the park is maintained in hardwood forest. Forest communities are composed of second-growth deciduous oak-hickory hardwoods, with a component of loblolly and shortleaf pine. Theses woodlands are home to numerous animal species. In addition to many birds, the wildlife most frequently seen in the area includes primarily fox, rabbit, opossum, raccoon, and white-tailed deer. Coyote are also present within the region.

The lower-lying plateau areas feature a mixture of residential subdivisions, farm fields, and pine-dominated forest on former agricultural fields. Approximately 350 acres are maintained in open fields through mowing by the park and haying through agricultural leases by local farmers. Due to the fertility of area soils, agriculture served as the primary local land use between the early nineteenth and mid-twentieth centuries. Some privately-held land in and around the park continues to be used for agriculture.

The climate of Georgia's Piedmont is well suited to agriculture. Classified as humid subtropical, the region within which the park falls generally experiences warm, humid summers and relatively mild, but occasionally chilly, winters. Average annual rainfall is 50.2 inches. While precipitation is steady throughout the year, rainfall is heaviest in the spring; the wettest month is March with an average of 5.51 inches. Fall is the driest period in the region; rainfall averages 2.46 inches in October.[93]

Park Purpose, Significance, Mission, and Interpretive Themes

The NPS recently prepared a Long-Range Interpretive Plan that provides key background information and guidance regarding the park's purpose, significance, mission, and proposed interpretive programming that serve as an underpinning for Earthworks Management Plan (EMP) recommendations. Relevant sections of the 2010 Long-Range Interpretive Plan are excerpted here for reference.

Park Purpose

The park's purpose is to:

- Preserve and protect the battlefield for memorial and military study purposes, including the:
  - erection of monuments
  - preservation and identification of earthworks
  - creation of regulations as necessary to protect and preserve the battlefield and other appropriate sites
- Educate the public about the Battle of Kennesaw Mountain and the Atlanta Campaign in order to inspire a sense of understanding of this important part of American history.
- Explain the Battle of Kennesaw Mountain and its consequences in the broader context of the Civil War.
- Educate the public of the importance and causes of the Civil War, and emphasize the

93. National Park Service, *Natural Resource Management Plan, Kennesaw Mountain National Battlefield Park* (Marietta, Georgia, Kennesaw Mountain National Battlefield Park, December 1976), 12.

impact of its consequences upon American history.

- Memorialize and commemorate Kennesaw Mountain and the Atlanta Campaign.
- Acquire land for the Battlefield and battle features to perfect the symmetry of the park.
- Preserve and protect Kennesaw Mountain National Battlefield Park as a public park for the benefit and inspiration of the people.

Park Significance

The Long-Term Interpretive Plan notes the significance of Kennesaw Mountain National Battlefield Park as follows:

- Kennesaw Mountain and the Atlanta Campaign is where General William T. Sherman's military strategy concerning his army's movements, and his philosophy of breaking the will of opponents, came to fruition and set the course for military strategy today.
- Kennesaw Mountain National Battlefield Park remains a field lab for military defensive fortifications and strategies.
- The battlefield contains historic resources from late June 1864 that make the battlefield one of the best preserved sites associated with the Atlanta Campaign.
- The battlefield preserves eleven miles of some of the most intact earthworks of the Civil War, which were decisive elements in the Battle of Kennesaw Mountain.
- The battlefield contains transportation corridors that existed during the battle including several roads and a portion of the railroad line that runs from Chattanooga to Atlanta.
- The Union army's victory in the Atlanta Campaign helped ensure the re-election of Abraham Lincoln, the continuation of the war, the abolition of slavery, and the eventual preservation of the Union.
- Kennesaw Mountain National Battlefield Park has become the symbolic and physical center for interpretation of the Atlanta Campaign.

Battlefield Mission Statement

The park's mission statement, noted in the Long-Range Interpretive Plan, indicates

> The National Park Service is charged with preserving and protecting the fields and forests of the 2,923 acre battlefield, leaving it unimpaired for use by this and future generations, The National Park Service is also charged with educating the public about the Civil War's causes and outcomes, including the importance that slavery, emancipation, and the ongoing civil rights movement have had in forming the character of the United States.[94]

Interpretive Themes and Visitor Experience Goals

Five interpretive themes are outlined in the Long-Range Interpretive Plan. Three of these contain sub-themes of interest to the EMP. The relevant themes and sub-themes are conveyed below, in addition to the relevant sections of the plan that address the National Park Service goals for the visitor experience.

Interpretive Themes. Themes define the most important ideas or concepts communicated to visitors. Interpretation strives to establish a caring relationship between visitors and a site's resources and values by provoking understanding and appreciation. Park interpretive and educational programs should offer opportunities for visitors to understand and appreciate park purpose and significance.[95] At Kennesaw Mountain National Battlefield Park, the following interpretive themes relevant to management of the earthworks are under consideration as part of the Long-Range Interpretive Plan:

94. Ibid., 12.
95. Ibid., 14.

1. Strategy: Struggle for Atlanta. The strategy and tactics used at Kennesaw Mountain and throughout the Atlanta Campaign led to the final outcome of the Civil War.

Sub-themes

- The flanking tactics used by Union Gen. William T. Sherman during his Atlanta Campaign forced the Confederate army to retreat again and again.

- The evolving technology of trench warfare that was used by Confederate Gen. Joseph E. Johnston showed that shovels and axes were as important as rifles and cannons.

2. People: Life in the Shadow of Kennesaw Mountain. The story of Kennesaw Mountain changes with the interaction of the people, the mountain itself, and its surrounding landscape.

Sub-themes

- In late June and early July of 1864, hundreds of slaves were forced to help the Confederates build miles of earthworks around Kennesaw Mountain to hold back the invading Union army; on June 27, thousands of soldiers fought and died here, committed to their respective causes.

- From Civilian Conservation Corps (CCC) men to today's National Park Service rangers, many have diligently protected its resources while providing facilities and programs to tell the park's stories and remind visitors that we are all stewards of this legacy.

4. Preservation: Honor Your Heritage. Kennesaw Mountain National Battlefield Park preserves a battlefield hallowed by the sacrifice of more than 5,000 Americans.

Sub-themes

- All visitors are stewards of the battlefield, and can take actions, which will assist in the preservation of the battlefield and its cultural and natural resources.

- Kennesaw Mountain National Battlefield Park preserves eleven miles of original earthworks—the tangible evidence of the military actions which occurred here in 1864—and visitors should be informed of the fragile nature of these earthworks and of the actions they can take to help preserve them.

- Battlefield staff and partners continue to preserve the battlefield, its roads, its historic houses, and the park structures built by the CCC in the 1930s.

- Kennesaw Mountain National Battlefield Park is preserved as an outdoor classroom so that professional military staff ride participants and average park visitors can gain an understanding of military traditions of the United States.

- Increasing numbers of invasive plant species, wildlife imbalances, and human infringement continually demonstrate nature's reaction to external forces and that even the smallest action can have unforeseen long-term impacts on efforts to preserve the park.

- The battlefield's historic features and natural resources are finite resources that are in danger of being "loved to death" unless visitors appreciate and respect them.

Visitor Experience Goals. Visitor experience goals describe opportunities for the public to enjoy a park and suggest how interpretation may change the way visitors will think, feel, or act as a result of their park experience.

The desired outcome of Kennesaw Mountain National Battlefield Park's operations is to manage visitor-resource interactions so that the resources will remain unimpaired for the enjoyment of future generations while ensuring that opportunities exist for the widest variety of current visitors to forge meaningful connections with those resources.

All park visitors should have the opportunity to:

- Gain an appreciation and understanding of Kennesaw Mountain National Battlefield Park

by learning about the park's cultural heritage and battlefield features.

- Safely enjoy their visit by learning about and following safety guidelines and park rules and regulations in a way that does not interfere with other visitors and does not adversely impact the battlefield's resources.

- Demonstrate stewardship by using park resources in a manner that protects and enhances the battlefield's resources.[96]

Overview of the Existing Conditions Associated with the Park's Earthworks

Introduction

The section that follows describes the current composition and condition of the landscape associated with Kennesaw Mountain National Battlefield Park. This information has been factored into the treatment recommendations and guidelines that comprise the chapter that follows. Specific topics addressed by the existing conditions documentation of the landscape conveyed below include natural features and systems, circulation, and earthworks. While there are several additional landscape feature types present within the park, this section is intended to address those features with a direct bearing on earthworks management. For more information about the complete complement of landscape resources present within the park, see Chapter Three of the Kennesaw CLR.

Natural Features and Systems

Geology. The prominent ridgeline that includes Kennesaw Mountain, Little Kennesaw Mountain, and Pigeon Hill is composed of an intrusion of igneous granite hornblende that protruded through the surrounding strata of metamorphic and sedimentary rocks—primarily biotite gneiss and muscovite schist—during the formation of the Appalachian Mountains. Other types of rock associated with the area include slate, quartzite, and feldspar. Weathering of this varied geology results in a wide range of soil types regionally.[97]

The landform, topography, elevational prominence, and rock outcroppings of Kennesaw Mountain and the other prominences to the south, including Cheatham Hill, played important roles in the Battle of Kennesaw Mountain in June 1864.

Hydrology. The park's elevated ridgeline serves as the watershed between the Chattahoochee and Etowah rivers. Noses and John Ward creeks, which cross the park's central and southern sections respectively, flow southwest to the Chattahoochee River. These streams were swollen at the time of the Battle of Kennesaw Mountain due to heavy rains during early to mid-June 1864. The creeks served as obstacles to Union troop movements.

Both Noses and John Ward creeks were rehabilitated during the 1930s and early 1940s by the Civilian Works Administration and CCC to address stream bank erosion. Noses Creek has also been straightened and deepened since the Civil War to facilitate cultivation, originally flowing closer to the base of Bald Knob than the current alignment. Both streams are thought to have also undergone channel realignment for control of mosquitoes during the twentieth century.[98]

Soils. The park contains soils affiliated with several associations. Soil characteristics affected earthworks constructed. The higher elevations contain the steep, stony soils of the Pacolet-Musella-Louisburg association. These soils occur on mountain slopes that rise about 100 feet to 600 feet above the surrounding area.[99] The terrain associated with this soil type is steeply sloped.

96. Ibid., 39–40.

97. Robert Hellmann, *Kennesaw Mountain National Battlefield Park Archeological Overview and Assessment* (Tallahassee, Florida: National Park Service, 2003), 14.
98. National Park Service, "Historical Base Map, Part of the Master Plan, Kennesaw Mountain National Battlefield Park, Marietta, Georgia," Sheet No. 3, Topographical Base Map section.
99. Grover J. Thomas, Jr., *Soil Survey of Cobb County, Georgia* (Washington, D.C.: U.S. Government Printing Office, December 1973), 7.

Because the soil is generally stony with a shallow depth to bedrock, it has limited potential for cultivation. Soil structure ranges from red clay to sandy clay loam and stony loam.

The less steeply-sloped areas below the Kennesaw Mountain ridgeline are characterized by the Gwinnett-Hiwassee-Musella association. Soils comprising this association occur on level to moderate slopes and range from loams to clay loams, sometimes including a gravelly or stony surface layer. The soils are sometimes adapted for cultivation and other farm uses.

Other level plateaus located east, west, and south of Kennesaw Mountain are underlain by either the Appling-Cecil-Madison association or the Madison-Gwinnett-Cecil association. Soils affiliated with these associations are generally deep to moderately deep and located on gentle slopes of broad ridgetops. These associations are the best suited to cultivation within the county. Many areas have undergone severe erosion that limits their current suitability for agriculture.[100]

Stream corridors are edged by the Gwinnett-Pacolet-Musella association or the Madison-Gwinnett-Cecil association, while the lowland drainage areas themselves occur within the Cartey-Toccoa association. This association occurs on level floodplains and is comprised of soils formed in alluvium. The better drained soils are suitable for cultivation. Constructed drainage systems allow for cultivation in the otherwise periodically-wet or flooded soils. Portions of this soil are used for pasture.[101]

Vegetation. Overall, park vegetation includes mixed-age stands of successional deciduous hardwood and pine woodlands, hay fields, mown grass lawns, native and exotic ornamentals, and invasive alien plants that have escaped from cultivation and are colonizing native plant communities. There may also be remnants of former peach tree orchards within the park.

The dominant vegetation community throughout the park is second-growth deciduous hardwood forest, with a component of mixed-pine-hardwood forest. Woodlands range in age based on past cultural lands use history. There are both young woodlands representative of old-field succession, as well as examples of mature eastern oak-hickory forest.

Oaks and hickories are the predominant canopy species within the area, although there is also a component of loblolly and shortleaf pine that occurs in isolated stands, in former gaps within woodland areas, in old fields, and as part of woodlots. Many woodland areas exhibit a layered community comprised of canopy and understory trees, shrubs, and herbaceous species, a condition that influences earthworks management strategies.

Kennesaw Mountain National Battlefield Park falls within the Piedmont transition zone between the South Georgia pinelands and the Appalachian plateau hardwood forests; in fact the park's ridges fall within the southernmost reaches of the Appalachian Mountains. Vegetation is generally representative of the eastern hardwood forest that extends over much of the Piedmont in the Southeastern United States.

Specific vegetative composition bears a direct relationship to a complex matrix of soil conditions, drainage patterns, precipitation, solar orientation, wind patterns, the existing seed pool, and past land use. Higher elevations of the park, which often include thin soils and granite outcroppings, are dominated by dry-mesic to xeric oak-hickory communities. Species typically include chestnut oak (*Quercus prinus*), blackjack oak (*Quercus marilandica*), scarlet oak (*Quercus velutina*), shortleaf pine (*Pinus echinata*), and loblolly pine (*Pinus taeda*). Many of the pines were planted as seedlings by the Civil Works Administration in 1934. The lower slopes and broad level plateau terrain are characterized by mesic hardwood forest. Naturally-occurring species include white oak (*Quercus alba*), tulip poplar (*Liriodendron tulipifera*), sweetgum (*Liquidambar styraciflua*), maples (*Acer* spp.), beech (*Fagus grandifolia*), and black walnut (*Juglans nigra*). Stream valleys contain mesic to

100. Gresham, *An Archeological Survey of the Proposed Kennesaw Mountain Multi-Use Trail,* 4.
101. Ibid., 2–3.

hydric species such as river birch (*Betula nigra*), black willow (*Salix nigra*), sycamore (*Platanus occidentalis*), sweetgum, water oak (*Quercus nigra*), white oak, elms (*Ulmus* spp.), red maple (*Acer rubrum*), and tulip poplar.

Fire suppression has affected the composition of the park's woodlands by promoting fire sensitive and shade tolerant species over species that benefit from ground and stand-replacing fires, mineralized soil, and high light conditions. Fire suppression has also allowed for deposition of thick layers of detritus on the forest floor, which is beneficial for earthworks protection. Much of the terrain associated with Kennesaw and Little Kennesaw mountains is said to have been burned annually prior to 1938.[102]

The bases of Kennesaw and Little Kennesaw mountains, which include soils less suitable to agriculture than the surrounding plains, are dominated by post, blackjack, black (*Quercus velutina*), and scarlet oaks; several hickory species; persimmon (*Diospyros virginiana*); and shortleaf pine. It is believed that these areas were managed as woodlots prior to War Department acquisition of battlefield land in 1926.[103] The Civil Works Administration and CCC conducted erosion control and revegetation efforts in the 1930s and early 1940s, primarily at Cheatham Hill and Kennesaw Mountain, that continues to influence the character of vegetation on the lower slopes of the mountains as well as in the lower lying areas today.

Loblolly pine and shortleaf pine are found scattered within the deciduous hardwood forests, as well as in plantations and as dominants in areas that have been logged, experienced fire, or recently released to succession. Understory species found within the mixed pine stands include post and red (*Quercus rubra*) oak, sweetgum, and black tupelo (*Nyssa sylvatica*). Pine stands have been negatively affected, and are susceptible to additional damage, by the Southern pine bark beetle (*Dendroctonus frontalis Zimmermann*). The resulting dead and dying pine timber is a potential fire hazard, and is also a threat to the earthworks.

Prior to nineteenth- and twentieth-century land clearing, native vegetation consisted primarily of mixed pine/hardwood forest in upland areas. Dominant canopy trees included several oaks and hickories, as well as tulip poplar, pine, and American chestnut (*Castanea dentata*). Today, the American chestnut, a former forest dominant, is entirely absent from the park due to the importation of the chestnut blight fungus (*Cryphonectria parasitica*) in the early twentieth century, which killed most mature specimens, resulting in great change within Appalachian forests. Hybrid chestnut saplings are being planted in numerous locations around the United States by the American Chestnut Foundation in an attempt to reintroduce the tree to American forests. Kennesaw is one of the pilot reintroduction sites. Cultural activities during the prehistoric and early settlement periods altered the composition of the forest. Hardwood stands were often cleared in fertile level terrain areas to allow for agricultural cultivation. The majority of the park's landscape has been cleared of trees at least once since Euro-American settlement. Pine stands tended to occupy post-agricultural land. Non-native species introduced to the landscape since the nineteenth century have had a profound impact on native plant communities.

Most of the surviving earthworks fall within forested areas of the park. Post-Civil War agriculture led to the loss of many Union earthworks on the lower slopes and terraces within the park. This use has influenced the character of vegetation within the park.

Approximately 350 acres of the park are maintained in open land cover such as hay fields, meadows, and lawn. Of note are the open field below the Illinois Monument, the open fields near the intersection of Old Mountain Road and Burnt Hickory Road, along Stilesboro Road, along Cheatham Hill Drive, and the Peel Field in the

102. National Park Service, "Master Plan Development Outline, Kennesaw Mountain National Battlefield Park, Georgia" May 1952, Summary.
103. National Park Service, "Master Plan Development Outline, Kennesaw Mountain National Battlefield Park, Georgia" May 1952, sheet 4 of 5.

southwestern corner of the park. The park has identified a need to expand the amount of area maintained in open fields by clearing trees in historically open areas to enhance the integrity and interpretive value of the battlefield landscape, particularly historic fields of fire.

Invasive Species. Woodland areas of the park often include undergrowth of non-native and invasive exotic plants such as kudzu *Pueraria lobata*), privet (*Ligustrum sinense, L. vulgare, L. japonicum*), tree-of-heaven (*Ailanthus altissima*), mimosa (*Albizia julibrissin*), nandina (*Nandina domestica*), and Russian and autumn olive (*Elaeagnus umbellate, E. angustifolia*). Open areas are also infested with aggressive non-native species such as garlic mustard (*Allaria petiolata*) and Japanese honeysuckle (*Lonicera japonica*). Japanese honeysuckle is known to have been planted by the Civil Works Administration in 1934 on Cheatham Hill to control soil erosion, but the park has worked to remove the vine.

The park conducts ongoing efforts to control or eradicate these species that are currently colonizing large land areas and interfering within native community composition, often employing herbicides such as Round-up and Garlon. The Kennesaw Mountain Trail Club Trail Corps helps to control invasive plant along the park's trails.

Rare Species. To date, four plant species classified as regionally rare have been identified within the park. Any earthworks management programs must avoid affecting any of these plants or their habitats. The soils and the altitude associated with Kennesaw Mountain and Little Kennesaw Mountain combine to form a plant habitat that is unique for the area. The rock outcrops associated with Little Kennesaw Mountain in particular support plant species not found elsewhere within the region. These same rock outcrops are also fragile and subject to disturbance by seasonal weather patterns, erosion, and trampling.[104] Three rare plants species have been identified in association with these habitats: openground whitlow grass (*Draba aprica*), which occurs only on a single outcrop slope on the west side of Little Kennesaw; green rockcress (*Arabis missouriensis*), which is often found along trail edges in rocky areas; and Tennessee mountain-mint (*Pycnanthemum curvipes*), found along the roadside near the top of Kennesaw Mountain. A fourth rare plant species—common prickly-ash (*Zanthoxylum americanum*)—is found along the main walking trail near the top of Kennesaw Mountain.[105]

Circulation

Five major roads pass through the park in a generally east-west direction and divide it into three sections. These include Old U.S. Highway 41, located near the park's northern boundary; Stilesboro Road, which intersects Old U.S. Highway 41 north of Kennesaw Mountain; Burnt Hickory Road south of Pigeon Hill; Dallas Highway further to the south; and Powder Springs Road along the southern edge of the park. Several minor roads extend north-south through portions of the park. These include Kennesaw Avenue, Gilbert Road, Old Mountain Road, Old John Ward Road, and Cheatham Hill Drive. Internal park circulation features Kennesaw Mountain and Cheatham Hill drives. There are also historic road traces, such as the Old Antebellum Road and Marietta-Cassville Road, which exist within the park. Minor circulation patterns include pedestrian and equestrian trails, some of which follow the traces of old mountain roads. These generally lead through the park in a north-south direction. Most are surfaced with hard-packed earth.

Major Roads. Old U.S. Highway 41 is a heavily-traveled two-lane asphalt-paved state road corridor. It includes a bridge crossing of the Western & Atlantic Railroad rail line; this route is one of the busiest within the park. Recently completed are a 279-space parking area and a multi-use trail adjacent to the road corridor.

104. Dr. P. E. Bostick, *Plant Species and Monitoring Plan for Four Rare Plant Species at Kennesaw Mountain National Battlefield Park* (Marietta, Georgia: Kennesaw State College, Department of Biology/Physics, 5 May 1994), 1.

105. Ibid.

Stilesboro Road is a two-lane asphalt-paved state road that extends for one-and-one-half miles through the park in an east to west direction near the park's northern boundary.

Burnt Hickory Road is two-lane asphalt-paved state road that cuts through two miles of the park near its midpoint, following an east to west direction. Dallas Highway is another two-lane asphalt-paved state road that runs for one-half mile through the park in an east to west direction across its southern half.

Powder Springs Road, a three-lane asphalt-paved state road, travels for three-quarter miles along the park's southern boundary. The historic road has been widened and aligned away from its original roadbed and is currently slated for additional widening and improvement.

Minor Roads. Gilbert Road is a one-and-one-half lane gravel road running north to south for 600 yards within the park between Stilesboro Road and Old Mountain Road. Gilbert Road is located in close proximity to the Twenty-Four-Gun Battery, an important Union earthwork position that survives in good condition today.

Old Mountain Road is a two-lane asphalt-paved state road that travels for 1.4 miles north-south along the lower slopes of Kennesaw and Little Kennesaw mountains, and Pigeon Hill between Stilesboro Road and Burnt Hickory Road. It provides a route of passage for visitors between the northern and central sections of the park.

Old John Ward Road is a 20- to 22-foot-wide packed gravel maintenance road that connects Dallas Highway and New John Ward Road, and provides a route of passage for visitors between the central and southern sections of the park.

Park roads include Kennesaw Mountain Drive, a 22-foot wide, asphalt-paved road that leads from the visitor center to the summit of Kennesaw Mountain, and Cheatham Hill Drive, a 22-foot wide asphalt-paved park road that leads from Dallas Highway to the summit of Cheatham Hill.

Road traces. The Old Antebellum Road currently exists only as a trace in the landscape. It parallels Kennesaw Mountain Drive, the Kennesaw Battlefield Association/CCC Road, and the hiking trail that extends from the visitor center to the summit of Big Kennesaw.

Directly across Stilesboro Road from the park visitor center is the sunken trace of the historic Marietta-Cassville Road.

The CCC camp road trace enters the park from Kennesaw Avenue and encircles the former CCC camp site. It is gravel paved and also serves as a trailhead on the eastern side of the park.

The trace of a military road used to convey artillery to the summit of Little Kennesaw Mountain also survives on the mountainside.

Rail line. The Western & Atlantic Railroad line, owned by the State of Georgia and leased by CSX Corporation, runs through the northern section of the park. The railroad is steel-track laid atop creosote-soaked cross-ties in a bed of crushed granite. The line retains its historic alignment, skirting the northern tip of Kennesaw Mountain.

Trails. More than 21 miles of pedestrian and equestrian trails extend through the park. These trails include both primary and secondary routes. Primary trails are those that are universally accessible, permit equestrian use, and/or are wide enough to allow passage of park maintenance vehicles. Secondary trails are for pedestrians only, and are frequently surfaced in materials that are not considered universally accessible such as mulch, gravel, and hard-packed earth. Many secondary trails include stair sections in association with steep terrain. Stairs are variously constructed of wood and gravel, stone, and concrete. Most of the current trails provide access to and interpretation of the surviving Confederate earthworks due to their position on the high ground. The park is currently engaged in expanding the trail system to include additional Union earthworks positions.

One of the park's most popular trails—the Mountaintop Trail—leads to the top of Kennesaw

Mountain from the visitor center. This mile-long route is a steep, 10- to 15-foot-wide hard-packed earth pedestrian trail that winds up the eastern face of Kennesaw Mountain. The section of the trail between the parking lot, the overlook, and the crest of the mountain is paved with asphalt. Some sections of the trail were part of the road used by the Kennesaw Battlefield Association and the CCC to access the mountain in the 1930s and 1940s. The trail provides views of earthworks and access to several artillery emplacements at the summit. From atop Kennesaw Mountain, visitors enjoy long views of the surrounding countryside.

The Burnt Hickory Loop Trail, which connects the Kennesaw Mountain summit with Burnt Hickory Road, continues along the ridgeline to Little Kennesaw Mountain and Pigeon Hill before following a strenuous course down to the road.

The Cheatham Hill Connector leads between Pigeon Hill, the parking area along Burnt Hickory Road, and Cheatham Hill. The trail crosses John Ward Creek.

The trails at Cheatham Hill were established by the CCC in the late 1930s and early 1940s. These provide access to several earthworks, the Illinois Monument, and the margins of the field used by the Union army to approach the Confederate positions. The park also includes a loop trail that leads to the Kolb Farm Loop Trail, and a short segment known as the New Salem Church Trail.

Earthworks

The park contains approximately eleven miles of Civil War earthworks, the physical vestiges of the battles to control Kennesaw Mountain, key terrain protecting access to the Western & Atlantic Railroad and Atlanta beyond. The majority of the park's earthworks are Confederate in origin and located on the high ground associated with Kennesaw Mountain and elevated points to its southwest. Union earthworks also survive and are protected in the park. These are primarily located along the western base of Kennesaw Mountain in the lower-lying areas. A larger proportion of Union earthworks have been lost since 1864 to post-Civil War agriculture due to their location in the lower-lying bottomlands used to cultivate cotton and other crops during the early twentieth century.

Most of these earthworks were constructed as linear berms called parapets designed to protect infantry and artillery positions from enemy fire (Figure B-31). The parapets were generally built from mounded soil excavated from ditches on one or both sides. The parapets were organized into linear forms as well as more complex geometric structures or systems designed to command the surrounding terrain, particularly anticipated avenues of approach by an enemy. The parapet systems were fronted by rifle pits or pickets. Rifle and artillery platforms were established behind the parapet to facilitate firing. Artillery played an important part in the Battle of Kennesaw Mountain. Several earthworks used as battery positions remain in evidence within the park.

Most of the extant earthworks are in good condition and stable due to forest cover that shields the parapet and ditch systems from rain and storm events and provides a layer of leaf litter or duff over the soil. The more intact earthworks feature a well-defined parapet wall and clearly visible ditch. In limited areas, the integrity of the earthworks has been compromised by soil erosion due to weather or visitor impacts. For example, on Kennesaw Mountain, trails pass between the earthworks to provide access for visitors. Erosion has occurred where visitors have left the trail to scramble up the parapet slopes and walk along their crest. The problem is most evident in the areas of heavy visitor use.

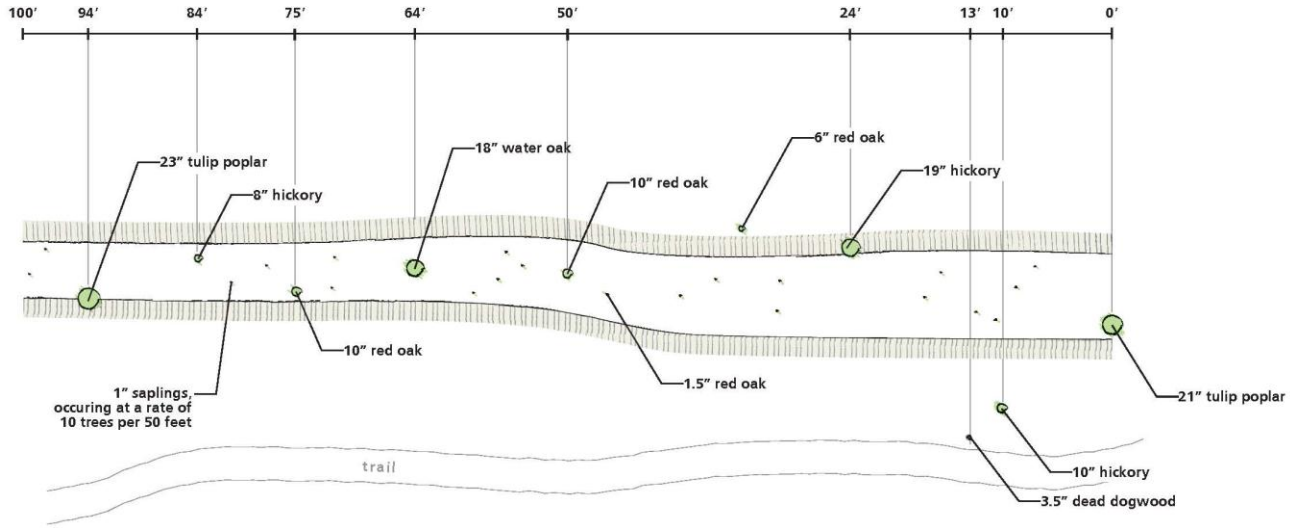


FIGURE B-31. Sample linear earthwork section sketch indicating the typical relationship between the earthworks, park trail, and woodland tree cover.

In 1941, the earthworks were described in a park master plan as follows: "The fieldworks in the vicinity of Kennesaw Mountain are in an excellent state of preservation and show in detail approach by gradual intrenchments, flanking movements, and areas where frontal assaults were made on intrenched positions."[106] The master plan also noted, however, that in a few locations "due to erosion . . . fortifications are being gradually filled with earth and over a period of years would be obliterated. In other cases, the fortifications which were crowned with stone have begun to show erosion and the stone has fallen in some places."[107] This assessment remains true today, although there are additional sites that have since been affected by visitor access, tree fall, and windthrow.

Due to the rolling nature of the terrain, terracing has traditionally been used by local residents to support farming operations. Several agricultural terraces dating from the late nineteenth and early twentieth centuries are in evidence within the park. Terraces are particularly apparent in the vicinity of Strahl's Fort and on the slopes of Kennesaw Mountain. Care must be taken to distinguish between earthworks and this agricultural terracing in the landscape.

Notable groupings of Confederate earthworks extend along the upper western slopes of Kennesaw and Little Kennesaw mountains and Pigeon Hill and atop the eastern slope of Cheatham Hill, and include the complex known as Strahl's Fort, as well as the segment between Burnt Hickory Road and the Dallas Highway, and earthworks along Noses Creek. Union earthworks of note include the casemated battery, Twenty-Four-Gun Battery, Second Federal battery, Army of the Tennessee line, Fourth Corps line, Thomas Headquarters works, Davis's Division line, and Twentieth Corps or Hooker's Corps site.

All of the park's earthworks are potential archeological resources that are likely to yield important information about Civil War-era occupation of Kennesaw Mountain in May and June 1864 and the military events associated with the June 27 Battle of Kennesaw Mountain. To date, no systematic, park-wide archeological survey has been conducted for Kennesaw Mountain National Battlefield Park. An archeological overview and assessment was prepared in 2003. Future investigations of interest to the park may include identifying and analyzing Civil War era encampment areas, among other military sites.

Descriptions of each of the major earthworks follow.

106. "Historical Base Map, Part of the Master Plan, Kennesaw Mountain National Battlefield Park, Marietta, Georgia" sheet no. 4 (January 1941 edition), 2.
107. Ibid.

Confederate Earthworks.

Kennesaw Mountain. Earthworks associated with Kennesaw Mountain include a series of rehabilitated artillery positions set within stands of open-grown trees (Figure B-32). An asphalt trail leads past these artillery positions. Many of the earthworks contain Civil War-era cannon as interpretive aides. The park has encircled them with split-rail fencing to protect them from visitor access. Despite the fencing, the earthworks located along the trail have become eroded due to visitors climbing and walking on the parapets. In an on-going effort to protect the earthworks, the park has revegetated some of the gun emplacements with grass, using an erosion control fabric to protect the rebuilt parapet walls. These earthworks are in fair condition due to visitor access. They have been extensively repaired, and have diminished historic integrity.

Long views are afforded from the summit of Kennesaw Mountain, including the artillery positions. The earthworks and views from Kennesaw Mountain are accessed from the Kennesaw Mountain overlook, a concrete and masonry structure featuring a wide promenade below the crest of the hill in proximity to a visitor parking lot. Interpretive signage provides visitors with information about the view, which encompasses downtown Marietta and Stone Mountain to the east. Contemporary development infringes on portions of these views.

FIGURE B-32. One of the artillery positions atop Kennesaw Mountain.

Little Kennesaw Mountain. Little Kennesaw Mountain contains Confederate earthworks associated with both infantry and artillery positions. The infantry works run along the northwestern face of Little Kennesaw Mountain and connect to the line of artillery positions that extends along the western crest of Kennesaw Mountain.

The parapet of the Little Kennesaw Mountain earthworks is between 2 and 4 feet in height. It is edged by a rear ditch and a series of traverses. Rock appears to have been used as a revetment in some locations. Above the infantry line along the western crest of Little Kennesaw Mountain are four U-shaped single-gun artillery positions, and two additional larger positions that together form the so-called Fort McBride. The majority of the line is wooded, but on top of the mountain the trees are thinner and there are opportunities for long views of the surrounding terrain.[108] These earthworks are infrequently visited because of their location away from any roads and parking areas, and therefore in relatively good condition. They appear to retain a high degree of historic integrity.

Pigeon Hill. A 2,000-foot-long line of Confederate infantry earthworks extends northeast to southwest across Pigeon Hill just below the brow, also referred to as the military crest. The line continues to the base of the hill where it meets Burnt Hickory Road. The parapet, which is generally between 2 and 4 feet in height, is composed of earth and stone. The earthworks are set within a generally open-grown woodland that includes some areas of dense brush. Japanese honeysuckle is present on and around the earthworks. There are several traverses along the line as well as rifle pits located near the base of Little Kennesaw Mountain. There are also three artillery positions on Pigeon Hill associated with Hoskin's, Lumsden's, and Bellamy's batteries. Four-gun emplacements anchor each end of the infantry line, while single gun positions are located

108. Robert W. Blythe, Maureen Carroll, and Steven H. Moffson, *Kennesaw Mountain National Battlefield Park* National Register nomination (Atlanta, Georgia: National Park Service, October 24, 1994), 4–5.

atop the crest of Pigeon Hill. The Union Twenty-Four-Gun Battery position faces the battery.

A trail leads to the line of infantry earthworks from the intersection of Burnt Hickory Road and Old Mountain Road. A wooden bench, interpretive wayside, and wooden platform form an interpretive node overlooking the earthworks, which is directed toward the historic field of fire. The view is currently blocked by vegetation that helps to screen views of non-historic residential development nearby. Split-rail fencing surrounds the interpretive node to limit visitor access to the earthworks. The trail leading to the platform is heavily worn and eroded, and visitors are clearly accessing the earthworks despite the fencing and platform. The interpretive wayside includes a historic photograph of the battlefield view from the earthworks, including the direction of the June 27, 1864, Union attack. These earthworks are in fair condition due to visitor access, but otherwise retain historic integrity.

Cheatham Hill. South of Dallas Highway is a system of Confederate earthworks that occupy a ridge known as Cheatham Hill. The site was the first portion of the battlefield to be protected and commemorated. The Confederate earthworks at Cheatham Hill were one of the objectives of Sherman's two-pronged attack on June 27, 1864, that initiated the Battle of Kennesaw Mountain. The site includes the famous Dead Angle that the Union army mistakenly believed could be successfully assaulted. Union Col. Dan McCook was killed in the attack on the salient. Several monuments have been placed at Cheatham Hill to commemorate the battle and several fallen Federal officers.

The complex system of earthworks at Cheatham Hill generally follows the contour of the ridge. A forward parapet line sits below the crest of the hill. It includes a significant traverse that forms a salient angle with the parapet. The parapet ranges in height from 3 to 5 feet. A two-gun artillery position flanks one end of the salient line, while a 60-foot-square redoubt with 4-foot-high parapet walls anchors the other. Two additional lines extend across the hill behind the salient, forming a network of parapets, ditches, traverses, and dug-outs overlooking the open field below. The Union approach route through the field is maintained in open vegetative cover to help interpret the battle events. A social trail extends across the open field; the park is attempting to discourage visitors from using the trail (Figure B-33). These earthworks are in fair condition due to some erosion caused by visitor access. They have been repaired and rehabilitated over the years, and thus have diminished historic integrity.

FIGURE B-33. A social trail traverses the open field below the earthworks at Cheatham Hill.

Confederate line extending from Burnt Hickory Road to Dallas Highway. Lines manned by Maj. Gens. William B. Bate's and William H. T. Walker's Divisions extend through the wooded terrain between Burnt Hickory Road and Dallas Highway that parallels Noses Creek in the eastern half of the park. Access occurs via a trail that runs nearby. These earthworks are in good condition and retain a high degree of historic integrity.

Strahl's Fort. South of Cheatham Hill and John Ward Creek is a cluster of parapets referred to as Strahl's Fort where Confederate troops under the command of Brig. Gen. Otho F. Strahl were stationed during the Battle of Kennesaw Mountain. Set on a rise within a mixed pine-hardwood forest with numerous tree falls, the site includes various well-preserved earthworks. Agricultural terracing is also in evidence around the site.

With well-defined parapets and traverses, the composition of Strahl's Fort includes a line of artillery works as well as a forward line of infantry trenches that meanders along the sloping contours to its south and west. The artillery work has a front wall that features three embrasures, with a fourth embrasure located on the east or rear wall. The right flank of the redan is open, but covered by a second, four-gun emplacement located approximately 250 feet to the south.[109] These elements form an L-shaped parapet with two-gun parapets facing south and west, and three embrasures offering a wider field of fire. The parapets of these works range from 3 to 7 feet in height. Large trees are growing on many of the works.

Access to Strahl's Fort is challenging due to its location in the far southeastern corner of the park. There is currently no trail connection to the site; the most convenient way to reach the fort is to park along the margins of the road associated with an adjacent residential subdivision and walk through the woodlands to the fort. While the remote nature of the site has likely contributed to its current well-preserved condition, it may hinder interpretive goals as well as tree removal and hazard mitigation. These earthworks are in good condition and possess a high degree of historic integrity.

Union Earthworks.

Casemated battery. The Union army positioned a fortified gun emplacement below Kennesaw Mountain to its northwest between present-day Old U.S. Highway 41 and the Western & Atlantic Railroad line. These earthworks survive in good condition and have a high degree of historic integrity. They are located near an existing parking area and historical marker across from Ridenour Road.

Twenty-four-Gun Battery. The Twenty-Four-Gun Battery is a well-preserved collection of artillery positions. Four batteries, each containing six U-shaped gun positions, extend through a layered successional pine-hardwood woodland past an open field near Gilbert Road. The battery is located on a small rise south of Stilesboro Road that faces Little Kennesaw Mountain and Pigeon Hill. The artillery position was directed at Confederate works atop the ridge.

The earthworks are composed of parapet walls that taper in height from approximately 4 feet in front to grade level at the rear. Each includes a 2- to 3-foot-deep frontal ditch (Figure B-34). Each position is approximately 25 feet in width and slightly longer in length. They are located between 8 and 14 feet apart. Some of the parapets appear to have been revetted with stone. The earthworks are in good condition and retain a high degree of historic integrity.

Issues noted during field investigations conducted on behalf of the EMP include several tree falls, trees growing on the earthworks, loose rocks that may have served as revetments, and the presence of invasive plant species, including autumn olive.

Some of the individual trees in the area appear old enough to have been present at the time of the battle. Trees that survive from the battle could potentially have bullet fragments lodged within them.

The park is considering establishing a trail to provide access to one of these gun positions from Gilbert Road, where a small parking facility would be developed. The historic view between the batteries and their targets on Kennesaw and Little Kennesaw mountains and Pigeon Hill are currently obscured by woodland cover.

Second Federal Battery. South of Gilbert Road and southwest of the Twenty-Four-Gun Battery stand the remains of a second battery position that was established to fire on Little Kennesaw Mountain. It is referred to as the Second Federal Battery. The earthwork is in good condition and retains historic integrity.

109. Ibid., 5–6.

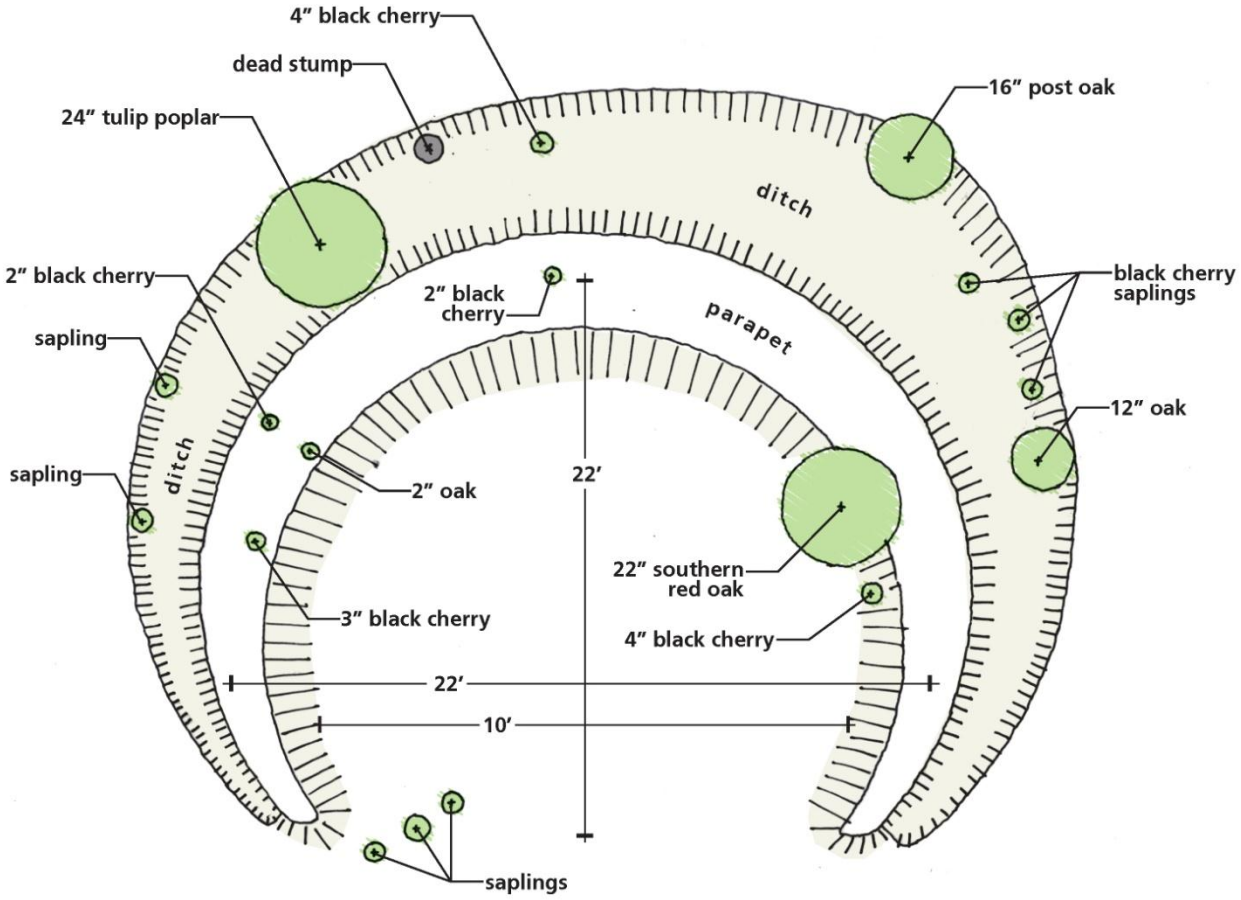


FIGURE B-34. Plan view sketch of one of the gun emplacements at the Twenty-Four-Gun Battery.

Army of the Tennessee line. North of Burnt Hickory Road facing Pigeon Hill are the remains of the Union Army of the Tennessee line. The works associated with this artillery position were established during the battle by the Union Army. They are also in good condition and possess a high degree of integrity.

Fourth Army Corps line. The Fourth Army Corps line is a well-defined V-shaped artillery battery that closely faces the Confederate line south of Burnt Hickory Road. The line is in good condition and possess a high degree of integrity.

Federal Works South of Dallas Highway. A line of Federal earthworks in very good condition, which is not currently referred to by a specific name, is located south of Dallas Highway along the western edge of the park. This line also possesses a high degree of integrity.

Thomas Headquarters works. Union earthworks constructed as part of the approach and attack on the Dead Angle at Cheatham Hill include the Thomas Headquarters works and the Davis Division line. The Thomas Headquarters works are very well preserved artillery positions with good integrity associated with the headquarters of the Army of the Cumberland commanding officer Maj. Gen. George H. Thomas during the Battle of Kennesaw Mountain.

Davis's Division line. Earthworks positioned in front of the Thomas Headquarters works were established and manned by Brig. Gen. James D. Morgan's First Brigade of Brig. Gen. Jefferson C. Davis's Second Division in anticipation of the attack on Cheatham Hill. These works survive in good condition along Cheatham Hill Drive and possess a high degree of integrity.

Twentieth Army Corps or Hooker's Corps site. Two groups of Union earthworks that constitute the initial and second positions of Maj. Gen. Joseph Hooker's Twentieth Army Corps are located near the southwestern corner of

the park and Kolb Farm. These are slightly more degraded than many of the Union earthworks described above, but still possess historic integrity.

Federal earthworks on a recently acquired parcel. The 34-acre parcel located between Old Mountain and Gilbert Roads referred to as the Hensley property includes Federal earthworks that were associated with the Battle of Kennesaw Mountain. This parcel was recently acquired by the Trust for Public Land and donated to the park.[110] The parcel affords views of Kennesaw Mountain, Little Kennesaw Mountain, and Pigeon Hill. The earthworks, which survive in good condition under forest cover, were developed as Federal artillery positions to protect against Confederate attack and to shell Pigeon Hill. These earthworks possess a good degree of integrity.

Adjacent Properties with Related Resources. Significant segments of a line of Confederate earthworks that stretched ten miles between Lost Mountain and Brushy Mountain, and which was defended prior to the Kennesaw Mountain line, survive outside the park. Protection strategies for these earthworks were suggested in a 1998 study prepared by EDAW.[111]

110. The Trust for Public Land is a national, nonprofit, land conservation organization that conserves land for people to enjoy as parks, community gardens, historic sites, rural lands, and other natural places, ensuring livable communities for generations to come. Information is available online at <www.tpl.org/tier2_sa.cfm?folder_id=170>.
111. See EDAW, *Kennesaw Mountain National Battlefield Lost Mountain to Brushy Mountain Earthworks Preservation Plan* (Kennesaw, Georgia: National Park Service, January 1998).

Earthworks Management Issues

Introduction

This section documents maintenance and management problems indicated by park personnel and identified during field investigations conducted on behalf of this project (Figure B-35 through Figure B-44). The problems associated with park earthworks that have been taken into consideration in the development of treatment plan recommendations and guidelines are as follows:

- Erosion of the parapet and ditch system that comprises the earthworks is occurring where landcover does not protect the soil from storm water and visitors are accessing the structures.
- Tree growth and tree fall are affecting the condition of the earthworks. The majority of the earthworks are maintained under forested conditions, and have trees growing in their parapet and ditch systems. Some of these trees are quite large, ranging in size from saplings to 24 inches diameter at breast height (dbh) or more. Trees can cause damage to earthworks by dropping limbs or trunks on the earthen structure, by uprooting in a process known as windthrow, or by dislodging soil through root growth.
- Portions of the park have experienced significant tree fall, some of which is due to tree mortality from infestations of Southern pine bark beetle (*Dendroctonus frontalis*). Dead trees have fallen across sections of the parapet and ditch systems of the earthworks. Tree falls and their removal have the potential to gouge and disturb the soil profiles of the earthworks.
- Trees that are in weakened condition or poor health also have the potential to injure visitors.
- Visitor access is causing damage to the earthworks. Trails parallel and provide access to many of the park's earthworks. Currently,

there are too few signs indicating to visitors that they refrain from walking or climbing on these fragile resources.

FIGURE B-35. Representative view of tree growth on the earthworks at Kennesaw Mountain National Battlefield Park.

FIGURE B-36. View of trees fallen across the earthworks.

FIGURE B-37. An example of a windthrow.

- Views of some segments of earthworks are obscured by dense understory growth. Fallen trees also obscure views of the earthworks. These conditions do not support interpretation of the earthworks. Invasive species, including Japanese honeysuckle, are currently growing on the earthworks in some locations. Invasive species often do not possess root systems that help control erosion and interfere with desirable native plant communities that have the potential to protect the earthworks against erosion.

- Some benches and interpretive signs have been installed along the trails that parallel or provide access to earthworks. Site furnishings founded within the parapet or ditch disturb the historic structures. The siting of park features within the structure of the earthworks also sends a conflicting message to visitors who are asked to refrain from accessing the resources.

- Trails sometimes extend across the parapet and ditch system of earthworks. Trail crossings can lead to erosion and send a conflicting message to visitors who are asked to refrain from accessing the resources.

- The interpretive trail system, particularly in areas of steeper slopes and rock outcroppings, is susceptible to erosion. Storm water can flow along the trail surface, causing erosion and channelization. This erosion can impact adjacent earthworks resources, and lead to soil loss and exposed roots and rocks, which can become visitor trip hazards.

- Park trails evidence drainage problems due to a number of issues including low spots, the blocking of natural flow patterns by leaf litter and/or fallen brush and logs, and clayey soil conditions. Where trails exhibit problems, visitors may elect to avoid the problem area by leaving the sanctioned trail. This could potentially lead to trampling and compaction of the trail margins and associated vegetation, causing additional erosion problems. In some cases, visitors may move onto the earthworks to avoid problem areas.

- Woodland cover currently occupies much of the area cleared by the Confederates in 1864 to establish an unobstructed field of fire in front of the earthworks to support artillery and infantry gun positions. Interpretation of the battle events and earthworks is negatively affected by post-Civil-War tree cover in some locations.

- Animal burrows were not observed in association with earthworks at Kennesaw. However, these can be problematic when they occur in association with earthworks and the park should be aware of the potential problem.

Additional issues for consideration by the EMP treatment plan were identified in the Long-Range Interpretive Plan, including the following:

- There are more than one million recreational visitors to the park each year. These visitors engage in walking, running, bicycling, horseback riding, and bird watching. Conflicts between user groups often arise. Heavy use of the park's trails, parking areas, picnic areas, and open space lead to additional maintenance and repair responsibilities.

- Heavy use of the park's authorized trails contributes to erosion and sometimes leads to unsafe conditions for different users. Numerous unauthorized trails created by visitors also contribute to erosion problems and infestations of invasive plants within the park. These trails can increase the difficulty of routing emergency assistance to the proper location when necessary.

- The lack of a comprehensive signage plan makes it difficult for non-local visitors to find the park and specific sites and information within the park. Clear signage should be used to direct visitors and to alert them to their responsibilities as good stewards of historic resources while in the park.

FIGURE B-38. An example of erosion due to visitor access to the earthworks.

FIGURE B-39. Trail erosion at Pigeon Hill.

FIGURE B-40. Another view of trail erosion at Pigeon Hill.

FIGURE B-41. Split rail fencing is used to limit visitor access to the gun emplacements atop Kennesaw Mountain.

FIGURE B-42. A third view of trail erosion at Pigeon Hill.

FIGURE B-43. Wooden benches are placed along the interpretive trail at the park. Benches and other site furnishings and signage should not be founded in the parapet or ditch of the earthworks.

FIGURE B-44. Interpretation of the battle events of June 1864 are sometimes complicated by woodland tree cover that limits views of the historic field of fire.

Recommendations and Guidelines

Earthworks Management Overview

Earthworks are fragile and irreplaceable authentic remnants of military landscapes. Earthworks are cultural resources whose preservation is dependent on careful management of ambient natural systems involving water resources and vegetation. Earthworks are also archeological resources with information potential that merits careful stewardship and a conservative approach to management.

Successful earthworks management strategies integrate natural and cultural resource values. The earthworks contained within Kennesaw Mountain National Battlefield Park are important historic resources with a direct link to the nationally significant Atlanta Campaign and Battle of Kennesaw Mountain. The objectives for the treatment of Kennesaw's irreplaceable earthworks include their protection and preservation, sustainable management of associated ecological systems, interpretation that conveys the need for stewardship, and ongoing evaluation of the system and the success of the approach through long-term monitoring.

The recommendations and guidelines that follow focus on establishing a management strategy that sets forth goals, issues, concerns, and a desired outcome, and a prioritized process for achieving the strategy. Also recommended is an adaptive approach for management over time where the success of each effort is regularly evaluated through on-going review and monitoring, with revisions made to the approach as needed based on the evaluation.

FIGURE B-45. Managing earthworks to protect the resource while also providing visitors with a compelling interpretive experience is an important but complicated undertaking.

This information is provided as part of the chapter that follows, and organized into the following six sections:

1. **Earthworks Management Goals**, which lays out the objectives to be met by the plan.

2. **Earthworks Management Issues**, which identifies specific concerns that have been addressed in detail by the plan.

3. **Earthworks Management Approach**, which indicates the overarching vision for earthworks management at Kennesaw Mountain National Battlefield Park that all of the treatment recommendations follow.

4. **Desired Outcome**, which describes the physical condition and appearance of specific key locations within the park after the recommendations have been implemented.

5. **Earthworks Management Recommendations and Guidelines**, which indicates individual tasks to be completed on the earthworks, around the earthworks, and

along the associated trail as part of the plan to meet the park's goals and address the issues of concern.

6. **Action Plan for Implementation**, which describes in detail eight prioritized projects that together suggest the methods for implementing the recommendations.

Earthworks Management Goals

The management goals proposed herein for the park's preservation of Civil War earthworks are to:

1. Protect and preserve, for the edification and enjoyment of future generations, all surviving examples of Civil War earthworks contained within the park.

2. Establish and implement maintenance and management protocols for earthworks protection and preservation that are consistent with an ethic of stewardship, and are cost-effective, cost-efficient, and sustainable.

3. Implement appropriate methods for enhancing visitor appreciation, understanding, and interpretation of the earthworks and their role in the military events of June and July 1864, particularly the Battle of Kennesaw.

Earthworks Management Issues

Earthworks management issues to be addressed include the following:

- Erosion of earthworks is evident in several limited locations around the park, including in association with earthworks atop Kennesaw Mountain, Pigeon Hill, and along the Cheatham Hill Road corridor. This erosion needs to be corrected, and the associated problems mitigated to limit future erosion.

- Most of the earthworks currently maintained under forest cover have large trees growing on or adjacent to the parapet and ditch systems. These trees pose a threat of windthrow, branch drop, and other structural failure that can cause damage to the earthworks. Regardless of their condition, all trees have the potential to fail as a result of the many unpredictable variables such as weather, climate, and pests. Unsafe and undesirable trees need to be carefully removed from the site without causing harm to the earthworks.

- Invasive plants have impacted native vegetation communities throughout the country and Kennesaw Mountain National Battlefield Park is no exception. The health of the native woodland that currently protects the earthworks could be potentially threatened by some invasive plant species.

- There are several locations within areas of high visitor use where interpretation would be enhanced if limited amounts of vegetation were cleared to indicate historic visual and spatial relationships important to the military events of 1864.

- Continued visitor access to the artillery positions atop Kennesaw Mountain has led to diminishment of the integrity of these earthworks. The park has rehabilitated the affected earthworks, surrounded them with protective fencing, and posted signs requesting that visitors refrain from climbing on the earthworks. To date, these strategies have only been marginally successful, and additional efforts will be necessary to correct the problem.

Vegetation Management. Vegetation management will likely be one of the most critical and difficult aspects of managing the earthworks at Kennesaw Mountain National Battlefield Park. Vegetation management strategies must be considered in conjunction with those relating to cultural and historic resources, as well as visitor access, safety, and interpretation. In addition, vegetation management strategies can vary widely in their associated maintenance needs, and therefore in their associated costs. Proposed

alternatives will need to be evaluated for their financial implications.

By reducing the potential for soil erosion and discouraging access to the structures by visitors, the woodland environment that surrounds the earthworks has significantly contributed to the survival of these earthen resources over the past 150 years. As a whole, the existing native oak-pine forest that shades and shelters the earthworks is generally a stable plant community that requires relatively little human input to perpetuate and maintain. Because natural systems like successional woodlands require less input in terms of labor and materials than disturbance systems such as fields and lawn that must be mown or burned periodically, working with them offers several benefits to the park. Taking an ecology-based approach to vegetation management, with earthworks preservation as the goal, is likely to afford the highest degree of protection with the smallest input of financial and personnel resources.

On an individual basis, however, the trees that compose the woodlands and provide the leaf litter that protect the earthworks from the destructive power of storm water are also living entities that will eventually succumb to age, disease, or insect infestation, and their demise has the potential to damage the earthen structures by falling on or across them, or by dislodging historic fabric through root upheaval. Falling trees also present a danger to the visitor and to the features constructed at the park to provide interpretation and site amenities. Managing the woodland in the vicinity of the earthworks thus involves protection of historic resources and minimization of risks to the visitor.

The removal of hazard trees to protect the earthworks and visitors must be carefully mitigated to avoid unanticipated consequences. For example:

> Ecologists recognize that forests have two distinct zones—forest interior and forest edge—which support very different associations of plant species. In the interiors of woodlands, where the level of light reaching the forest floor is low, only species adapted to these conditions are found. Typically, the understory layer includes saplings of the overstory tree species. Germinated from the seeds of their mature progenitors overhead, these saplings act as reserves in the understory layer available to replace the existing overstory trees when they die. Associated with the saplings is a whole array of plant and animal species adapted to woodland interior environments. Wherever a hole develops in the canopy cover, or in areas at the edge of a woodland, a completely different set of plant and animal species [will arise within] these settings.[112]

The character of the vegetation that colonizes gaps in the woodland is typically shrubby and dense and will limit or interfere with the visual accessibility of the earthworks. Tree removal should thus remain limited to hazard trees in the environs of the earthworks, as possible.

Vegetation management strategies must also take aesthetics into consideration. Vegetation has the potential to enhance or detract from interpretation, and to affect the visitor's impression of the park. The maintenance and management of vegetation has the potential to enhance or block views, and to elicit a sense of mystery, surprise, awe, and beauty. These qualities may be encouraged through simple maintenance practices such as the removal of downed dead trees visible near the trail, selective limbing up of trees for directed views, and thinning of shrubs.

While it may be desirable to remove vegetation in specific locations where interpretation is a focus, the park should avoid establishing an overly manicured or controlled appearance, which may send the wrong message to visitors about the accessibility of the earthworks.

Hazard Trees. Hazard trees pose a risk of damage to historic resources and other park property and injury to visitors through the potential for all or portions of a tree to fall or fail. Although any tree or portion of a tree may present some degree of risk or hazard to people or property at any time,

112. Ibid., 4.

hazard trees are those that are determined to possess a significant flaw or structural defect that greatly increases the potential for failure.[113] Conditions that contribute to a hazard tree designation include decay, cavities, dead limbs or overhangs, splits and shakes, weak crotches, heavy horizontal limbs, basal or crown rot, root decay, termite and carpenter ant infestations, wind and vehicle damage, construction damage, leaning or heaving trees, soil slippage areas, tree declines due to insect or disease, and decline due to soil compaction, root damage, or filling.[114] Of particular concern are those trees that are located within falling distance of visitor use areas or historic resources. These trees require regular inspection by qualified professionals. It is possible for an arborist to quantify and rate hazard potential, and prescribe and prioritize mitigation techniques and procedures. The form and frequency of inspection should be determined as part of the monitoring plan recommended herein.

Assessment of the windthrow hazard of individual trees relates to the inherent root structure of the species in combination with the soil conditions where they are growing. Larger roots contribute to tree stability. Trees subject to windthrow are those with shallow roots in rocky or wet soils, leaning trees, or trees in areas of grade change that lead to poor drainage. The position of the tree on the earthwork itself will affect its windthrow potential due to the ability of the roots to grow in various directions and anchor the tree. Seventy-five percent of tree failures are root related. Poor soil growing conditions inhibit root growth. Older trees are more susceptible to windthrow because of their height to crown relationship. Trees most likely to be susceptible to windthrow or become hazards are trees growing on the edge of the woods that are exposed to wind and storms, lone trees that are subject to lightning strikes, and trees located in high traffic areas that may suffer from the effects of soil compaction and wounding that leads to decay. Dead limbs, branch structure, an unbalanced crown, co-dominant leaders, and trunk wounds and cracks can all lead to a higher percentage of failure of part(s) of the tree, or its susceptibility to windthrow.

Invasive Plants. Exotic (non-native) plants are an issue of special concern to earthworks management because of their potential to threaten native vegetation and a healthy, balanced ecosystem. Exotic vegetation falls into one of two categories: innocuous or disruptive. Innocuous species are exotics that do not invade native ecosystems without human-caused disturbance, whose populations tend not to expand, or which generally do not displace native species to any significant extent.[115] Maintenance and management activities should not be focused on innocuous invasive species, but should concentrate on the disruptive species that have the potential to significantly alter natural processes. The effects of disruptive species, also referred to as invasive plants, include alteration of successional patterns, reduction of native species populations, hybridization with native species, and deterioration of historic resources through rampant growth.

Examples of disruptive invasive species present at Kennesaw Mountain National Battlefield Park include Japanese honeysuckle, privet, tree-of-heaven, kudzu, mimosa, nandina, wisteria, garlic mustard, and autumn olive.

Recognizing the role of the National Park Service as a leader in invasive plant management and the application of Integrated Pest Management to the maintenance of vegetation, the paragraphs below provide an overview of the issues to be considered at Kennesaw Mountain National Battlefield Park.

The primary control mechanism for disruptive or invasive plants is to prevent their establishment. Invasive plant species are generally easier to eradicate when they first appear. Monitoring programs recommended in this plan are aimed at early detection and removal of disruptive species. It should be noted, however, that one of the primary vehicles for invasive plant establishment is site disturbance through construction or grading,

113. National Park Service, *NPS-77: Natural Resource Management Guideline* (Washington, D.C.: U.S. Department of the Interior, 1991), 349.
114. Ibid., 356.
115. Ibid., 288.

or the alteration of natural vegetation patterns such as woodland clearing. Because these activities may occur in association with the implementation of actions included in this plan, or as part of anticipated trail and interpretive program development, regular monitoring of sites undergoing disturbance for the presence of disruptive species is highly recommended.

Prior to any site disturbance, a list of predicted invader species should be developed so that personnel involved in monitoring can be on the lookout for these species and implement measures to prevent their invasion. Each predicted species may require a unique monitoring and control strategy. Long-term or even permanent management commitments and consistent follow-up are essential to successful invasive plant control programs. The persistent seed banks and long-lived seeds of invasive plants often require control efforts over many years to eradicate. Initial control of invasive species, particularly woody species, may accelerate recruitment of the seed bank or additional growth. Thus missed treatment cycles can actually result in population levels greater than pre-control levels.

Herbicides are frequently included in invasive plant control programs because of the ineffectiveness or unavailability of biological control agents and the inapplicability of mechanical and cultural control methods in natural systems. Biological control agents such as beneficial insects are available for only a few invasive plant species, and the research required to locate and test potential biological control agents is beyond the individual capabilities of parks. However, research of available literature is invaluable in developing control methods and strategies, including cultural, mechanical, biological, and pesticide control methods. Without the application of herbicides, most woody invasive plant species can re-sprout from the cut stump, root crown, or roots when cut or disturbed. As natural weedy invaders, invasive plant species will usually re-colonize sites where undesirable plants have been removed. Native plants may need to be planted or encouraged in areas where invasive species have been removed.[116]

Plant Pathogens. Park maintenance personnel will also need to be familiar with the types of plant pathogens and insects likely to adversely affect the existing desirable vegetation and with mechanisms for their control and/or eradication. In addition, park personnel should be mindful of the fact that plant pathogens and insect infestations can be transmitted to local native plant populations through the introduction of new plantings. Prior to bringing them into the park, all plants intended to be brought into the park need to be inspected for diseases, pests, and parasites.

116. Ibid., 297–298.

Earthworks Management Approach

The recommended strategy for managing the earthworks located within Kennesaw Mountain National Battlefield Park focuses on maintaining all structures under the protective cover of either grass or leaf litter, while limiting the potential for both natural and cultural processes to result in erosion of the soil parapets or ditch systems. This approach is supported by a series of actions and follow-up monitoring activities conveyed as a series of treatment recommendations and guidelines. Because Kennesaw Mountain National Battlefield Park is open to the public and provides educational information in the form of interpretation, the actions and activities that support the long-term protection of the earthworks are also considered for their ability to promote and encourage interpretation and enhance the visitor experience.

The approach included herein also assumes that responsible management of the earthworks will involve coordinated management of natural features and systems, including vegetation, water resources, landform and topography, and views. The recommendations that relate to earthworks protection have been considered for their sustainability, both financial and environmental. The earthworks management recommendations are intended to apply principles of ecological balance to treating the natural systems that form the context for the earthworks. Managing natural resources in an ecologically sensitive manner tends to reduce the costs associated with their management.

One of the key aspects of managing earthworks at Kennesaw is the fact that they currently reside almost entirely under forest cover. Most military earthworks in the Eastern United States typically exist in one of two conditions: 1) minimally managed beneath forest cover; or 2) actively managed in open vegetative conditions such as manicured lawn grass or a mix of exotic and native grasses. National Park Service studies have suggested that mature forest cover typically provides the best protection for earthwork resources.[117] Earthworks maintained under tree cover generally retain a higher degree of historical integrity of profile, definition, and clarity of form than those maintained under grass cover through mowing. There are several reasons for this. The first is that erosion occurs at a faster rate under grass cover. The second is that grass can die due to drought or be damaged by mowing, exposing earthworks to erosion. The third is that grass tends to encourage visitor access, which causes compaction, trampling, and loss of the protective vegetative cover.

Trees offer advantages over grass. In addition to shielding the earthen structures from rainwater, deciduous trees annually shed their leaves. Leaf litter or duff forms a barrier that further protects the soil from the erosive action of storm water. When the duff covers the soil completely, it offers a highly successful erosion control measure for the soil surface of the earthworks.

Maintaining Kennesaw's earthworks primarily under woodland cover thus appears to present the soundest approach to their long-term management, from both a financial and resource protection stand point. Although management of earthworks under forest cover can reduce the need for cyclical maintenance associated with mowing, woodland trees still pose a threat to earthworks. Trees growing on or adjacent to the parapet and ditch can uproot and damage the earthwork, or fall on and gouge the structures. For this reason, earthworks managed under forest cover cannot simply be left alone, but must be actively maintained (Figure B-46). Ongoing maintenance tasks required include selectively removing trees that pose a threat to the earthworks, ensuring that a sufficiently dense and healthy woodland is retained to shed rainwater and replenish leaf litter cover, replacing leaf litter where absent, and restricting and monitoring visitor access.

117. James E. Johnson, *Managing Earthworks under Forest Cover* (Blacksburg, Virginia: National Park Service, 1998).

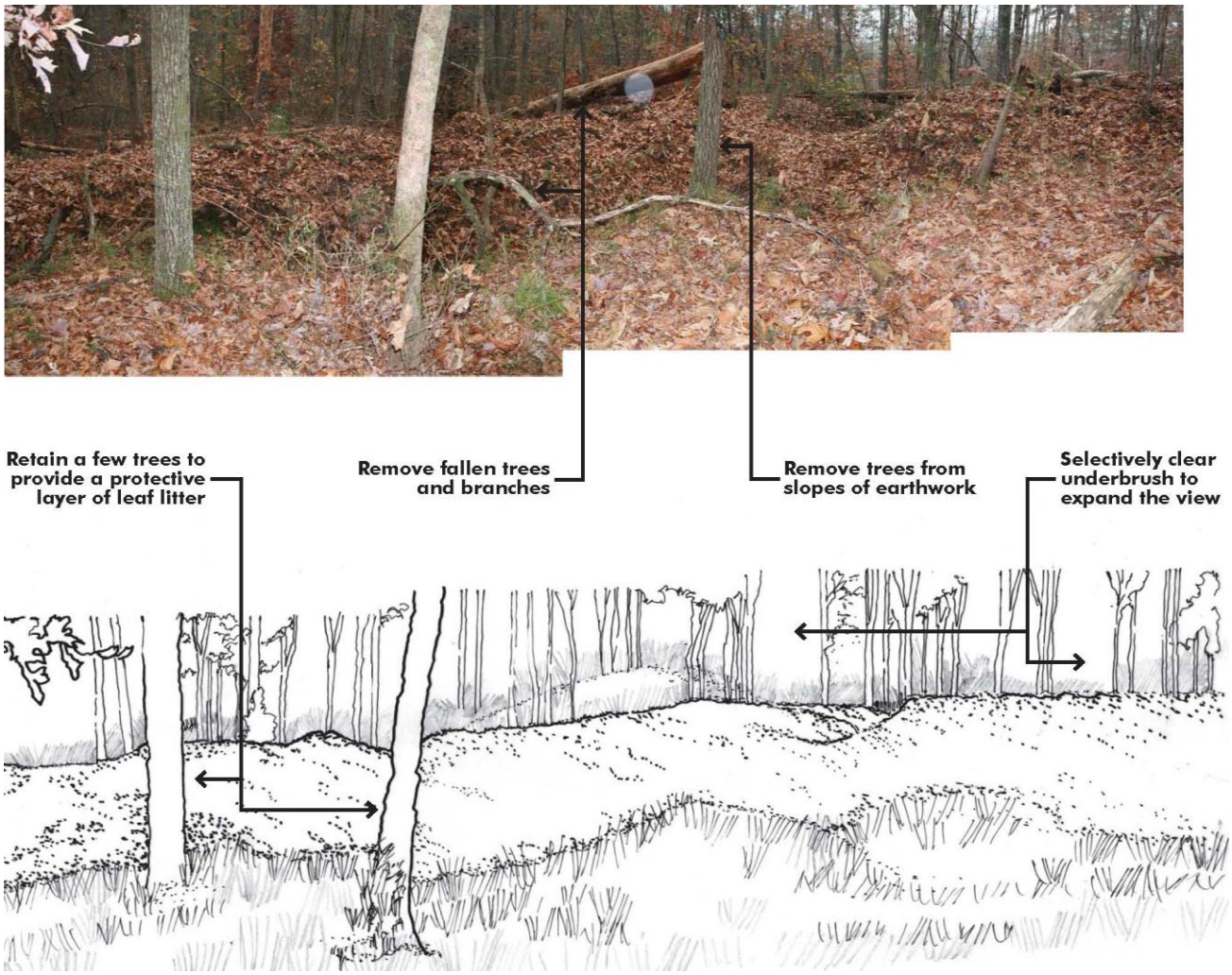


FIGURE B-46. Recommended treatment of earthworks.

Woodland vegetation over much of the park appears to be healthy and regenerating, and given current conditions, should be maintained to perpetuate this condition. Removal of invasive plants and monitoring of the health and regeneration of the woodland will be necessary in the future to ensure that any problems are corrected early. Trees larger than 12 inches diameter at breast height (dbh) growing on the earthworks should be systematically removed to reduce the potential for windthrow and breakage that will damage the earthen structures. Trees in the vicinity of the earthworks that are healthy should be retained to help shelter and protect the earthen structures from erosion, except for invasive plants, which should be removed. The earthworks should be regularly monitored to ensure that leaf litter comprehensively covers the earthworks. Additional leaf litter or mulch should be applied to any areas identified as lacking a protective cover.

Trees within falling distance of the earthworks and visitor use areas should be regularly evaluated to determine the likelihood that they are or will become hazardous and should be removed. Limited thinning of understory vegetation and the lower branches of larger trees should be conducted in specific locations as appropriate to enhance visitor appreciation and interpretation of the resource.

Where visitors are actively accessing the earthworks, a series of strategies should be applied to limit their ability to climb on the fragile resources. Signage, physical barriers, and the provision of alternative interpretive experiences are options to be considered, using increasingly

restrictive approaches based on an adaptive strategy.

While the majority of the earthworks located within the park are already managed under forest cover, there are a few sites where earthworks are maintained under grass or grass-and-tree cover, including Kennesaw Mountain and Cheatham Hill. Grass or grass-and-tree cover are generally used in areas of high visitor use where key military events are interpreted. This may constitute the most appropriate approach for these types of locations. However, management of earthworks under grass cover should follow the same overarching strategy, which is to limit the potential for soil erosion by maintaining a comprehensive protective layer on top of the soil, restricting visitor access, and limiting the impacts of anticipated risks by monitoring to look for potential problems like hazard trees, invasive plant infestations, and other problems.

There may be additional areas within the park where establishing grass cover is desirable to facilitate interpretation or to address changing vegetation patterns resulting from forest management and the necessary removal of hazard trees. One of the most challenging periods for earthworks preservation occurs during the conversion from forest cover to grass cover. Erosion is most likely to occur once the protective cover afforded by the forest has been removed but the grass has not yet been established. Special attention must be paid to ensuring there is some means for protecting the soil from erosion during the conversion period.

In general, it is important to carefully consider all actions and first and foremost avoid damage to the historic resources. The park should always be prepared to minimize and mitigate any impacts of proposed change, intended or unintended. Any action that results in exposure of earthworks soil, such as conversion of forest to grass cover, or tree removal, may lead to irrevocable erosion and should be protected against and immediately addressed.

Actions initiated as part of this plan should be conducted in stages as part of an adaptive strategy. Small areas should be tested before applying new management strategies to large segments of earthworks. After conducting treatments in small test areas, the results should be monitored and recorded before beginning additional treatments. New treatments must also be evaluated for their sustainability in terms of available financial and park personnel resources before continuing.

Desired Outcome of Treatment

The section that follows describes vision and desired outcome of implementing the recommendations provided herein for each of the primary earthworks segments located within the park.

Kennesaw Mountain. Kennesaw Mountain is one of the park's most popular attractions. The mountaintop affords long views in many directions, illustrating the visually commanding position adopted by the Confederates to stem the advance of the Union army toward Atlanta. The earthworks located along the interpretive trail atop Kennesaw Mountain include a series of gun positions featuring emplaced artillery. Visitors regularly leave the trail and scramble over the earthworks to gain the perspective of the artillery positions.

Treatments to protect and enhance the earthworks on Kennesaw Mountain will focus on repairing existing damage from visitors, enhancing the health of vegetation protecting the earthworks, removing trees growing on the earthworks, establishing new visitor access controls, managing existing vegetation to perpetuate a healthy native community, and controlling views or providing alternative views as necessary. Additional visitor access controls will feature new signage that encourages stewardship and ties to a broader park initiative in this area. Additional protective barriers will be placed along the trail to remind visitors to stay on the designated path. Vegetation will be planted on the earthworks to establish stands of tall, native, warm-season grasses to serve as a deterrent to visitors walking and climbing on the structures. The establishment of tall grasses, such as big and little bluestem, Indiangrass, Eastern gamagrass, and/or switchgrass will both protect the earthworks and deter visitors from climbing on them. The new grass cover will follow rehabilitation and repair efforts to reinstate their historic soil profiles, and placement of erosion control protection measures that will retain the soil and protect against additional erosion during the grass establishment period. The grasses can be maintained through annual mowing. Deciduous hardwood trees will otherwise continue to form an open-grown woodland, meaning one that will allow light to reach the ground, along the ridge. Saplings will be planted to replace the existing trees where they are found not to be regenerating on their own.

Little Kennesaw Mountain. Treatments employed to enhance the earthworks on Little Kennesaw Mountain will include removal of trees growing on the earthworks wherever possible, inspection of the surrounding woodland to determine forest management needs, limiting the risk of hazardous material damaging the earthworks or harming visitors, enhancing the forest where it is not adequately regenerating itself, and replenishing leaf litter on the earthworks where it is currently insufficient to protect against erosion. Little Kennesaw Mountain is less frequently visited than Kennesaw Mountain, Pigeon Hill, or Cheatham Hill, and does not currently appear to suffer from problems relating to visitor access. Interpretation of the long views and the role of the site in the design of the Confederate line should be enhanced at Little Kennesaw Mountain.

Pigeon Hill. Pigeon Hill is also a heavily-visited park attraction. It is currently suffering from trail erosion and the earthworks are being worn down by visitor access. Treatment of Pigeon Hill will focus on relocation of the current eroded trail corridor and the establishment of a new route designed to diminish erosion, and the establishment of new visitor access controls and signage to encourage visitors to stay off the resources. The woodland on Pigeon Hill will be managed to reduce the presence of invasive species, and scrub and brush, and to promote a healthy layered forest community that provides leaf litter to cover the earthworks.

Cheatham Hill. Cheatham Hill is another popular visitor attraction. Evidence that visitors are walking on and causing damage to the earthworks is present at Cheatham Hill. The deciduous and pine woodland cover associated with the earthworks is generally open-grown and not sufficiently dense to protect the earthworks

unless the park is vigilant in regularly applying leaf litter atop the earthworks. New signs and protective barriers along the trails, and the establishment of native warm-season grass cover in high light conditions will deter visitors from climbing on the earthworks. Trees growing on the earthworks will be removed to protect against windthrow, but trees located around the margins of the earthworks will be retained to generate leaf litter for earthwork protection. Evidence of soil erosion will be repaired and erosion control fabric placed over the repairs. The fabric will protect the site during the grass establishment period. Thinning and clearing of vegetation in some locations will be conducted to enhance interpretation from waysides and cannon positions. Grass cover should be mown once per year. Elsewhere, saplings of native hardwood trees suited to the soil and other cultural conditions of the site will be planted to perpetuate the existing woodland cover.

Twenty-Four-Gun Battery. There are currently no sanctioned trails that provide access to the Twenty-Four-Gun Battery. The park plans to establish a trail that will interpret one of the battery positions. The trail will be sensitively established through the existing woodland, with as many trees as possible retained. Trees growing on the earthworks will be removed, but trees around the earthworks will be retained. Signage and protective barriers may be needed to keep visitors from accessing the interpreted battery. A protective layer of leaf litter will be maintained over top of the earthworks. The park will promote the perpetuation of a healthy woodland community in the area through management that includes hazard tree and invasive plant removal, removal of downed trees and limbs, and planting of saplings as needed. A view corridor will be cleared to understand the relationship between the battery location and Confederate positions on Kennesaw and Little Kennesaw mountains. (See the CLR for more information.)

Strahl's Fort. There are currently no sanctioned trails that provide access to Strahl's Fort. The park may establish a trail linking the earthworks to other trails within the park in the future. Until that time, the park will focus on clearing the extensive fallen timber that has the potential to damage the earthworks, and inspecting and evaluating other trees with the potential to fall. Trees considered hazardous will be carefully removed. Trees growing on the earthworks will also be removed. A protective layer of leaf litter will be maintained over top of the earthworks. The park will thereafter manage the woodland within the site to perpetuate a healthy layered community.

Earthworks Management Recommendations and Guidelines

For the purposes of this study, the recommendations relating to earthworks management have been divided into three zones of interest: 1) the Earthworks themselves, composed of the parapet and ditch; 2) the Earthworks Environs, which includes a linear band to either side of the earthworks where trees have the potential to fall and damage the earthen structures; and 3) the Interpretive Trails that parallel or cross the earthworks, and have the potential to damage the structure or bring visitors into contact with the earthworks. For each zone, a set of goals is conveyed, followed by the treatment process recommended to address the goals, and any guidelines that indicate the methods to be used in implementing the treatment process.

Earthworks

On the earthworks themselves, the goals are to:

- Prevent visitor access to the earthen parapet and ditch, and limit the amount access that occurs by park maintenance personnel.
- Remove hazard trees, trees larger than 12 inches dbh, and invasive plants from the earthworks.
- Remove fallen trees and branches from the earthworks without causing additional damage.
- Repair erosion and structural damage to the earthworks.
- Establish or maintain healthy grass cover on earthworks sections that are not maintained under forest cover.
- Relocate any trail sections that cross the parapet or ditch.
- Relocate any features that have been founded within the earthen structure of the earthworks.
- Protect the resources from the destructive actions of animals.
- Remove and thin shrubs and understory vegetation where visual accessibility is desirable to support interpretation.
- Monitor the zone to evaluate the need to remove additional hazard trees and invasive plants, and supplement existing leaf litter cover.

Recommended Treatment Process.

1. Engage a forester or certified arborist to regularly inspect and evaluate existing vegetation for its potential to damage Civil War era-resources, particularly trees growing on the parapet and ditch that constitute hazards. Identify and prioritize necessary hazardous and large tree and limb removals. Determine a phased removal strategy based on the arborist's inspection and evaluation. Flag trees to be removed (refer to EMP Implementation Projects 1 and 2).

2. Inspect the earthworks for erosion, the presence of invasive plant species, tree falls requiring removal, examples of trail corridors and site furnishings located on the parapet or ditch, animal burrows, and comprehensive leaf litter cover. During inspection, and subsequent monitoring activities, document instances of these problems requiring repair, including their locations on a map. Identify areas requiring rehabilitation, replacement, or establishment of grass cover (refer to EMP Implementation Project 5).

3. Undertake vegetation removal and erosion mitigation using specialized techniques that avoid damage to the earthen resources (refer to EMP Implementation Project 4).

4. Establish vegetative or leaf litter cover in all areas currently undergoing soil erosion and that may erode in the future (refer to EMP Implementation Project 4).

5. Relocate any trails, benches, and signage that are founded within the parapet or ditch system of the earthworks. Flag proposed new trail, sign, and site furnishing locations. Install new trails, signs, and site furnishings, in locations that avoid sensitive earthworks and earthworks-related resources (refer to EMP Implementation Project 7).

6. Prune and thin shrubs growing on the earthworks where visual accessibility is deemed desirable. (For more information, see the CLR treatment plan)

7. Protect the earthworks from the destructive actions of animals. Determine the type of animal engaged in creating burrows, and identify the best method of control for the animal. Repair burrow sites, and document the repair. Establish a cyclical monitoring program to discourage future use of the earthworks as a burrow site.

8. Institute a cyclical monitoring program. Over time, it may be desirable to remove all trees growing on the parapet or ditch. Retain healthy trees that have less likelihood of causing a windthrow until this is possible to ensure that sufficient cover exists to provide the leaf litter necessary to protect the earthworks. Continue to evaluate all trees growing on the earthworks, annually at a minimum, to determine potential hazard trees. Continue to identify, through annual monitoring, trees and invasive plants to be removed, locations where visitor access controls are needed, and where leaf litter needs to be replenished (refer to EMP Implementation Project 6).

9. Record all procedures and techniques developed in the field as part of the monitoring and management program established based on this EMP to facilitate long-term management of the park's earthworks.

Guidelines Relating to the Recommendations.

- Prioritize tree removals by first identifying those trees that pose the greatest threat of windthrow or loss during a storm. Remove the trees identified as posing the highest risk, along with invasive plants, short-lived old-field invader species, species with shallow root systems, and all debris, brush, and other material not considered healthy vegetation from the earthworks. Assess the resulting light levels and leaf litter coverage. Over time all trees, including saplings, should be removed from the earthen parapet and ditch. Healthy, existing, longer-lived hardwood saplings that do not possess shallow root systems should be removed last, after desired forest management conditions are met. Healthy longer-lived hardwood trees located around the earthworks should be retained and maintained, and augmented with new plantings, to provide leaf litter to protect the soil of the earthworks from erosion. In areas where trees have been removed, allow saplings of the longer-lived hardwoods to become established around the earthworks, but continue to remove trees from the earthworks themselves (refer to EMP Implementation Project 3).

- Avoid disturbing the soil during tree removal activities. Special care must therefore be taken in the removal process not to cause erosion. Trees should be sectioned and the cut sections lowered to the ground. Remove invasive plants such as tree-of-heaven and Japanese honeysuckle identified during monitoring programs by cutting stems flush with the ground and applying a systemic herbicide to the cut ends. Avoid hand-pulling or other techniques that may cause soil disturbance.

- Cut stumps flush with the surrounding grades and apply a systemic herbicide to the cut end of deciduous hardwoods to discourage resprouting. Stump grinding of trees removed from the earthworks is not recommended due to the disturbance this would cause to potential archeological resources and the

stability of the earthen structures. Fill evidence of subsidence once stumps have decomposed with a sterile soil.

- Retain and maintain existing grades, except where drainage or soil erosion problems have been identified. In particular, avoid modifying existing topography that may reflect evidence of military activities. Also avoid removing soil in the environs of the earthworks. If soil is added in the vicinity of the earthworks to improve drainage, a sand tracer could be used to identify the repair for future archeological investigations. Consult with an archeologist for the best approach to addressing this issue.

- Monitor earthworks to ensure that landcover of leaf litter or grass entirely covers the earthworks as an erosion control measure.

Earthworks Environs

Within the earthworks environs, defined as the zone around the earthworks where trees have the potential to fall and damage the historic earthworks and which likely includes belowground evidence of related military engineering features, the goals are to:

- Remove hazard trees and likely windthrow hazards that have the potential to damage the earthworks.

- Control and eradicate disruptive invasive plants that have the potential to diminish the health of the woodland or grass cover that protects the earthworks, and use invasive species control programs as an opportunity to educate the general public about the harm that invasive species cause, and the importance of preventing their introduction.

- Evaluate and monitor the health of the woodland with the intention of planting saplings if the community is found not to be regenerating itself.

- Monitor woodland vegetation to determine the need to remove additional hazard trees and invasive species.

- Remove and thin shrubs and understory vegetation where visual accessibility is desirable for interpretation.

- Conduct archeological investigations to identify additional military engineering resources related to the earthworks and Battle of Kennesaw Mountain.

Recommended Treatment Process.

1. Engage a forester or certified arborist to inspect and evaluate the trees located in the earthworks environs and determine whether they pose a threat to Civil War era-resources. Identify and prioritize limb and tree removals, including hazard trees and invasive plants. Flag trees to be removed.

2. Remove hazard trees and invasive plants from the earthworks environs, recognizing that special techniques must be employed in the removal of vegetation in this area to avoid threats to the resource. Avoid disturbing the soil in the environs of the earthworks (refer to EMP Implementation Projects 1 and 2).

3. Clear all debris, brush, and other material not considered healthy vegetation from the zone. Chip or remove cleared vegetation to an approved landfill or appropriate location within the park for decomposition. Consider using chipped material derived from healthy native trees and shrubs to protect areas of earthworks not under cover of leaf litter. Ensure that all plant material relating to invasive species is removed from the site.

4. Retain and maintain existing native tree cover around the earthworks, with the exception of hazard trees. Retain and maintain healthy longer-lived hardwood saplings in the earthworks environs as future replacements for current woodland species. In areas where trees have been removed, retain the longer-lived hardwood saplings to become established, and remove short-lived volunteer species and species with shallow root systems that may constitute future hazard trees. Consider planting saplings of locally native

canopy tree species suited to the soil and moisture conditions of the site in areas where the forest is determined not to be regenerating itself. Remove invasive species whenever identified during monitoring programs (refer to EMP Implementation Project 3).

5. Establish a vertical clear zone between the interpretive trail and the earthworks to enhance visual accessibility in specific locations where it is intended to support interpretive objectives such as at waysides. The vertical clear zone should be established through removal of dead and dying vegetation and fallen limbs and branches, and thinning and pruning of shrubs taller than 2 feet. Removal of the lower branches of the trees below 16 feet measured from the ground plane may also be needed to establish desirable views to the earthworks from the trail (this height may be greater where the ground drops away). (For more information see the CLR treatment plan.)

6. Monitor and evaluate all trees within the earthworks environs zone on a cyclical basis—annually, or bi-annually at a minimum—to determine the need to remove hazard trees, invasive plants, and dead plant material, and maintain vertical clear zones (refer to EMP Implementation Project 6).

7. Record all procedures and techniques developed in the field and incorporated into the monitoring program established to facilitate long-term management of the park's earthworks.

Guidelines Relating to the Recommendations.

- Remove identified vegetation from the earthworks environs zone taking care not to disturb existing soil and grades. Remove all portions of trees that are deemed hazardous in a timely fashion.

- Remove trees in this zone by felling them away from the earthworks or sectioning them and lowering them to the ground, again taking care not to disturb existing soil and grades. Stumps within this area may be ground if the area has been cleared archeologically. Otherwise, cut stumps flush with the surrounding grades and apply a systemic herbicide to the cut end of deciduous hardwoods to discourage resprouting. Fill evidence of subsidence once stumps have decomposed with a sterile soil.

- Remove invasive plants such as tree-of-heaven and Japanese honeysuckle identified during monitoring programs by cutting stems flush with the ground and applying a systemic herbicide to the cut stem. Do not remove by hand-pulling or other techniques that may cause soil disturbance.

- Retain and maintain existing grades, except where drainage or soil erosion problems have been identified.

- Check all specimens intended to be planted on site for diseases, pests, and parasites. Do not install any plants that are found to be infested.

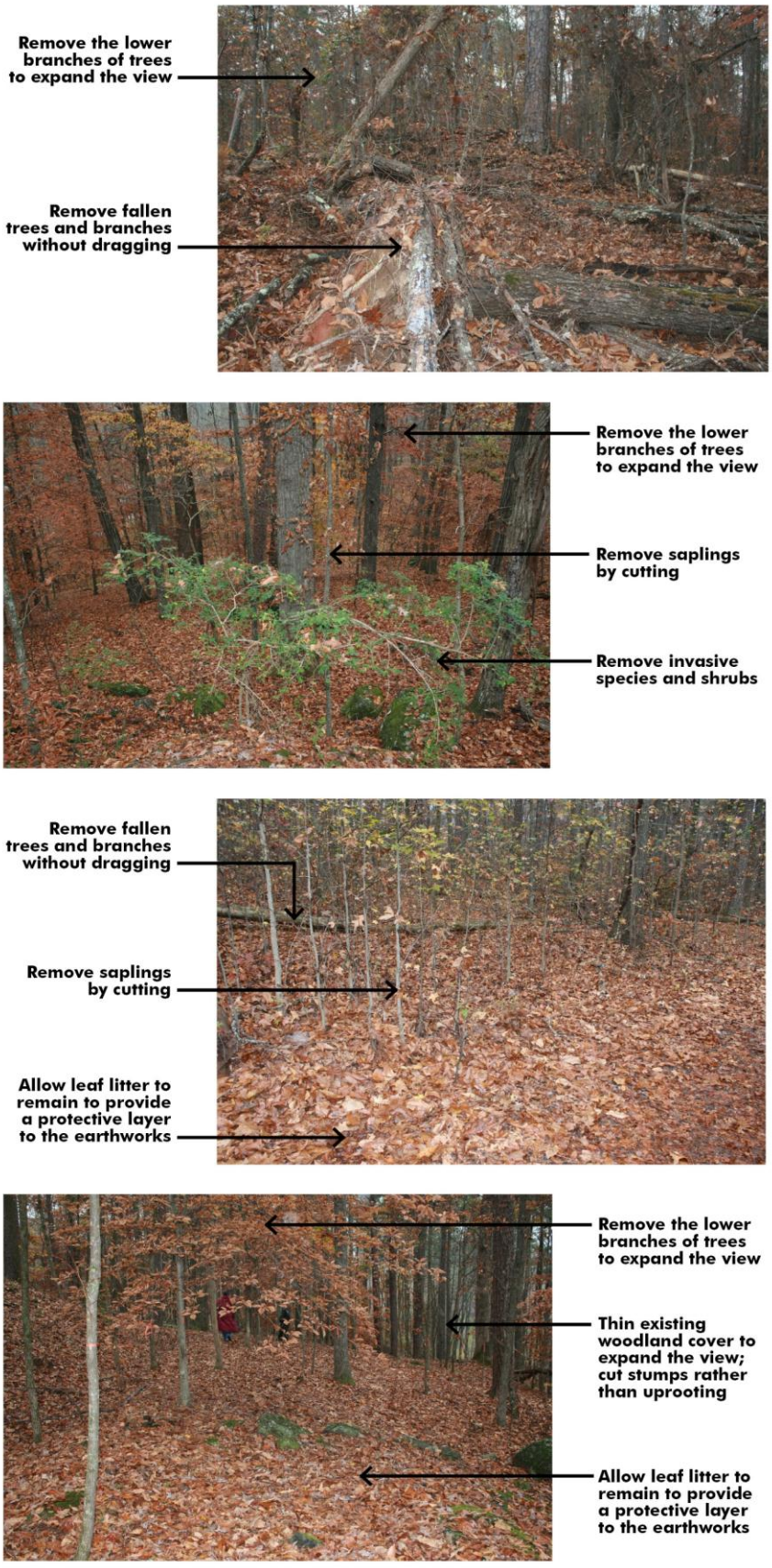


FIGURE B-47. Illustrations indicating the approach to managing views and interpretation of the earthworks from the trail within the earthworks environs.

Interpretive Trails

In many locations throughout the park, trails parallel or provide connections to the earthworks for interpretive purposes. The goals for treatment of these trails are to:

- Limit and prevent human access to the earthen parapet and ditch.
- Remove hazard trees within falling distance of the trails that could potentially injure visitors.
- Relocate any trail sections that cross the earthwork parapet or ditch systems.
- Relocate any associated signs or site furnishing features that have been founded within the earthen structure of the earthworks.
- Mitigate the potential impact of the installation of new trails, signs, and site furnishings by conducting archeological investigations prior to any ground-disturbing activity.
- Maintain the trail surfaces in good repair to remove trip hazards and protect against soil erosion.

Recommended Treatment Process.

1. Engage a forester or certified arborist to inspect and evaluate existing trees with the potential to fall on the interpretive trail that constitute a potential hazard for visitors. Identify and prioritize necessary hazardous tree and limb removals. Determine a phased removal strategy based on the inspection and evaluation. Flag trees to be removed (refer to EMP Implementation Projects 1 and 2).

2. Remove hazardous trees within falling distance of the interpretive trail. Remove all portions of trees that are deemed hazardous in a timely fashion. If prompt removal is not possible, cordon off the affected area and post notices alerting visitors to the danger. Recognize that special techniques must be employed in the removal of vegetation in this area to avoid threats to the resources (refer to EMP Implementation Projects 1 and 2).

3. Retain and maintain healthy, existing, longer-lived hardwood saplings in the vicinity of the trail as future replacements for current woodland species. In areas where trees have been removed, allow saplings of the longer-lived hardwoods to become established. Remove short-lived volunteer species and species that will likely constitute future windthrow hazards. Remove invasive plants whenever identified during monitoring programs (refer to EMP Implementation Project 3).

4. Reroute trail crossings of earthworks, which may lead to erosion of the historic resources and send a conflicting message to the visitor asked to refrain from accessing the resources. Where trail crossings of the earthworks are necessary, consider constructing a boardwalk, bridge, or puncheon that spans the parapet and ditch, taking care to avoid founding the structure within the earthworks themselves (refer to EMP Implementation Project 7).

5. Evaluate the trail to identify conflicts between the earthworks and the trail, and problems associated with grading and drainage and the trail surface. Evaluate the need for a grading and drainage plan to solve existing drainage problems on a case-by-case basis. A grading plan will likely require a transit-run survey.

6. Locate trail segments requiring grading or realignment with flags and/or stakes after an approach to correcting the identified problems has been determined.

7. Correct problems identified in association with the interpretive trail, including drainage, erosion, and the presence of trip hazards. (For more information see the CLR treatment plan.)

8. Evaluate the locations of the existing signs and benches along the trail to determine whether they are founded within the earthworks or sensitive archeological sites. Relocate any

interpretive and directional signage and site furnishings that are founded in the structure of the earthworks to a site that has been mitigated archeologically (refer to EMP Implementation Project 7).

9. Address visitor access control by evaluating the extent of the current and potential future threat. When trails and areas of high visitation occur in close proximity to the earthworks, signage and physical barriers may be needed to direct visitors not to climb or walk on the earthen structures (refer to EMP Implementation Project 8). Consider placing sections of split-rail or worm fencing or bollards and chains alongside the interpretive trail where it comes within 25 feet of the earthworks and appears to be attracting access by visitors. Barrier features should abut the trail so that visual access to the earthworks is not impaired. In no case should soil be disturbed in the environs of the earthworks to construct the barrier. Place signs to remind visitors of their stewardship responsibility for the earthworks. Ensure that these efforts are part of a larger park wide campaign to encourage visitors to stay off the earthworks.

10. Flag trees, shrubs, and saplings to be thinned, pruned, or removed that interfere with passage or interpretation along the interpretive trail. Remove all dead plant material and carefully thin shrubs between the trail and the earthworks to enhance visual accessibility of the resources (For more information, see the CLR treatment plan.)

11. Monitor on a cyclical basis the trail and associated woodland vegetation to determine the additional need to remove hazard trees and invasive plants, to repair or correct problems associated with the trail, and to enhance visitor access controls (refer to EMP Implementation Project 6).

12. Record all procedures and techniques developed in the field as part of the monitoring program established based on this plan to facilitate long-term management of the park's earthworks.

General Recommendations and Guidelines

The guidelines that follow should be taken into consideration as part of all earthworks management, and apply to recommendations indicated above, as well as the action plan that follows.

Research, Documentation, Maintenance, and Monitoring.

- Update existing conditions information relating to the earthworks and their environs. Develop and maintain a clear, scaled base map that conveys the component parts of the earthworks, and locates them within a regional and local context. Additional site-specific context information, including soil, vegetation, and hydrologic conditions, should be added to the existing park Geographic Information System (GIS) files relating to the earthworks. Global Positioning System (GPS) technology should be used to link data collected in the field with the GIS mapping.

- Conduct additional research to augment available knowledge of the historic design and use of the earthworks.

- Conduct archeological investigations to learn more about the history and physical composition of the earthworks.

- Develop protocols for an ongoing monitoring program to address the vegetation, trail, and erosion control issues identified above.

- Develop protocols for an annual tree evaluation program under the direction of a forester or certified arborist for areas that contain historic resources and are associated with visitor use. Incorporate the evaluation into a cyclical maintenance and management program that includes pruning, thinning, and removal of dead, diseased, or damaged trees that present a hazard to visitors.

- Develop a list of predicted disruptive invader plant species prior to any site disturbance so that personnel involved in monitoring can be

on the lookout for these species and take measures to prevent their colonization.

- Work to control or eradicate populations of disruptive invasive plant species.
- Establish protocols for removal and disposal of vegetation debris.

Sustainability. Consider sustainability practices in all aspects of earthworks management, including minimizing energy expenditure, limiting the need for irrigation and reducing the need for fertilizers and other soil amendments by selecting plant materials that are native and naturally adapted to existing site conditions, limiting herbicide and pesticide use and taking advantage of natural processes and ecology whenever possible.

Archeological Resources. Undertake archeological investigations prior to initiating any land disturbing activities.

Earthworks Management Action Plan for Implementation

Park goals, as stated earlier in this document, include management of impacts associated with visitation and natural degradation resulting from the forces of water, gravity, and weather on historic resources; and enhancement of the visitor experience by increasing the interpretive opportunities associated with the earthworks. The pages that follow describe and illustrate an action plan for implementing the guidance afforded above in the form of recommendations for managing the park's earthwork resources. The action plan is comprised of eight implementation projects that collectively address all of the recommendations provided herein.

Implementation Projects

1. Remove hazard trees.
2. Remove trees and limbs that have fallen across the earthworks.
3. Manage woodland communities to protect earthworks resources.
4. Correct and prevent soil erosion on earthworks under forest cover.
5. Correct and prevent soil erosion on earthworks under grass cover.
6. Establish a monitoring program for the park's Civil War earthworks.
7. Relocate trail sections, signage, and benches that impact earthworks.
8. Establish visitor control systems in association with earthworks in high use areas.

1. Remove Hazard Trees

Description. Hazard trees are among the greatest threats to the integrity of the Civil War earthworks at Kennesaw Mountain National Battlefield Park. Trees become hazardous when they pass a threshold of risk for structural failure, and threaten to fall on people or structures. Trees growing on or near the earthworks that are uprooted as windthrows or that lose trunks or limbs have the potential to severely damage the earthworks, or to injure visitors on adjacent interpretive trails. As human safety issues are unassailable, and damage to the historic earthworks can be irreparable, removal of all trees and limbs identified as hazardous is recommended as part of an overall strategy for managing earthworks under forest cover.

While all trees can fail under different circumstances, most succumb to a structural deficiency, advanced age, or the effects of storms. For example, wind damage often results in breakage of major limbs, trunks, and tops. If the broken tree parts remain suspended, they may constitute a hazard to visitors or the earthworks. Inspection of the trees growing on or near the earthworks can identify trees that are already hazardous or are at risk for becoming a hazard. Tree defects are generally not detectable by those not trained in arboriculture. The services of an arborist are required to evaluate trees within falling distance of the earthworks and associated visitor use areas on a regular basis for hazard risk assessment. An arborist can prioritize treatments for the range of hazardous conditions present, providing the park with a plan for follow-up corrective actions.

Removal of hazard trees has the potential to disturb surface soils, but is preferable to the major soil displacement associated with a windfall. Special care will need to be taken in felling hazard trees located on or near earthworks to prevent gouging by equipment or falling branches.

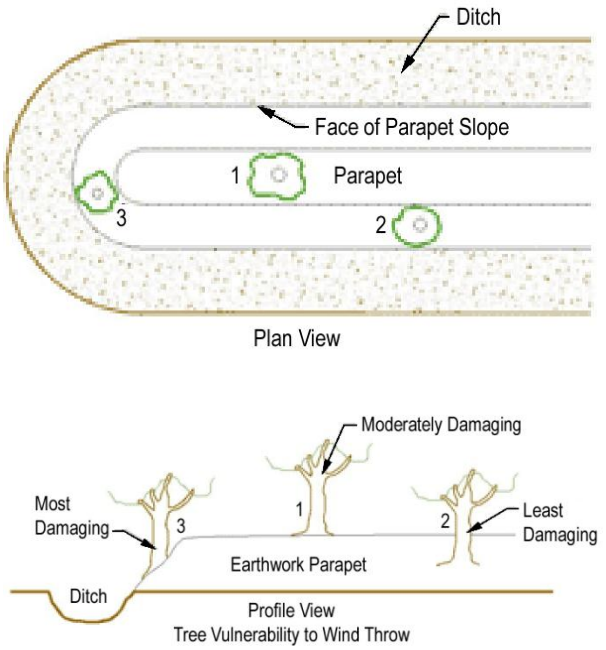


FIGURE B-48. Hazardous trees pose a danger to visitors and a threat to the integrity of the earthworks. One of the potential hazards associated with forest trees is being blown over or windthrown. The risk of trees being windthrown depends on their position within the structure of the earthworks, as shown above.

Because tree growth can be managed but not controlled, maintenance of the forested conditions of Kennesaw Mountain National Battlefield Park will require some degree of risk management, including assessment and mitigation. Even with the most comprehensive management practices, there is always the likelihood that storm events will cause trees to blow down and uproot. The only way to eliminate all risk associated with forested conditions is to eliminate every tree. Given the advantages that forest cover affords in protecting the earthworks, it is recommended that the park manage rather than remove the forest trees by conducting regular inspections of the earthworks environs for hazard trees, and immediately correct any problems identified as part of the overall earthworks management strategy.

Location. Hazardous trees may be associated with any of the earthworks, their environs, and associated trees that are managed under forest cover.

Considerations. Trees growing on earthworks may be classified as hazardous due to their potential to be blown over. This condition, known as a windthrow hazard, is associated with large trees with broad, sail-like canopies that can catch the wind. Trees growing on the earthworks that blow over typically pull away layers of earth and rock, potentially including portions of the earthwork parapet and ditch. Hazardous limbs that fall on the earthworks can gouge the structures and expose bare earth to the process of erosion.

Storms can also damage trees and create hazardous trees and limbs. Ice, high winds, lightning, and heavy snow all occur in the Southeast, and have the potential to damage trees. Different types of storms will result in distinct types of damage. Ice typically results in broken and bent stems and branch breakage. Lightning usually affects individual trees, often killing them. High winds cause trees to bend and break, with the loss of major limbs, trunks, and tops, as well as to uproot. Trees can become damaged in storms, with insect pests and diseases entering the wound site. Wounded pines, for example, are subject to infestations of Southern pine bark beetle, while affected deciduous trees are more inclined toward decay. Forest stands that are healthy and vigorous are likely to be more resistant to storm damage, while over-mature and over-stocked forests are less resistant. Dead trees and downed timber also contribute to fuel loads and the threat of fire.

Hazardous conditions must be identified as soon as possible after a storm event through survey. This may occur through on-the-ground reconnaissance or aerial viewing. Using the information collected during the survey, the park can determine a prioritized course of action. Those trees and branches posing the greatest threat to visitors and historic resources should be removed first. Other factors that may influence the development of an action plan include potential pest or fire problems, available funds, and aesthetic considerations.

Kennesaw Mountain National Battlefield Park already possesses a *Tree Hazard Management Plan.*[118] Management of hazard trees for earthworks protection should follow the guidance included within this plan. The park should consider updating the plan to include any information included herein that affords additional protection for the earthworks.

In addition, NPS-77, the *Natural Resources Management Manual*, contains guidelines for inspection, classification, and rating of hazardous trees that pose a threat to visitors or property.[119] The manual does not provide guidance on identifying trees that may be hazardous to earthworks, however.

The role of the arborist. A certified arborist is the most appropriate professional to identify hazard trees on and around the earthworks. Arborists are tree care specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance their

118. National Park Service, *Tree Hazard Management Plan* (Marietta, Georgia: Kennesaw Mountain Battlefield Park, May 1990).
119. National Park Service, *NPS-77: Natural Resource Management Guideline*, 349–358.

health and beauty, and reduce any risks to people and property. Tree care needs should be identified during an annual site evaluation conducted by an arborist to identify hazard trees. In addition to entire trees posing a threat to visitors and the earthworks, individual branches can also prove hazardous. Removal of the branches as recommended by the arborist will be warranted, as will preventive care suggestions. Specific projects that the arborist may identify include: root crown excavation and inspection, crown cleaning, and crown restoration.[120] Root crown excavation can identify and prevent root-related health problems. Crown cleaning eliminates the hazards by removing large dead branches and repairing breaks. Crown restoration and reduction can diminish the potential for future failures as the tree recovers and continues to grow.

Because trees are living, growing organisms affected by innumerable factors, trees can fail in ways and because of conditions not in evidence through inspection; the arborist cannot be expected to detect or anticipate every condition or event possibly leading to the structural failure of a tree. Conditions that may be hidden within the trees and belowground may contribute to failure despite close scrutiny on the part of the arborist. Similarly, arborists cannot guarantee that a tree will be healthy or safe under all circumstances, for any specific period of time, when a tree or its parts may fail, or that treatments such as pruning and bracing will succeed entirely.

Arborists specifically look for evidence of tree health problems such as dieback, decline, and structural failure. Dieback is the unexpected and abnormal death of foliage, twigs, and branches, beginning at the tips and moving inward towards trunks. Dieback is usually indicative of serious plant health concerns and may precede complete death of the plant or tree. Decline is the deteriorating condition of trees manifested in chlorotic, thinning foliage, and mortality among branch tips, twigs, branches, or limbs. Decline is defined as a deficit in healthy plant systems resulting when cells and tissue become inactive at a faster rate than new tissue can be formed. Plant decline can be indicative of impending plant death. Failure is the structural collapse of plant tissues resulting in trunk, limb, or branch breakage or the uprooting of an entire tree. Structural failure can result from conditions such as leaning trunks, multiple trunks or leaders, weakly attached branches, cavities and decay pockets, trunk and branch cracks, hangers, and deadwood. The structure of the tree itself may also predispose a tree to failure. Trees with tight crotches may fail due to the poor adherence of limbs. Arborists also look at problems at the root crown, where trees are particularly susceptible to disease and decay. Failure may result from severe butt or root rots, fungal canker organisms, or insecure rooting in shallow soils.

Assessing potential hazard trees. Windthrow is one of the hazard tree conditions to be addressed by the park as part of its approach to earthworks management. Windthrow is a natural process in forests throughout the eastern United States. However, it is very difficult to predict whether an individual tree is likely to be uprooted. Many factors influence the process, including wind speed and direction, tree size, crown shape,

120. Root crown excavation is a preventive measure that reduces the potential for root disease or decay of the lower trunk when changes of grade result in excess soil over the base of the tree. Root crown inspection includes excavation of the junction of trunk and buttress roots and immediate vicinity below grade in order to inspect the structural condition of the root and trunk junction.

    Crown cleaning is a pruning standard that includes the removal of dead, dying, diseased, crowded, weakly attached, and low-vigor branches and water sprouts from the tree foliage crown, while avoiding significant removal of live foliage.

    Crown restoration is a pruning standard involving selective thinning to improve the structure and appearance of trees that have lost significant top growth due to storm activity or improper pruning. Several restoration prunings over a period of years can be required in some cases.

    Crown reduction is a pruning standard involving selective thinning to reduce the crown height and/or spread. Crown reduction should not include removal of more than 25 percent of the live foliage.

position on the slope, soil depth and wetness, and tree rooting habit. Often, trees develop wind firmness against the prevailing winds, but are susceptible to blow down when strong winds occur from another direction. Larger trees with heavy crowns tend to catch more wind and pose a far greater risk for windthrow than smaller trees. Foresters have generally observed that tree saplings rarely blow down and uproot. As a general guide, smaller trees with a low risk of windthrow are typically classified as those 12 inches dbh or less. Otherwise, shallow rooted trees are more susceptible to windthrow than those that maintain a taproot. Shallow rooted trees can fail due to simple lack of sufficient root adherence. Shallow rooted trees growing in wet soils with restricted rooting depth have a greater likelihood of being uprooted.

The uprooting of trees growing on the earthworks poses one of the greatest threats to the historic earthwork resources. While it is recommended that all trees eventually be removed from growing directly on top of the earthworks, in the short term those that have the highest possibility of being windthrown, along with hazard trees, should be removed first, leaving relatively stable trees to help maintain a cohesive forest canopy.

Those trees located on the ends of the parapets pose the greatest risk of windthrow due to the fact that their roots only anchor the plant in two directions. Those located on top of the parapet, with room for roots to grow in three directions, pose a slightly lower risk. Those located on the side slopes of the earthworks pose the least threat given that their roots can grow out in all directions. It is also important to consider that certain tree species, such as white pine (*Pinus strobus*), appear to cause more damage than others when uprooting.

Tree roots are an area of particular concern in evaluating the health of trees and their potential to become hazards. Trees are highly susceptible to injury, decay, and disease at the root crown, the area where roots first enter the soil. When this area becomes covered by soil, regularly wet, or injured, the tree can quickly decline and become a potential hazard. Inspection of root crowns is necessary to determine the health of trees where any of these problems are in evidence. Large shade trees can become subject to failure after extensive root loss. Certain tree species can produce adventitious roots after primary roots fail that keep the foliage green and hide evidence of the problem, but may not be large or extensive enough to support the tree. When root crown excavation reveals extensive decay in the original supportive or significant adventitious roots, and the root system does not seem substantial enough to support the tree, the tree should be removed.

Hazard potential should be quantified to facilitate prioritization of repair procedures and risk management strategies. The recommended process is as follows:

1. Identify trees with a potential for failure by documenting their defects in structure and architecture, and the tendency of the individual species to become hazardous within the environment of its current location.

2. Rate the degree of hazard posed by the trees identified as having potential for failure, indicating the most likely type of failure(s).

3. Prioritize planned removals.

4. Prescribe mitigation and abatement techniques and procedures including pruning, cabling, bracing, pest and disease control, regular monitoring, and complete removal.

It is important to consider the season in which hazard tree repair and removal is addressed. One of the primary concerns is the effect repair or removal will have on nearby trees and shrubs. Many repair and removal efforts are best conducted in the fall and winter, when the bark and cambial layer of the dormant vegetation will be less easily damaged.

Hazard trees and archeological resources. Tree repair and removal has the potential to disturb the soil, and thus archeological resources. All areas where tree removal work is planned will need to be assessed for archeological potential. Tree removal strategies should be designed to avoid

disturbing known and potential archeological resources.

Trees themselves pose a potential threat to any archeological resources associated with the earthworks. Tree roots penetrate the soil and may disrupt archeological deposits.

Another reason to remove trees susceptible to windthrow is that they typically uproot large quantities of soil that may contain archeological deposits.

Implementation considerations. The challenges relative to tree removal at Kennesaw Mountain National Battlefield Park are significant. Both the nature of the site and its physical character are unique, resulting in several constraints on hazard tree assessment and removal. Specialized and advanced techniques, skills, and safety precautions are likely to be required as part of the work. A well-trained crew should carefully remove trees to avoid scarring earthworks or disturbing the forest floor. Contracted tree crews should be closely supervised by National Park Service resource protection staff at all times to protect against damage and to ensure that procedures are properly followed.

Another important consideration for earthworks protection is minimizing physical disturbance to the earthworks while conducting repair and removal efforts. Disturbance can destabilize the earthen structure of the earthworks and expose soil to the erosive effects of water and wind.

While often the most efficient and lowest risk technique, tree and debris removal by all-terrain, rough-terrain, or tower type cranes will likely not be feasible at Kennesaw Mountain National Battlefield Park due to the nature of the site and the limited opportunities for access by large equipment. Manual or hand removal of trees and limbs will likely be the most prevalent technique employed at Kennesaw. Hand removal requires specialized skills and equipment to ensure worker and site protection.

Another issue to consider carefully is the overall approach to hazard tree repair and removal. Working concurrently through removals and repair efforts would limit the number of times sensitive areas would need to be accessed by heavy equipment, but could also lead to extensive changes in the forest composition that might negatively impact earthworks.

In addition to hazard tree removal, repair is an option for some hazardous limbs and branches. Crown cleaning pruning eliminates the hazards by removing large dead branches and repairing breaks. Crown restoration and reduction can reduce the potential for future failures as the tree recovers and continues to grow. Root crown excavation may be necessary to inspect for hazardous tree conditions.

Repair may be needed when trees are removed from the earthworks, leaving larger roots to decay. Portions of the parapet can collapse once the roots are no longer present.

Hazard tree repair and removal will produce debris and waste material that require disposal either on or off site. Where deposition of tree waste material will not contribute to hazardous fuel load conditions, branches, limbs, and trunks may be distributed around the site to decompose naturally and return nutrients to the soil. Other material will need to be hand carried to staging areas where it can be removed by truck or even helicopter and carried to an approved disposal location. Some material may also be chipped on or off site, and the resulting mulch used to protect earthworks from erosion.

Related Implementation Projects.

- Hazard tree identification and removal should be considered part of the overall strategy for managing Kennesaw's woodlands for earthworks protection (Implementation Project 3).

- The process of hazard tree removal should be coordinated with efforts to correct or prevent soil erosion under forest cover (Implementation Project No.4) as well as grass cover (Implementation Project No.5).

- Hazard trees requiring repair or removal will likely be identified as part of the proposed earthworks monitoring program (Implementation Project 6).

- Hazard tree removal will serve as the first step in the process of thinning existing woodland for visual access and interpretation (For more information, see the CLR treatment plan.)

Project Implementation Process.

Hazard Tree Identification

1. Identify the hazard tree management zone, defined as the area where trees have the potential to fall on earthworks and associated trails.

2. Inspect trees within the management zone annually in heavily used areas and bi-annually elsewhere. Also inspect the hazard tree management zone after storm events involving heavy rain, snow, high winds, or ice storms. Visually inspect the crown, bole, butt, and roots of trees within the zone from all sides. Coordinate tree hazard inspection and removal data and documentation with earthworks management files.

3. Assess the risk posed by trees in the zone to become hazardous, and make repair and removal recommendations that follow an approved system or are based on evaluation by an arborist.

4. Flag or blaze trees requiring immediate removal. Trees requiring limbing or other repair action should also be temporarily marked.

5. Close any areas that present a danger or threat to visitors prior to repair or removal work.

Hazard Tree Repair

Root Crown Excavation

1. Identify trees requiring root crown excavation.

2. Remove soil, plants, rock, and other debris from the base of the tree down to the original grade on all sides to approximately 24 inches from the tree base. In lieu of hand clearing, consider using an air spade, which applies supersonic compressed air to removing unwanted material from around the root collar, or a pressurized water source, which achieve better exposure with less risk of damage to the roots.

3. Clean and expose the root flares to at least 6 inches away from the trunk tissue.

4. Regrade the soil to direct drainage away from the tree base.

5. Determine whether root defects such as root disease, girdling roots, and concave trunk areas indicate the tree as a hazard.

Pruning Storm-Damaged Trees

1. Follow approved arboricultural techniques in pruning, limbing, or topping trees that exhibit hazardous branch or trunk conditions but do not require removal.

2. Remove jagged sections of broken limbs and entire limbs at a right angle and slightly to the limb side of the butt swell so as to make the smallest possible wound.

3. Make all cuts just outside the raised areas at branch intersections (bark ridges) above and branch collars beneath to avoid having a large limb tear loose during pruning, stripping the bark and leaving jagged edges that may allow insects or pathogens to enter the tree.

4. Cut off limb stubs where they join the next largest branch or the trunk rather than just below the break, without leaving a stub. Treating the wound is not necessary.

Hazard Tree Removal

1. Respond immediately to the identification of hazardous tree conditions. Determine the approach to be used in removing the tree given the existing environmental conditions and

relationship of the tree to the earthworks. Design an appropriate access route for equipment and possibly vehicles.

2. Prepare the site for any heavy equipment to be used in association with tree removal. Install protective matting, two layers of 3/4 inch plywood, or wood chips along the proposed access route and site staging areas to be used by small transport equipment and/or lightweight pick-up trucks to reach hazard trees or hand-piled debris. This protective material will diminish soil compaction by dispersing the weight of the vehicles, and will offer a dry travel surface.

3. Protect any trees that might be impacted by hazard removal or repair by surrounding them with temporary construction fencing at least as far as the drip line.

4. Prepare the site for tree removal based on whether the tree will be felled or sectioned and lowered to the ground. Sectioning is the more costly approach and requires specialized training, but will be necessary when trees have the potential to fall on the earthworks.

    a. Employ minimum impact techniques such as sectioning, also referred to as soft-logging, to avoid earthworks damage. First remove tree branches that may impale the ground before the tree is felled. Section the tree beginning at the top and lower the sections to the ground using ropes. Where feasible, consider lifting large trees away from the earthworks with a crane or winch.

    b. Remove trees using directional felling only when earthworks damage is not an issue. When felling trees:

        i. Check tree for dead and hanging limbs.

        ii. Check for high voltage lines in area.

        iii. Check for the best direction to fell the tree.

        iv. Identify the proper equipment to be used, including the suitable pull rope if necessary.

        v. Remove the lower branches of the tree being removed to prevent their impaling the ground before the tree falls. Use a bucket truck or tree climbers to remove branches in the direction of the fall.

        vi. Remove brush and clean the work area around the tree.

        vii. Create a brush pile to cushion the impact of the fall.

        viii. Conduct all recommended safety preparations.

        ix. Follow appropriate sawyer methods to fell the tree.

        x. Use a chainsaw to cut the hazardous tree flush with the surrounding grade, felling the bole away from earthworks and onto the collected brush.

5. Leave cut stumps of deciduous trees in place to deteriorate, or grind the stumps if approved by an archeologist. To prevent resprouting, treat the cut stumps of deciduous hardwoods to remain in place with an approved systemic herbicide according to label directions within eight hours of cutting. A second application may be necessary. Replace the resulting holes with sterile soil as they decay. Conifers generally do not sprout from the stump. Either grind conifer stumps to 6 inches below grade and cover with topsoil if approved by an archeologist, or treat stumps and exposed roots with granular tetrahydrate of borax, using 1/2 cup per square foot of surface area. Borax prevents the establishment within stumps of various root disease fungi, such as *Fomes annosus*, which could subsequently spread to healthy remaining trees.

6. Move wood and debris by hand or cart away from the earthworks to staging areas where

they can be loaded into small transport equipment and removed to an approved disposal site, or stage all wood and debris, secured with chokers and cargo nets, for helicopter removal. Avoid skidding felled trees over sensitive areas of the woodland that might lead to erosion. Consider chipping small debris in staging locations and distributing the material on site.

7. Perform final detailed clean-up manually using small transport equipment conveyed over protective matting.

8. Regrade the site of the tree removal to establish a smooth soil surface. If new soil is required, sterile fill should be used. Obliterate skid trails and tire tracks and fill any ruts or gouged areas created by the use of any heavy equipment to return them to their condition prior to tree removal activities.

9. Cover all exposed soil with organic matter from the site. This could include new mulch created from chipped tree limbs.

10. Update the park's GIS files relating to earthworks management by locating the tree removal site using GPS equipment, and documenting the work performed.

Follow Best Management Practices (BMPs) for hazard tree repair and removal as follows:

- Manage tree removal operations to protect environmental resources.

- Engage a fully licensed and insured tree removal service with successful experience working at historically significant sites. Included appropriate BMPs and erosion control measures in the contract.

- Control woody plant regeneration through chemical means conducted by a certified herbicide applicator, either qualified park staff or a landscape contractor.

- Cut stumps; do not uproot them.

- Remove stumps located beyond the limits of the earthworks parapet and ditch system using a stump grinder. Test the perimeter of the stump for archeological resources before grinding.

- Remove felled trees without dragging, which gouges the ground surface.

- Perform cutting or thinning in the fall and winter when there are fewer visitors are at the park, dormant trees are less likely to be damaged, and there are no nesting birds or animals in the vegetation.

- Minimize the use of heavy vehicles; restrict their use to times when soil is firm. Use vehicles with flotation tires to reduce gouging and rutting of the forest floor.

- Employ measures to stabilize soil and minimize erosion.

2. Remove trees that have fallen across the earthworks

Description. The trees that protect the Civil War earthworks at Kennesaw Mountain National Battlefield Park are living entities subject to weather and age. Even with the most vigilant monitoring and management program in place, trees will naturally blow down and uproot, and limbs will fall. When they uproot, trees sometimes disturb large areas of soil as the root ball is heaved out of the ground. Trees growing on the earthworks pose a great risk to the earthen resources, should they uproot and overturn. Trees that uproot near the earthworks can fall across the structures and disturb the soil associated with the parapet and ditch. Another risk posed by managing earthworks under forest cover is the potential for trees to drop heavy limbs or snapped trunks on the earthen structure. Limbs and trunks can puncture the soil of the earthworks or lead to the collapse of sections of the parapet. The disturbance caused by tree and limb falls often leads to soil erosion as well.

Removal of fallen material should be undertaken not only quickly but carefully so as to avoid additional damage. Immediate stabilization of the affected sites will provide the best means for correcting damage, protecting resources, and mitigating further deterioration and loss. Several techniques are recommended for removal of fallen trunks, limbs, and uprooted stumps that affect the earthworks. One of the most efficient and lowest risk techniques for tree and large debris removal is by crane. This approach, however, may have limited applications at Kennesaw due to the terrain, sensitivity of resources, and lack of access points; hand removal will necessarily be a part of most tree removal efforts. Hand removal requires a myriad of forestry skills including advanced felling techniques and the use of small specialized equipment for rigging and worker and site protection.

Location. This project is relevant to any segment of earthworks where fallen trees or limbs have impacted the parapet or ditch.

FIGURE B-49. Special care should be taken when removing trees and branches that have fallen across the earthworks.

Considerations. Inspection and monitoring within the earthworks zone is the best defense against tree fall and limb drop. Tree failure can be unpredictable, however, and can occur despite regular inspection. Tree falls, and limb or trunk snapping, are typically associated with wood deterioration and decay, storms, inadequate or damaged root systems sometimes resulting from compaction, and unstable soil conditions. Storms in particular pose a threat that may not be anticipated through inspection and risk assessment on the part of an arborist.

Fallen trees and branches require specific removal approaches depending on their location and condition. The implementation process outlined below addresses four different tree- and limb-fall conditions. The first addresses trees that have uprooted on or adjacent to the earthworks in such a way that the root mass and stump can be replaced within the original hole. The second indicates the approach recommended when the root mass and stump cannot be moved for various reasons. The third outlines the approach to removing a snapped trunk or fallen limb that does not include a stump or root ball. The fourth indicates measures for removing a limb that has punctured the earthwork.

Related Implementation Projects.

- Removal of trees that have fallen on or near the earthworks should be considered as part of the overall plan for managing earthworks under forest cover (Implementation Project 3).

- Soil erosion control should be addressed as part of the repair of sites where trees and limbs have fallen (Implementation Project 4).

- The recommended monitoring program will help identify locations where trees or branches have fallen across the earthworks, requiring removal (Implementation Project 6).

Project Implementation Process. The following approaches are based on guidance provided in *05 Currents* titled "Emergency Stabilization of Earthworks Resulting from Fallen Trees."[121]

Remove trees that have uprooted on or adjacent to the earthworks with a root ball that can be replaced.

1. Conduct archeological inspection of the uprooted tree to determine the presence of artifacts or other cultural remains.

2. Prepare the site to accommodate any proposed heavy equipment. Install construction matting, 8 to 12 inches of wood chips, or a double layer of 3/4-inch plywood where the equipment will be used and in association with staging areas to minimize ground disturbance and soil compaction.

3. Cut the trunk approximately 3 to 5 feet from the stump or root ball.

4. Section the tree using a chainsaw so that it can be lifted and removed either by hand to small transport equipment or by crane or other mechanical means, depending on the accessibility of the site. (See below for removing a snapped trunk or fallen limb, or to repair puncture damage from a fallen limb as appropriate.)

5. Remove the soil surrounding large roots by hand. Cut these roots from the root ball and the hole using either a chainsaw with a carbide-tipped chain, hand saw, or forester's lopping shears.

6. Return the root ball to the hole using a backhoe, front end loader, excavator, or other hydraulic equipment that can be safely used in the environs of the earthwork. If the tree is small enough, consider using a grip hoist pulley system to reset the root ball. Consider the safety of those involved in returning the root ball to the hole. Recognize that the root mass and attached soil have tremendous weight and may shift in unexpected ways as the trunk is cut away from the stump. Occasionally, an upright root mat snaps violently back into place when the fallen tree is severed. It is important that no one is standing near the root mass when it is being cut in case it springs back.

7. Press the root ball into the hole and gently compact the soil with a manual tamper. Once it has been firmly set within the original hole, cut the trunk flush with the ground, and treat with a systemic herbicide to prevent resprouting. Leave the stump in place to decay. Eventually fill the resulting void created by the decayed trunk.

8. Repair any damage to the earthwork. Place an erosion control blanket composed of degradable natural materials over the disturbed site. Tack the material in place to prevent it from shifting. Place leaf litter or mulch over top of the erosion control blanket.

9. Regrade the soil around the uprooted tree to smoothly meet surrounding grades. Cover the site with leaf litter or wood chip mulch.

Remove trees that have uprooted on or adjacent to an earthwork and contain a root ball that cannot be replaced.

1. Conduct archeological inspection of the uprooted tree to determine the presence of artifacts or other cultural remains.

121. National Park Service, "Emergency Stabilization of Earthworks Resulting from Fallen Trees," Implementation + Management, Case Studies, <www.nps.gov/hps/hli/currents/earthworks/case_studies/index.htm>

2. Prepare the site to accommodate any proposed heavy equipment. Install construction matting, eight to twelve inches of wood chips, or a double layer of 3/4-inch plywood where the equipment will be used and in association with staging areas to minimize ground disturbance and soil compaction.

3. Remove as much soil as possible from the root mass of the overturned tree and return it to the original hole using hand tools or a pressure washer to remove soil from the roots.

4. Cut the trunk as close to the root mass as possible, and cut back or remove as many of the roots as possible from the root ball. Consider the safety of those involved in the work. Recognize that the root mass and attached soil have tremendous weight and may shift in unexpected ways as the trunk is cut away from the stump. Occasionally, an upright root mat snaps violently back into place when the fallen tree is severed. It is important that no one is standing near the root mass when it is being cut in case it springs back.

5. Section the tree using a chainsaw so that it can be lifted and removed either by hand to small transport equipment or by crane or other mechanical means depending on the accessibility of the site. (See below for removing a snapped trunk or fallen limb, or repair puncture damage from a fallen limb as appropriate.)

6. Treat the cut end and exposed root masses of any stumps that cannot be removed from the site with a systemic herbicide to prevent resprouting. Apply the herbicide by following the label directions carefully. Use a swipe applicator and carefully apply the herbicide only to the cambium zone of the trunk and roots. Avoid contact with other plants or the soil.

    a. Leave the stump in place to decay.

    b. Accelerate decomposition of any limb(s) or trunks that cannot be safely lifted and removed from the site by drilling 1 inch holes into the wood to form a grid pattern 2 to 4 inches on center. Backfill holes using a mixture of 50 percent organic nitrogen fertilizer, 25 percent soil, and 25 percent sand. Use a fertilizer with a low salt index to minimize any adverse effects on archeological resources.

7. Remove as possible trunks, stumps, and root masses from the site. Identify the most appropriate equipment for removing the stump. Consider using a crane or loader to remove heavy stumps if site conditions allow. For smaller debris, use a grip hoist pulley system.

8. Cover the soil returned to or remaining in the depression where the stump was located with either a non-degradable geotextile fabric or a 2 inch layer of sand to act as a tracer layer to inform future archeological excavations of the ground disturbance and repair. Consult with an archeologist for the best approach to addressing this issue. Any sand tracers should only be applied to relatively level areas or they will dissipate. Subsequently, fill the rest of the depression with native soil that matches the parent soil as closely as possible in texture and composition. Use a manual tamper to gently compact the soil into the depression.

9. Regrade the soil around the uprooted tree to smoothly meet surrounding grades. Cover the site with leaf litter or wood chip mulch.

10. Add soil to repair the original soil profile. Cover the repair with a geotextile fabric or erosion control blanket, and add a layer of leaf litter or mulch over top.

Remove a snapped trunk or fallen limb.

1. Prepare the site to accommodate any proposed heavy equipment. Install construction matting, 8 to 12 inches of wood chips, or a double layer of 3/4-inch plywood where the equipment will be used and in association with staging areas to minimize ground disturbance and soil compaction.

2. Cut the remaining portion of the trunk of the snapped tree flush with the grade using a directional felling technique away from any earthworks, or section the trunk and lower the pieces to the ground to avoid damaging the earthworks.

3. Treat the trunk with a systemic herbicide to prevent re-sprouting. Apply the herbicide by following directions carefully. Use a swipe applicator and carefully apply the herbicide only to the cambium zone of the trunk and roots. Avoid contact with other plants or the soil.

4. Remove any portions of the tree that have fallen on the earthwork by sectioning it into pieces to either side of the structure using a chainsaw or other hand-held equipment. Remove the pieces and other debris by hand and convey to a staging area or small transport equipment, to gain access to any material that remains fallen across the earthwork.

5. Access the limb(s) or trunk on the earthwork by foot, taking care not to disturb the soil of the earthworks structure. Use a chainsaw to section the fallen material into pieces that can be removed by hand. Remove the sectioned wood by hand by lifting. Avoid dragging the sectioned limbs on the soil of the earthworks. If equipment is needed to facilitate lifting the sectioned limb or trunk, consider using a crane or loader if they can safely access the site without causing ground disturbance. Wood sections to be removed by heavy equipment can be cut into larger pieces than those to be removed by hand. Smaller limbs may be in a position to be removed from the earthworks using a tripod or grip hoist pulley system.

6. Accelerate decomposition of any limb(s) or trunks that cannot be safely lifted and removed from the site by drilling 1 inch holes into the wood to form a grid pattern 2 to 4 inches on center. Backfill holes using a mixture of 50 percent organic nitrogen fertilizer, 25 percent soil, and 25 percent sand. Use a fertilizer with a low salt index to minimize any adverse effects on archeological resources.

7. Fill the rest of the depression with native soil that matches the parent soil as closely as possible in texture and composition. Use a manual tamper to gently compact the soil into the depression. Fill the rest of the depression with native soil that matches the parent soil as closely as possible in texture and composition to re-establish the grade of the earthwork. Use a manual tamper to gently compact the soil into the depression.

8. Cover the repair with a degradable erosion control blanket. Tack the material in place to prevent it from being shifted. Cover the blanket with leaf litter or mulch.

Repair puncture damage from a fallen limb.

1. Prepare the site to accommodate any proposed heavy equipment. Install construction matting, 8 to 12 inches of wood chips, or a double layer of 3/4-inch plywood where the equipment will be used and in association with staging areas to minimize ground disturbance and soil compaction.

2. Remove any limbs that have fallen across the earthworks if they can be lifted or pulled out of the earthwork without dragging, which will cause further soil disturbance. When limbs are too large or heavy to be lifted by the work crew safely, section the wood into manageable pieces. Consider removing smaller limbs from the earthworks environs using a tripod or grip hoist pulley system.

3. Leave any limbs that cannot be removed without causing damage to the earthwork. Cut the limb flush with the surrounding grade, allowing the wood that has punctured the earthen structure to remain in place.

4. Accelerate decomposition of any wood that cannot be safely lifted and removed from site by drilling 1 inch holes in the limb or trunk in a grid pattern 2 to 4 inches on center. Backfill the holes with a mixture of 50 percent organic

nitrogen fertilizer, 25 percent soil, and 25 percent sand. Use a fertilizer with a low salt index to minimize adverse effects on archeological resources.

5. Fill the depression with native soil that matches the parent soil as closely as possible in texture and composition to re-establish the grade of the earthwork. Use a manual tamper to gently compact the soil into the depression. Fill the rest of the depression with native soil that matches the parent soil as closely as possible in texture and composition. Use a manual tamper to gently compact the newly-applied soil.

6. Place a degradable erosion-control blanket over the disturbed site and repair. Tack the material in place to prevent it from being shifted. Cover the erosion control blanket with leaf litter or mulch.

3. Manage woodland communities to protect earthworks resources

Description. Forest cover is generally considered to provide the safest, most natural, effective, and cost-efficient means of protecting and preserving military earthworks.[122] The most effective forest cover is comprised of healthy, fully-stocked and layered native woodland stands or communities that are relatively self-perpetuating. The surviving earthworks at Kennesaw Mountain National Battlefield Park are generally well-protected by the successional forest trees and their associated duff that currently overhang much of the former Confederate and Union lines. Specific management strategies implemented as part of this earthworks management plan will yield additional sustainable and relatively low-maintenance erosion protection, while diminishing threats and risk areas.

Earthworks that retain a continuous layer of leaf litter over the surfaces of the parapet and ditch are overhung by a mixed age canopy of healthy, litter-producing forest, and that have a few large trees growing directly on the structure, are generally stable and well-protected.[123] The canopy, subcanopy, understory, shrub, and herbaceous layers of vegetation associated with a healthy forest slow and deflect rain as it falls on the earthworks, while leaf litter and other organic detritus deposited by the forest plants protect the soil from exposure to rain and the transport of soil particles by storm water, wind, and animal activity. Thus, a key objective for managing earthworks under woodland cover is to perpetuate a healthy, fully-stocked forest so that leaf litter buildup is heavy enough to replenish the forest floor.

While forest cover generally requires less intensive and frequent maintenance than grass cover,

122. Amy C. Helms and James E. Johnson, *A Handbook for Forest Vegetation Management in Recreation and Historic Parks* (Blacksburg, Virginia: Virginia Polytechnic Institute and State University and Virginia State University, October 1996).
123. National Park Service, *05 Currents: Sustainability Military Earthworks Management,* <www.nps.gov/hps/hli/currents/earthworks/assess_page3.htm>

woodlands used to protect earthworks resources are not maintenance free. Evaluating the health, regenerative capability, and impact on the forest of visitors and hazard tree removal, and repairing or correcting identified problems and deficiencies, are important components of woodland management. Necessary repair and correction activities will likely focus on tree repair and removal, controlling invasive plants, replenishing leaf litter on the earthworks, and ensuring that the forest is being adequately perpetuated.

Healthy forests typically feature saplings capable of replacing existing mature trees and forming the eventual canopy. If these saplings are not present, measures will need to be taken to plant appropriate specimens and otherwise encourage regeneration. Healthy forests, if left unmanaged, can also harm earthworks. Trees that are generally larger than 12 inches dbh pose a risk of being uprooted. When they occur in association with the earthworks, windthrows can cause a significant amount of damage. Large and heavy limbs can cause additional types of damage when they drop. While windthrows and limb drop occur naturally in forests, it will be beneficial for earthworks management to predict or prevent their occurrence. To prevent damage to the earthworks, it may be necessary to remove all trees growing directly on the parapet and ditch, beginning with, as noted hazard and likely windthrown trees, followed by those that exceed 12 inches dbh. Because it may not be possible to remove all trees growing on the earthworks and, at the same time, maintain a healthy, fully-stocked forest, priority should be given to removing trees that pose the greatest threat. One of the long-term goals of earthworks management will be to maintain healthy, fully-stocked forest cover that extends over the earthworks, with the largest trees located near but not on top of the earthworks.

Location. This project relates to all areas of the park where earthworks are maintained under forest cover.

Considerations. This project involves five primary stages or tasks: 1) inventory of the existing woodland; 2) evaluation of the existing community and succession potential; 3) repair of identified damage and problems associated with the existing community; 4) tree removal; and 5) establishment and execution of a monitoring program. Each is discussed in more detail below.

1) Inventory of the existing woodland. In order to initiate the process of managing forest conditions for earthworks protection, it will be necessary to first understand the existing plant community, including its quality and character. The development of an appropriate forest management strategy, with associated tools and techniques, will arise from a process of inventory followed by evaluation. Inventory entails documenting the existing forest community structure and composition, including the species, sizes, density, age and health of the individual trees. It is also important to understand the anticipated successional process that will lead to changes in the forest composition over time, and the potential for natural and man-made disturbances. Disturbances such as fire, insects, and disease, while generally part of natural forest growth and change, may cause changes that can lead to devastating results for the earthworks.

2) Evaluation of the existing community and successional potential. The two natural ecological processes most important to understand for their relationship to earthworks management are forest succession and forest soil erosion (refer to EMP Implementation Project 4). Forest succession is a process of plant community stand replacement over time that generally moves from a less stable disturbance-based condition to a more stable, self-perpetuating condition.

Disturbance, which involves the input of energy, can result from natural or cultural events or conditions including fire, agricultural plowing, and earthworks construction. Establishing and maintaining an agricultural field or a grass lawn, for example, constitutes a direct attempt to retain a vegetation community in an early successional stage, or sere. It takes a continued investment of energy to maintain a site in an early stage of

succession or disturbance within the eastern United States, where most communities naturally advance toward a wooded condition. Forest management practices that employ successional processes as much as possible are likely to achieve the desired condition with the least input of energy.

Post-disturbance succession begins with the germination of seeds already present in the soil or deposited through wind or wildlife within a disturbed site. The first plants to develop a strong above-ground presence are typically herbaceous. Many of these plants die after a season, adding organic matter and nutrients to the top layer of soil, while their roots increase its water-holding capacity. Woody shrubs and trees slowly grow up within the ameliorated environment provided by the herbaceous plants, gradually overtaking them in height and shading them out. The first woody plants to develop are typically fast-growing and shade-intolerant old field invaders. They establish an appropriate environment for the germination and growth of longer-lived shade tolerant trees and shrubs. Over time, these shade-tolerant species will overtake, shade out, and replace the old field invader species, such as pines. Given enough time without additional disturbance, the site will develop into a mature forest composed of several layers of trees, shrubs, and groundcovers that is relatively self-perpetuating.

The loss of individual trees to senescence, as well as natural and man-caused disturbance is always a factor in forest growth and development. After the loss of a tree, higher light levels may reach the forest floor, encouraging the germination of old field invader species seeds present in the soil. These faster-growing species are more susceptible to windthrow and limb drop, and typically have dense foliage that may serve to obscure views of the earthworks. They are therefore a less desirable component of forest stands at Kennesaw than those associated with the mature forest. Removal of trees for earthworks management will serve to open up the canopy and increase light levels within the forest, generally triggering a similar response to disturbance unless mitigation strategies are employed.

Most of Kennesaw's forests are well into the successional process, and contain a closed canopy of forest dominants that appear to be regenerating themselves. Part of the earthworks management process, however, should entail measurement of forest stocking levels as part of the community evaluation process. Stocking levels indicate the number of trees, basal area, or volume per acre in a forest stand compared with a desired level for balanced health and growth. Most forests are assessed as well-stocked, poorly stocked, or overstocked. Several methods exist for estimating stocking levels. One of the most efficient is calculating tree cover basal area. In the deciduous forests of the Kennesaw area, the lower limit of full stocking likely approximates 60 square feet of basal area per acre, although for forests with a larger component of pine, the number is closer to 80 square feet per acre. Basal area can be relatively quickly calculated using a 10 factor wedge prism.[124]

Within Kennesaw's forest stands there are numerous dead and dying trees. Those that constitute hazardous conditions for visitors or earthworks, indicate serious insect or disease problems, or present dangerously high fuel loads and a fire hazard within the forest should be removed. Elsewhere within the forest, however, dead and dying trees should be evaluated and potentially retained for the role they play in healthy forest stands. Dead and dying trees provide important food and shelter for wildlife and other organisms, and are important to the nutrient cycling of the forest. Standing snags that pose no threat to cultural resources or visitors should be retained. Taller snags can be topped to

124. A wedge prism is a small piece of glass that has been ground to refract light rays at a specific offset angle. Viewing a vertical object like a tree through the prism creates an optical illusion that a section of the tree is offset from the remainder. The prism is directed at the section of the tree used to measure dbh. In most eastern forests, foresters use a prism ground to an angle of 104.8 minutes, yielding a basal area factor of 10. Trees that are of a certain countable size will have an offset that lines up with the main trunk. Trees too small to be counted will be entirely offset from the main trunk. Borderline instances can be counted at half value. Each tree that can be tallied is equal to 10 square feet of basal area.

reduce their height, while retaining their usefulness as wildlife dens.

Another area of forest management to be considered is the role of fire and the effect that current fire suppression practices are having on community composition and succession. Regular ground fires were historically part of the healthy ecosystem of local forest stands, serving to periodically clear out dead and dying material and weaker tree specimens. Cultural fire suppression has led to higher fuel loads as well as an altered community composition. Pines today grow in denser stands that are more susceptible to infestations by the Southern pine bark beetle. These denser stands may also be susceptible to crown or stand-replacing fires that might kill an excess of trees in the park's woodlands. Monitoring forest conditions for fuel loads and pest infestations should yield information that can be used to adjust dangerous or unhealthful situations before they negatively affect the earthworks.

Exotic species are non-native plants introduced to the landscape after European settlement of the eastern United States. Exotic species can be classified as innocuous or disruptive. Innocuous species generally do not invade native ecosystems without human-caused disturbance, have populations that expand, or displace native species to any significant extent.[125] Disruptive species, on the other hand, have the potential to significantly alter natural processes. Invasion by disruptive species can seriously threaten the park's natural systems and cultural resources. Removal of disruptive species is justified when they threaten to alter natural ecosystems; seriously restrict, prey on, or compete with native populations and reduce plant diversity through their competitive ability; diminish aesthetic quality and legibility due to their vigorous growth habits or coarse textures; or disrupt the integrity of a historic site. Invasive exotic species in a forest setting often provide inadequate erosion control and aggressively compete with the desired trees, shrubs, and herbaceous species for available water, light, and nutrients. Invasive exotic species that have shallow root systems but cover large areas, such as privet (*Ligustrum* spp.), Japanese honeysuckle (*Lonicera japonica*), and kudzu (*Pueraria lobata*) may hide erosion problems beneath their branching habit. This can be particularly devastating for earthworks management.

Because several problematic disruptive species are widespread in the southeastern United States, the complete eradication of colonies and stands within the park is unlikely, and an approach that attempts control has a better chance of success. Even control of many exotic species can be challenging because of their many adaptations to disturbance, such as the ability to sprout when damaged. Cutting tree stems and leaving root systems may result in numerous sprouts where a single stem once stood. If some of the root system, but not all, is removed, even a small piece of root will regrow. Consideration must thus be paid to the impacts of control activities. Environmentally-sound control methods should be sought and judiciously deployed, especially in highly sensitive habitats.

Disruptive exotic species currently present within Kennesaw Mountain National Battlefield Park that merit control efforts include Japanese honeysuckle, tree-of-heaven, privet, mimosa, garlic mustard, and kudzu. Tree-of-heaven can grow so prolifically at the forest edge that it will both block a visitor's view of historic resources such as earthworks and crowd out the native edge plants that are important to wildlife and a healthy forest habitat. The tendency of Japanese honeysuckle and kudzu to form continuous cover over the forest edge and forest floor can prevent the establishment and growth of native seedlings and species necessary to provide leaf litter cover for erosion control. Exotic species which spread rapidly, alter the landscape, and displace native plants, such as Japanese honeysuckle and kudzu, are the most destructive exotic species in park forests and warrant control in selected areas where economically feasible and physically possible. Frequent monitoring will be necessary to ensure complete control due to their persistence.

3) Repair of identified damage and problems associated with the existing community. Hazard

125. National Park Service, *NPS-77: Natural Resources Management Guideline*, 288.

tree removal is one of the key recommended actions associated with forest management for earthworks protection (refer to EMP Implementation Project 1). In anticipation of removing trees, the park should compare existing basal area with the resulting basal area of the proposed trees to be removed. If the proposed tree removals will reduce the forest basal area below the identified threshold for forest health, consideration should be paid to phasing tree removals and planting replacement saplings.

Forest regeneration is another area that may require active management. Germination and growth of canopy dominants in the understory of the existing forest must continually occur to ensure perpetuation of the woodland. Typically, an undisturbed understory and forest floor will produce the next generation of overstory trees. This process is sometimes interrupted, however, by factors such as invasive species colonization, pest infestations, fire suppression, drought, and deer browse. Regeneration may also be affected by the tree removal process efforts recommended in association with the earthworks. To ensure forest regeneration, shade tolerant canopy and understory trees should be selectively promoted and protected during any understory thinning activities, including those conducted after tree removal in response to new growth that might arise due to increased light levels.

Repair and correction actions associated with earthworks management under forest cover should also include replenishment of leaf litter to ensure continuous coverage of the parapet and ditch soil. Even if trees are removed from the vicinity of the earthworks, if leaf litter covers the soil, the structures can continue to be protected against erosion.

Repair might also include correction of structural collapse of the earthworks where large tree roots have decayed.

Other corrective actions might include the removal of fuel load buildup problems, treatment of insect infestations, and removal of dead and dying trees and disruptive invasive species. Many of these activities may require the use of heavy equipment and/or chemicals.

An excess of downed timber within the forest can become a fire hazard, which has the potential to devastate the forest trees that comprise Kennesaw's earthworks protection. The park should endeavor to evaluate the fuel load periodically and remove excess downed timber that suggests a fire hazard. It may also be necessary to mechanically remove living trees in dense pine stands that might contribute to a devastating fire or pest infestation.

Several approaches exist to controlling invasive species. The National Park Service is a leader in the field of invasive species control and management. Each region typically maintains invasive species control teams that are available to work with individual parks to combat exotics. The park will benefit from these teams in addition to the development of a site-specific approach to the management of each problem species. Available publications that offer control strategies by species should be collected and used to inform the approach. The park should consider adopting an adaptive strategy whereby information collected during control efforts is used to update and inform the specific approach.

Mechanical as well as chemical control methods are available and both types of systems may need to be used concurrently or in tandem. With early detection, it may be possible to control invasive species involving a persistent hand-removal program. However, systemic herbicides may also be needed, particularly on well-established colonies. Herbicides can offer an effective control with some species, killing the above-ground plant material as well as the roots. Japanese honeysuckle can be effectively controlled by foliar applications of systemic herbicide, since it has such a high percentage of foliage compared to stems and roots. Tree-of-heaven, however, cannot be completely controlled by herbicides due to its extensive root system. Repeated removal of above-ground growth through cutting, mowing, or burning every few weeks will be necessary to entirely kill this disruptive invasive so that its energy reserves are depleted and it can no longer

sprout. Chemical use should follow the National Park Service's Integrated Pest Management system and its policy of promoting sustainable landscape practices. Specific herbicides and techniques should be developed under the direction of a qualified specialist.

4) Tree removal. Tree removal can occur in one of two ways: removal of all targeted trees within a specific area at one time, or gradual removal over larger areas in phases. The advantage of removing all trees from an area at one time is that the machinery and labor required will only need to be assembled once. However, tree removal can result in harm to the earthworks if not done properly.

Tree removal can be prioritized. Trees that constitute a first priority include those growing on or within falling distance of earthworks and trail systems that are classified as hazardous, or constitute disruptive invasive species. Next in priority order are trees growing on or near the earthworks that constitute likely windthrow hazards (refer to EMP Implementation Project 1). Third in priority order are all trees located on the earthworks that are larger than 12 inches dbh. Finally, all other trees growing on the earthworks may be removed after the criteria for maintaining a healthy fully-stocked forest stand around the earthworks has been achieved. In particular, it is important to evaluate whether there are sufficient trees surrounding the earthworks to maintain a layer of leaf litter on the structure.

Along with tree removal comes the problem of debris disposal. For smaller debris, it may be possible to bring a portable chipper to the site. The resulting wood chips can be spread across the site or used to cover exposed soil on the earthworks. Larger logs and trunks will need to be moved using a small transport vehicle to a staging area for removal by truck or chipping by larger equipment. It may be possible to dispose of some debris around the site where it will not constitute a fire hazard. This will return nutrients to the forest.

The challenges relative to tree care and removal at Kennesaw are significant. Both the nature of the site and its physical character are unique, resulting in special constraints upon the work to be conducted. In consideration of risk to on-site personnel, sensitive structures, and visitors, it is likely that removal work will need to employ advanced techniques, skills, and extensive precautions. Special care and attention should also be paid to protecting individual trees that are identified as desirable to retain, and to newly planted trees.

5) Establishment and execution of a monitoring program. Monitoring efforts should look for evidence of natural forest disturbance forces in order to control any that may threaten the management of the earthworks. Monitoring should also identify locations where an excess of downed timber or dead and dying trees poses a fire hazard and should be cleared away.

For invasive plant control, monitoring and recordation are an important part of an overall adaptive management strategy that constantly evaluates the effectiveness of the control measures employed. In general, invasive plant populations should be mapped before treatment and monitored afterwards to determine effectiveness. An in-the-field trial and error approach to invasive plant control can be highly valuable.

Related Implementation Projects.

- Removal of windthrows and fallen trees located on the earthworks must be tied to the overall approach to managing existing forests in order to protect the earthworks (Implementation Projects 1 and 2).

- Correcting soil erosion under forest cover is also discussed as part of Implementation Project 4.

- Regular monitoring of the earthworks to consider the health of the forest, assess fuel loads, identify hazard trees, and correct soil erosion is also addressed in Implementation Project 6.

- Woodland thinning is recommended in some locations to render the terrain more visually accessible for interpretation. This effort should be coordinated with the forest

management approach on a site-specific basis (For more information, see the CLR treatment plan.)

Additional Studies Recommended. Invasive species control that relies on early detection and rapid response will benefit from coordination with the recommended earthworks monitoring program. Prior to developing the program, the park should collect or develop:

- Up-to-date and reliable scientific and management information;
- Accurate species identification procedures;
- Standard procedures for rapid risk assessment;
- Technical assistance sources; and
- Potential funding sources for emergency response efforts.

Project Implementation Process.

1. Inventory and document the forest community associated with the earthworks. Record information on maps, in photographs, and in notes that are available for use by maintenance personnel and as part of the monitoring program.
2. Analyze forest stocking levels by calculating the basal areas of the forest associated with the earthworks.
3. Undertake an evaluation of the trees located on and within falling distance of the earthworks. Prioritize necessary and desired tree removals and repairs.
4. Determine the impact of anticipated tree removal on forest health.
5. Prioritize tree removals.
6. Identify trees to be removed and trees to be retained. Indicate trees to be retained by clearly marking them at the base with paint. Protect trees to remain within temporary construction fencing that extends at least to the canopy drip line.
7. Employ minimum impact techniques when felling trees within falling distance of the earthworks. Ensure that contracted tree crews are closely supervised by National Park Service resource protection staff at all times. Cut trees to be removed flush with the surrounding grade. Treat the stumps of deciduous trees with an application of an approved herbicide according to label directions within eight hours of cutting to discourage suckering. Apply a second application if needed. Treat conifer stumps and exposed roots with borax to prevent the spread of disease. Alternatively grind stumps located beyond the limits of the earthworks if approved by an archeologist.
8. Undertake repair efforts as needed. Perform major pruning efforts either manually or using small or large equipment depending on the accessibility of the site. When using equipment, first install protective matting between sensitive areas and selected staging areas for access by small transport equipment or lightweight pick-up trucks.
9. Establish a monitoring program that identifies invasive species, dead and dying trees, and the overall health and regenerative activity of the woodland. Engage an arborist to evaluate annually or bi-annually all trees within striking distance of the earthworks to identify hazard trees.
10. Monitor areas where hazard trees and invasive species have been removed because they are especially vulnerable to colonization.
11. Encourage the growth of native hardwood saplings that will eventually perpetuate the canopy and contribute to the forest duff layer.
12. Plant new tree saplings as needed to help perpetuate the forest. Select plants that are not invasive, diseased, or infected with any plant pathogen to avoid threats to existing natural areas.

4. Correct and prevent soil erosion on earthworks under forest cover

Description. Soil erosion is the greatest threat to the Civil War earthworks at Kennesaw Mountain National Battlefield Park. Preservation of these fragile earthen mounds and ditches depends on the control of erosion and other activities that disturb the soil, such as the uprooting of trees that take soil up with their root systems, general exposure of the soil to the elements, burrowing activities by animals, and people walking overtop of the earthworks. The first line of defense in protecting the earthworks against soil erosion is ensuring that a comprehensive protective barrier exists between the earthen structures and storm water. The two best protective barriers for earthworks are leaf litter and grasses.

Where woodland already exists in association with the earthworks, the best management strategy for protecting the earthen resources is to ensure that a healthy forest overhangs the structures and a comprehensive mulch blanket of leaf litter extends over top of the parapet and ditch soil. Under undisturbed forest conditions, the sheltering effects of the woodland vegetation and its detritus can successfully protect the integrity of historic earthworks resources. These conditions reduce and limit soil erosion whereby the tree canopy interrupts the downward motion of falling raindrops, and the leaf litter breaks the impact of rain, slows the overland flow of storm water, and facilitates infiltration of the water rather than encouraging runoff.

Much of the park is heavily wooded under deciduous hardwoods, which provide an annual supply of leaf fall. Oaks, which are a dominant component of the regional forests, in particular shed leaves that are long-lived and afford durable protective cover against erosion. Although forest cover can be one of the best, and least expensive, earthworks protection measures, active management of the forest and aggressive erosion control measures are needed to ensure that these natural systems function properly. Park management strategies should ensure that leaf litter, mulch, or other forms of duff comprehensively cover the earthworks.

FIGURE B-50. A healthy fully-stocked forest should provide the leaf litter that is critical for protecting earthworks under forest cover from eroding. Where leaf litter does not comprehensively cover the earthworks, it should be replenished by the park as part of the earthworks management plan, as in the examples shown above.

Where storms, gravity, visitors, or animals have displaced leaf litter, the park should carefully replenish it by hand. Other conditions that lead to erosion will similarly require specific mitigation measures. Locations where visitors are clearly climbing on the earthworks, where tree removal or loss has resulted in inadequate canopy cover, where windthrows have uprooted trees, or where animal burrows have displaced soil will require repair of eroded soil sections, replacement of leaf litter, and follow-up monitoring.

Location. All earthworks located under forest cover are a focus of this project. Through monitoring, the park should determine locations where repair of eroded sections and/or supplemental applications of leaf litter are needed to ensure comprehensive protection. Monitoring will also reveal where tree falls or animal burrows have affected the earthworks and repairs are required. Visitor access has already been documented as causing erosion to the earthworks atop Kennesaw Mountain and at Cheatham and Pigeon hills, as well as some segments associated with parking pull-offs along road margins. These conditions should be addressed in accordance with this project.

Considerations. Like succession, soil erosion within forests is a natural process. However, soil erosion in undisturbed forest ecosystems is minimal (0.05 to 0.10 tons/acre/year), especially when compared with erosion rates associated with agricultural production (3 to 5 tons/acre/year).[126]

Erosion occurs in two steps. In the first step, soil particles are dislodged, typically through the impact of falling raindrops. In the second step, flowing storm water transports the dislodged soil particles downhill where they are either deposited as sediment or enter a stream channel. With earthworks, parapet soil is typically deposited in the ditch, softening and slowly flattening the profile of the structure. To diminish the potential for erosion, one or both of these steps must be interrupted. While this can be accomplished in a variety of ways, the most successful is to establish and maintain a barrier of plant material that includes canopy and understory trees and organic duff overtop of the forest floor. The multi-storied canopy common in most eastern deciduous forests greatly reduces the impact of falling raindrops, while the forest floor protects soil particles from being carried away by storm water. Of these two lines of defense, the forest floor is the more critical; with an intact forest floor, erosion can be nominal even if the entire forest overstory and understory are removed. However, because trees generate the material present on the forest floor, it is important to consider ways to maintain a fully-stocked woodland that overhangs, but does not threaten to uproot, the earthen structure of the parapet and ditch. Where tree removal is unavoidable, active management on the part of the park to replenish leaf litter can provide sufficient erosion control protection.

Several other factors contribute to erosion of the earthworks under forest cover. Visitors walking on the earthworks will tend to compact the soil and loosen and dislodge the protective leaf litter. Windthrows and fallen limbs will also dislodge and disturb the soil on the earthworks. Animals creating burrows in the earthworks form cavities that can cause the structure to collapse in places, contribute to erosion, and disturb desirable vegetation. All of these conditions should be controlled and mitigated as part of the overall earthworks management strategy.

In addition to establishment of erosion control measures, the park will need to conduct repair and rehabilitation efforts where soil erosion has already occurred. Depending on the extent of the erosion, repair may range from replacement of dislodged or eroded soil to the installation of erosion control fabrics and replenishment of leaf litter.

Erosion control fabrics are biodegradable products that can be placed over exposed soil to cover the earthwork structure after a repair to afford temporary soil stabilization and protection. Erosion control fabrics can include geotextile matting and blankets.

126. J. H. Patrick, "Soil Erosion in the Eastern Forest," *Journal of Forestry*, October 1976, 671–677.

Blankets block the force of the rain, prevent wind erosion, and sometimes act as a degradable mulch. Erosion control matting is a geotextile fabric made of either natural or man-made material with the purpose of providing temporary soil stabilization. Erosion control matting is manufactured in many forms. Available products should be evaluated for their application to the needs of the project.

Related Implementation Projects.

- Removal of windthrows and fallen trees located on the earthworks is an integral part of correcting, repairing, and preventing further erosion (Implementation Project 2).

- Establishing new grass cover in conformance with the Best Management Practices developed for the project will help protect against erosion (Implementation Project 5).

- Regular monitoring of the earthworks to correct soil erosion and replenish the protective cover on top of the parapet and ditch is an important consideration associated with this project (Implementation Project 6).

- Visitors walking on the earthworks will continue to contribute to erosion problems. Visitors should be kept off of the parapet and ditch to prevent degradation of the resource (Implementation Project 8).

Project Implementation Process.

1. Identify locations where earthworks soil is exposed or undergoing erosion. Include the locations on base mapping that will be used for monitoring procedures.

2. Evaluate the extent of the damage.

3. Correct the damage depending on the cause, as indicated below:

    a. Where protective cover is missing, spread local leaf litter, preferably including a mixture of leaves that decay at different rates, or native wood chip mulch.

    b. Where visitor access has led to erosion, add soil to repair the original soil profile. Cover the repair with a geotextile fabric or erosion control blanket, and add a layer of leaf litter.

    c. Where windthrows or tree falls have damaged the earthworks, remove the tree material from the earthworks (Implementation Project 2). Consider chipping broken limbs and downed trees to create mulch for use in covering areas of exposed soil. Replace original soil material from the root ball. Tamp into place. Fill any remaining hole(s) in the earthwork with native soil to meet the surrounding grade smoothly. Cover the repair with a degradable geotextile fabric or erosion control blanket, and add a layer of leaf litter.

    d. Where animal burrows have dislodged and disturbed the soil, fill voids and cavities with the original soil and additional fill that has compatible structural characteristics with existing soil. Cover the repair with erosion control fabric and a layer of leaf litter or mulch. Employ control methods to relocate or capture the animal(s) found to be burrowing in the earthwork.

4. Incorporate soil erosion inspection into the monitoring program established as part of the earthworks management plan. Document all repairs conducted as part of this project and include the records with the monitoring program archives.

5. Monitor annually at a minimum for new evidence of erosion, as well as additional damage in repaired areas. Establish a maintenance program that can immediately respond to the identification of exposed soil conditions associated with earthworks under forest cover.

5. Correct and prevent soil erosion on earthworks under grass cover

Description. Most of the park's Civil War earthworks are presently managed under forest cover, and will remain so. However, there are also several areas where the forest is relatively open-grown and grass provides the erosion-control protection measure. There are also earthworks sections within the park that may become exposed to high light conditions due to tree removal or natural tree loss where the establishment of grass cover will be necessary in the future. The primary objective in managing these earthworks is to ensure that a comprehensive coverage of healthy herbaceous plants with a dense fibrous root system exists to control erosion. Mowing operations, drought, colonization by invasive species, and visitor access can degrade the grass community, lead to the loss of the protective cover, and result in the type of erosion that needs to be protected against at Kennesaw. Repair of degraded conditions is needed to ensure the survival of the earthworks. Repair and rehabilitation of degraded sections will need to be accompanied by visitor access control and, in some cases, reconsideration of mowing practices that may themselves be contributing to erosion problems on the earthworks.

FIGURE B-51. Earthworks managed under grass cover, such as those atop Kennesaw Mountain as shown, may be subject to erosion due to visitor access. Earthworks managed under grass cover exhibiting erosion should be repaired immediately. Repairs may include soil and soil amendment replenishment, seeding, watering, and protection measures such as the installation of erosion control fabric.

Location. Currently there are few earthworks maintained under grass cover within the park. These include portions of the earthworks at Cheatham Hill, the gun emplacements atop Kennesaw Mountain, and some earthworks located at parking pull-offs along the road corridors. Grass cover may need to be established in the future on earthworks where trees are lost or removed.

Considerations. There are several considerations associated with maintaining earthworks under grass cover. They include:

- The erosion protection afforded by grass cover
- The maintenance requirements associated with grass cover
- The options for species composition to comprise the grass cover
- The efficacy of grass cover in deterring visitors from accessing the earthworks
- The methods required to establish a successful stand of grass cover

Erosion protection. Areas that are sparsely vegetated because of disturbance, poor soil, or other growing conditions are most susceptible to erosion. Careful mitigation and maintenance will be necessary to ensure that desirable stands of grass, or grass and forb cover, extends over the entire earthwork system. Herbaceous plants will protect the earthwork from erosion by shielding the soil surface from the impact of falling raindrops, holding soil particles in place, improving the soil's water holding capacity, and slowing the velocity of storm water runoff. Perennial grasses and forbs that form a deep, dense mat of roots provide the best erosion protection. One grass species to consider that is shade tolerant is Virginia wild rye *(Elymus virginicus)*.

Severely eroded areas may need to be repaired before grass seeding or planting can be attempted. Placement of fill soil, the addition of fertilizer and

other soil amendments, erosion control fabrics, and hydroseeding may be required to ensure successful cover establishment. Erosion control blankets, such as those composed of ash-fiber matting, excelsior mats, or coco-jute liners can be placed on top of the soil to protect seeds and seedlings. Grasses will germinate under the blanket. The blanket blocks the force of rain, prevents wind erosion, and can act as degradable mulch.

Erosion control matting is a geotextile fabric made of either natural or man-made material that can be used to provide temporary soil stabilization while grass seeds or plugs germinate or root. This matting is manufactured in many forms. Some are biodegradable; some are not. Sand tracers or non-biodegradable geotextile fabric could be used to distinguish original earthwork structure from repairs in such a way as to guide future archeological investigations. Consult with an archeologist for the best approach to addressing this issue.

Maintenance. Maintaining grass cover typically requires mowing, brush hogging, or burning. While burning can be highly successful in controlling woody plant material within grass stands, it is not an option for Kennesaw due to the density of the surrounding residential community and the amount of forest within the park. Mowing machinery can cause gouging and other damage, particularly if the mow height is too short. The use of specialized slope or boom mowing equipment can diminish the potential for gouging the earthwork. To best protect against erosion, consideration should be given to mowing as few times as possible per year, and using a relatively high mow height and special equipment.

The park can also select species that simplify or diminish maintenance needs. Plants that top out at a desirable height will require less mowing. Species selection criteria might include robust growth habit resulting in the suppression of woody and invasive species, relatively stable community composition, and limited need for applications of water, nutrients, pH regulators, pest control, and mowing.

Compatibility. Grasses are often organized into two primary types: cool-season species, which are primarily exotic and are typically maintained at a relatively low height through periodic mowing; and native warm-season grasses, which are mown less frequently and allowed to grow relatively tall. Most earthworks are typically managed under one type or the other, but combinations of native and non-native cool- and warm-season grasses can also be successfully established and maintained. Most important is the ability of the individual species within the planting to co-exist as part of a healthy, diverse community. Species, such as tall fescue (*Festuca arundinacea*) and garlic mustard (*Alliaria petiolata*), that are considered allelopathic and therefore not conducive to creating healthy and diverse plant communities, should be avoided.[127]

Annuals can be planted as part of a species mix to provide quick, temporary cover as a "nurse" crop during the establishment period for longer-lived perennial grasses and forbs. Many of the annual forbs and perennial grasses and forbs that are appropriate for earthworks cover will grow in poor, dry soils, consistent with the soil profile of the earthworks. Legumes may also be a good addition to a species mix. Legumes are nitrogen-fixing plants with the ability to replenish soil nutrients. Inclusion of nitrogen-fixing species in the plant palette may eliminate the need for chemical fertilizers.

Locally native warm-season grasses are good candidates for grass cover on the park's earthworks; they can be used in mixed stands with native forbs that, once established, require little maintenance. Native warm-season grass species are best selected from those known to grow successfully in the area.

Efficacy as a deterrent to visitor access. The drier soils at the top of the earthen berms create a more challenging condition for grass cultivation while also providing a more desirable place for visitors to walk. Vegetation can be used in various

127. Allelopathic species secrete or exude biochemicals into the soil that inhibit the growth of other species.

ways to discourage visitors from walking on the earthworks. Grasses allowed to grow taller than 6 inches can deter trampling as visitors are reluctant to walk through areas that may harbor ticks, chiggers, or snakes. Taller grass is also more successful in dissipating the erosive energy of rainfall.

Establishment. The establishment of new grass cover should be undertaken carefully, with extra time and energy spent to ensure the survival and healthy growth of new plantings and success in erosion protection. Species selection should take ease and cost of establishment into consideration. Plants with a vigorous growth rate may provide an advantage in this regard. Self-seeding species are also beneficial when considering the long-term viability of the plant community.

Two primary options exist for establishing grass cover: seeding (including hydroseeding) and plugs. The process of installation, however, has the potential to damage the earthworks. Seeding may require the addition of soil amendments to the top 2 or 3 inches of soil, raking in of the seed, and watering. Planting grass plugs requires digging and tamping, which may be damaging to the earthworks and associated archeological resources. Planting techniques that require the least disturbance to the native soil of the earthworks should be employed.

Additional Studies Recommended.

1. Soil samples should be taken from the earthworks in various locations and analyzed to determine existing composition, nutrient, and pH levels. Soil testing and analysis should occur prior to finalizing the species mix to be established on the earthworks. The analysis will indicate the suitability of the soil to support certain species, and suggest amendments needed to support a healthy stand of grass.

2. Prior to undertaking grass cover establishment, site conditions, as well as the park's ability to maintain the new cover, will need to be assessed, taking into consideration the following issues:

    - Aspect: the amount of sunlight that is available may vary depending on the location of the earthwork. South-facing slopes will support different plants than north-facing slopes.

    - Slope: the steepness of the earthwork structure will affect the park's ability to establish new plants and maintain them.

    - Soil horizon: the depth of the soil will affect root growth.

    - Soil type and chemistry: the percentages of loam, sand, and clay in the soil, and its pH and fertility, will suggest any amendments needed to support grass establishment and growth.

    - Hydrology: the amount of moisture retained in the soil, and the seasonal variations in soil moisture and rainfall, will affect plant growth.

    - Pests/disease: plant pests or diseases present within the region should be considered in selecting appropriate species.

    - Access: the route available for equipment, machinery, and materials to the site will affect installation and maintenance.

    - Cost: the cost of the seeds and plants, establishment, and maintenance will also be a factor in selecting species composition.

    - Source/quality: sources for the desired seeds and plants will need to be located in order to establish and maintain the desired vegetative cover.

    - Maintenance: park maintenance resources available to meet the needs of the project will also be a factor in species selections.

Related Implementation Projects.

- The locations where grass cover may need to be established over earthworks that are not

adequately protected under forest cover may be identified through monitoring (Implementation Project 6).

- Earthworks managed under grass cover can sometimes be an invitation for visitors to walk on the parapet or ditch or for children to climb and play on the structure. Features that limit visitor access may need to be coordinated with portions of the earthworks managed under grass cover (Implementation Project 8).

Project Implementation Process.

1. Determine the desired vegetation species and composition for grass cover to be established on the earthworks using the criteria developed for the project:

    a. Species should be suited to local soil conditions, the planting zone, average rainfall, and available sunlight.

    b. Species must provide above-ground cover and/or a root system that protects against soil erosion.

    c. The cover species must be perennial or self-perpetuating.

    d. If the species provides long-term soil erosion protection but cannot immediately be established, a viable annual or interim land cover option must be used.

    e. Consideration should be paid to planting species that can be allowed to grow taller and do not require frequent mowing.

    f. Consideration should be paid to using native species whenever possible. Invasive species should never be used.

2. Develop a set of BMPs for establishment and maintenance of the desired grass cover.

3. Repair eroded sections of earthworks. Where visitor access or other conditions have led to erosion, either use a sand tracer, or a non-degradable erosion control mat or geotextile fabric to indicate the repair, add native soil to meet the surrounding grade smoothly, and begin grass establishment.

4. Establish the new grass cover in conformance with the Best Management Practices developed for the project. Use local seeding guidelines and appropriate mixes. Use locally native seed collected within 30 miles of the park where appropriate and available.

    a. In early spring, as plants leaf out, any saplings, shrubs, and trees growing on the earthworks should be cut to ground level and removed. Smaller plants should be cut with a mulching lawn mower or a tractor-mounted boom mower to avoid damage to the earthwork. Treat existing vegetated areas with an application of an approved broadleaf herbicide. Deciduous tree stumps should be treated with an approved herbicide within eight hours of cutting to prevent sprouting. Trees proposed to remain on site should be identified, clearly marked, and protected within temporary fencing to the drip line.

    b. Immediately prior to seeding, carefully rake all leaf litter, duff, and undecomposed organic matter from parapets and ditches without disturbing the topsoil.

    c. Aerate the soil to a depth of no more than 2 inches with a spike-type aerifier.

    d. Amend the soil in accordance with the information provided in the laboratory analysis.

    e. Apply desired seed mix, a tackifier, fiber-mulch, and, if needed, a natural organic fertilizer, to enhance post germination growth. Use a fertilizer with a low salt index to minimize adverse effects on archeological resources.

    f. Seed, hydroseed, or install plugs in areas to be vegetated at the appropriate time of year for the area. Apply erosion control

blankets or fabric on steeply-sloped sections. The use of a degradable erosion control blankets is recommended for earthworks with greater than a 1:1 slope (45 degree angle). Erosion control blankets should be made from biodegradable fibers and covered with photo-degradable polypropylene netting. Due to the small size of many native seeds, care must be taken when using a hydroseeder. It is generally recommended that the first application of native seeds using the hydroseeder employ water alone, followed with an immediate application of cellulose mulch and fertilizer. This technique insures adequate contact between the seeds and the soil, creates a protective layer of mulch, and eliminates the risk of the small and fragile seeds from being trapped in the mulch layer. When a mixed planting of native and non-native species is specified, the native seed should be planted first, with the non-natives planted subsequently, along with the mulch and fertilizer.

g. Water during the establishment period.

5. Mow the earthworks twice during the first year to a height of 6 inches. Do not cut below 4 inches where many grasses store their energy for re-growth. Mowing should remove the first growth of the season and occur again in the fall. In subsequent years, the site should be mown only once in March or April, depending upon weather conditions, to prevent growth of successional woody vegetation.

6. Monitor and evaluate the success of the grass establishment project. Pruning, treatment with herbicides, and removal of woody growth and invasive species will be required periodically, with needed work identified as part of the monitoring program. Monitoring should also identify soil areas where grass cover does not become well established. Additional soil testing may reveal deficiencies in soil fertility and pH that will need to be amended. Overseeding with an approved seed mix will likely be required periodically on some grass stands.

6. Establish a monitoring program for the park's Civil War earthworks

Description. The earthworks management program at Kennesaw Mountain National Battlefield Park will benefit from the establishment of a monitoring program that includes regular periodic inspection to evaluate trees with the potential to fall on or uproot the earthwork soil, determine whether visitors are accessing or impacting the parapet and ditch soil, and investigate whether leaf litter or grass is comprehensively present overtop of the earthworks to protect the soil. Monitoring activities will also focus on inspecting the condition of trails associated with the earthworks, the health and regenerative capability of the forest, the presence of invasive plant species, and the activities of burrowing animals. The goal of the recommended monitoring program will be to protect against erosion and other damage or perceived risk to the integrity of the earthworks resources in a timely fashion. Monitoring will be designed to anticipate undesirable change that has the potential to harm the earthworks or visitors. The program will be developed using an adaptive management approach that recognizes that landscape management needs and restoration approaches may change over time.

The program will include a determination of the appropriate frequency and seasonal time frame for site visits relating to the various inspection needs, personnel to be involved in the monitoring efforts, record-keeping procedures, and appropriate maintenance and repair responses to identified problems or potentially damaging conditions. Training of park staff as well as volunteers in the components of the monitoring program will be an essential part of this project. The record-keeping derived from monitoring activities can be used to inform the growing body of knowledge available to guide other site managers involved in earthworks management.

Location. This project is indicated for all accessible portions of the earthworks located within the park. More frequent monitoring is recommended for areas that are more heavily visited.

Considerations. Monitoring the natural and cultural resources associated with the Civil War military actions at Kennesaw Mountain National Battlefield Park will be critical to the preservation of the site's earthworks. Monitoring efforts should gauge the viability and health of natural systems using methods that are as sustainable as possible rather than excessively manicured. Monitoring, for example, will be an integral component of a comprehensive control program for invasive species.

To ensure the success of the monitoring program, it is recommended that resource managers remain informed regarding the latest research and land management techniques and design the program to employ environmentally-sound management strategies and monitoring tools. The monitoring program should be developed based on:

- access to current, reliable scientific and management information
- up-to-date native plant community information, and local invasive species threats
- standard procedures for risk assessment
- an adaptive management approach to account for changing native landscapes and the strategies used to manage them
- adequate technical assistance (information sharing, research and development, and technology transfer support)
- an annual budget that includes funding for stewardship and monitoring activities in perpetuity

Because landscapes change seasonally, monitoring efforts will be organized in a calendar format. During each season or month, the calendar can be referenced to determine when, where, and what type of monitoring is needed. In turn, resource managers can identify staff needs and determine work priorities.

Recordation of data derived from monitoring and repair efforts should be conducted using a computerized system tied to the park's GIS database. Maps, plans, photographs, and notes can all be included in the data records. Hand annotations and printed materials such as manuals and notebooks used to record information in the field should be archivally-preserved. These types of records are likely to prove useful in the short-term as part of the adaptive management strategy, as well as for future research regarding how the landscape has evolved over time.

Monitoring information should build on careful mapping of the earthworks and the development of electronic data files. Earthworks features such as parapets, ditches, gun emplacements, embrasures, holes and other dugouts, and berms or other traverses should be mapped, and information about their height, depth, and width recorded. The ambient vegetation community should also be identified in the files. Condition assessments and areas of damage should also be recorded, including erosion, animal burrows, windthrown trees, and evidence of human digging and trampling. As a key to successful management, the mapping files should be updated regularly with the results of monitoring efforts.

Related Implementation Projects.

- Monitoring will lead to the identification of problems requiring correction, including removal of windthrows and fallen trees located on the earthworks (Implementation Projects 1 and 2).
- Monitoring will also suggest the need to replace protective cover on the earthworks (Implementation Project 5).
- Monitoring will provide evidence that visitors are accessing the earthworks that needs to be controlled (Implementation Project 8).

Project Implementation Process.

1. Design methods for collecting and storing data associated with monitoring. Specifically, establish monitoring protocols for identifying and evaluating:
    a. Hazard trees
    b. Windthrows
    c. Trees or limbs that have fallen on the earthworks
    d. Vegetation management and restoration efforts
    e. Visitor access
    f. Erosion
    g. A lack of comprehensive protective cover over the parapet and ditch system
    h. The presence of invasive plant species
2. Undertake regular periodic monitoring in accordance with the designed program.
3. Assess the condition of the earthworks and determine any necessary treatment work.
4. Evaluate any previous repair work.
5. Keep records of observations collected during monitoring and follow-up repair. Document treatments on maps and with photographs, including the methods and techniques used and specifications followed, as well as their success or failure. Include cartographic annotations and photographs. Document the need for further research, equipment, or maintenance procedures. Identify needs such as site-specific or contextual historical research, plant and wildlife inventory or evaluation, or new methods for invasive species control. Organize and preserve records as archival materials. Consider sharing information with other parks conducting similar management efforts.
6. Use the stewardship and monitoring program to educate the general public about the park's earthworks management and preservation strategies and techniques.

7. Relocate trail sections, signage, and benches that impact earthworks

Description. Kennesaw Mountain National Battlefield Park features several miles of pedestrian trails that visitors use to experience the park and learn about the military events that occurred in the region during the Atlanta Campaign and Battle of Kennesaw Mountain. In many cases, the trails parallel the earthworks to enhance interpretive opportunities. Some trail segments and associated site furnishings and signage have been built on sensitive portions of the earthworks themselves, while others are suffering from erosion. These trail conditions require correction as part of a comprehensive approach to rehabilitating and managing the park's Civil War earthworks. To correct current and prevent future problems associated with the earthworks, trail sections that are eroded or come into close contact with the structures need to be relocated or rehabilitated, and benches and signs installed within the structure of the earthwork repositioned. Puncheons or boardwalks should be built to span the earthworks where trail crossings are necessary.

Location. Trails that parallel much of the Confederate line of earthworks, and extend to portions of the Union system are the focus of this project. It also applies to the trails the park plans to construct in the future to interpret other earthworks segments.

Considerations. Most of the park's trails are surfaced with hard-packed earth and treated as back-country routes that are not necessarily universally-accessible. In order to reach the earthworks atop Kennesaw Mountain, Little Kennesaw Mountain, Pigeon Hill, and Cheatham Hill, some of the trails traverse steeply-sloped terrain, and most of the trails within the park follow some type of sloping terrain. Steeper trail sections are exhibiting evidence of erosion and the loss of surface cover. Because erosion may impact the earthworks where visitors seek to avoid problematic areas, repair of trails in poor condition is recommended.

FIGURE B-52. Trails undergoing erosion, such as at Pigeon Hill (shown above), will need to be repaired. Bridges, puncheons, waterbars, and steps may need to be installed to improve trails subject to erosion. Those that cross or otherwise affect the earthworks will likely need to be relocated, as will benches or signs founded in the structure of the earthworks using features similar to those shown above.

Careful and appropriate trail design, construction, and maintenance are important considerations to ensure that trails do not become eroded. Storm water has the power to carry away soil particles and smaller stones that are the key to maintaining a level and stable trail surface. Drainage is the most important consideration in controlling erosion as part of trail design. Trail designers incorporate several drainage strategies into the construction of back-country trails that should be considered for trail repair, relocation, and establishment at Kennesaw Mountain National Battlefield Park. Treadway grading that follows the sideslope of a hill and the use of coweeta dips, drainage dips, bleeders or diversion dips, water bars, and log and stone steps are some of the tools available to curtail the threat of erosion due to storm water.[128]

Where trail sections are currently designed to cross the linear earthworks, they are both likely to lead to erosion and send a conflicting message to visitors regarding whether walking on the earthworks is in fact prohibited. Alternatives to allowing trails to cross the earthworks include establishing ramps, puncheons, or other bridging structures that extend over the earthworks. To limit their intrusiveness, these structures should not be founded within the resource.

Trails that come into close contact with and provide visual access to the earthworks are an important component of the park's interpretive program. However, wherever trails come into contact with the earthworks, there is the potential for visitors to become curious and leave the trail for a closer look or climb up to gain a view of the surrounding landscape. Where visitors are clearly inclined to walk on top of the earthworks, consideration should be paid to realigning the trail away from the distraction. Trail work should be considered as part of a larger strategy to encourage earthworks stewardship on the part of visitors. Signage indicating that visitors should remain on the trail and not walk on the earthworks should be installed in support of this approach. Barriers may need to be installed in some locations to reinforce the message (Implementation Project 8).

Construction of new trail sections will necessarily involve mitigation of natural and cultural resource impacts. In particular, the alignments of new trails need to be investigated by an archeologist to determine any potential impact on cultural resources. Natural resource specialists also need to determine any potential impacts on rare, threatened, or endangered plant and animal species or unusual habitat that might support such species.

Trail design and construction should be based on technical information available through experienced back-country trail managers such as the Appalachian Trail Conference or the Appalachian Mountain Club. Trails should be sited in such a way as to limit the potential for erosion, follow a relatively comfortable slope, and accommodate variable topography, streams, and other conditions using minimal and unobtrusive construction techniques. Trails should have a firm and reliable surface. Natural materials such as earth, stone, and wood should be used to fashion engineered features such as steps, stream and earthwork crossings, waterbars, retaining walls, channels, and other water diversion features. These features should follow a standardized approach throughout the park, and their design should clearly be a product of their time.

Related Implementation Projects.

- In locations where visitors are accessing the earthworks from trails, and relocating the trail is not an option, it may be necessary to establish a physical barrier such as a fence (Implementation Project 8).

- One of the important roles of the park's trails is to interpret the earthworks. In cases where understory growth obscures the visual connection between the trail and the resource, woodland thinning is recommended to render

128. Water bars are linear strips of wood or other material embedded in or placed across the trail surface at an angle to redirect flow across to the side of the trail. Coweeta dips, drainage dips, bleeders, and diversion dips are similar in approach to water bars. Rather than rising above the trail to redirect storm water flow, they are graded depressions or swales that carry water across the trail at an angle to the downhill side.

the terrain more visually accessible without removing the majority of the existing canopy tree cover. (For more information, see the CLR treatment plan.)

Project Implementation Process.

1. Identify locations where trails cross earthworks, where benches or signs are founded in the parapet or ditch of an earthwork, or where erosion has impacted the trail surface or adjacent earthworks.

2. Design a new alignment for the problematic trail sections, and relocated benches, taking into consideration interpretive goals, landform and topography, archeological resources, and natural resources. Construct the new trail section. Regrade and revegetate or cover the abandoned trail section with leaf litter.

    a. Begin trail surfacing by removing layers of organic material to reach mineral soil.

    b. Create a relatively level trail surface that maintains a cross-slope for drainage to the downhill side.

    c. Bench the trail in sloped areas. Grade the uphill side to maintain a consistent slope of no greater than 45 degrees. If necessary, fill any depressed trail sections after organic soil layers have been removed with native mineral soil from an acceptable borrow site.

    d. Ensure that all trails have a consistent surface material free of trip hazards such as roots, rocks, depressions, wet areas, and bumps. Remove roots from the trail prism and fill the resulting holes with sandy loam soil. Remove any mulch material and imported clay soil fill that may have been used previously to fill root holes and replace with sandy loam soil. Pack down mole burrows.

    e. Provide log or stone steps where steep slopes preclude the establishment of a trail with a commodious pitch.

    f. Ensure that all trail sections exhibit positive cross drainage. Correct existing drainage problems by filling low spots with imported sandy loam soil, removing dead and dying vegetation that is currently blocking the movement of storm water, and creating a cross-pitch on the trail and shallow swales to the margins to allow for positive drainage.

    g. Replace clayey soil with sandy loam when wet conditions create slippery trail sections. Where drainage problems persist, consider constructing puncheons or boardwalks.

    h. Ensure that the landings of any wooden ramp structures meet the surrounding grade flush. Fill soil should not be dug within the field of fire, earthworks environs, or other sites of potential or known archeological resources.

3. Maintain the margins of the trail clear of vegetation for 3 feet to either side and 8 feet vertically. Provide alternative interpretive opportunities in accessible locations for those persons who cannot use the trail (see CLR treatment plan for more information).

4. Provide directional and regulatory signage along the trails, as well as interpretive information. Enlist qualified park staff or a landscape contractor to install the chosen representative features, as well as any wayside signage. Do not found signs in earthworks parapet or ditch.

5. Monitor trails regularly for drainage problems, blockage by vegetation, erosion, and other conditions that may cause damage to the trail or earthworks.

8. Establish visitor control systems in association with earthworks in high use areas

Description. Protection of Civil War earthworks is of the highest importance to the park. Visitor access is one of the threats to the long-term survival of the earthwork that the Earthworks Management Plan seeks to control. Trampling of the sloped parapet and ditch by visitors leads to a loss of vegetation and other protective cover, and subsequently to erosion. Walking atop Civil War earthworks is compelling and attractive for visitors. The earthworks typically extend above eye level, blocking views of the surrounding landscape. The top of the parapet provides an enticing vantage point from which to imagine the battle scene. Children especially enjoy climbing on earthworks.

A park-wide campaign and new protective measures are needed to encourage visitors to refrain from climbing or walking on the earthworks. The campaign might consist of posting notices on the park's web site, publications, pamphlets available at trailheads and the visitor center, signage, and personal communications from park rangers and volunteer interpreters. There are also likely locations where visitation is heavy enough that signage and notices are not likely to reach sufficient numbers, and group dynamics are likely to lead to uncontrolled access. The series of gun emplacements atop Kennesaw Mountain is one of these locations. Visitors are particularly attracted to the replica cannon. This location provides an opportunity for visitors to gain an elevation that affords a defender's point of view. Some of the associated gun emplacements have been rehabilitated several times to repair erosion and other damage. The park is challenged to continue to provide access to this important interpretive feature while also protecting the resource.

FIGURE B-53. Methods for restricting visitor access to the earthworks may include clear, strongly-worded signage, fencing, and wooden puncheons or boardwalks placed overtop of the structures to protect them, as shown in these images from Pamplin Historical Park.

In these cases, additional restrictive measures are already being used and are likely to continue to be needed. Physical barriers such as fencing, bollards and chains, thorny shrubs, logs, and boulders are options to be placed between the earthworks and visitor use areas. Allowing the grass to grow taller on earthworks managed under herbaceous cover may provide an additional deterrent to visitor access. Employing a combination of signage, information in the visitor center, and a hands-off stewardship ethic that is reinforced throughout the park, in addition to the physical barriers is likely to be successful with all but the most intrepid visitors. Rangers and other park personnel who observe visitors accessing the earthworks should verbally reinforce park policies regarding visitor access to the earthworks.

Location. Currently, those earthworks that are likely to require exceptional measures to protect against visitor access are located near primary parking areas and roadside pull-offs and in popular visitor tour locations, such as atop Kennesaw Mountain, Pigeon Hill, and Cheatham Hill. All locations exhibiting evidence of regular or even periodic visitor access should be considered for sign placement, while sites that have already employed signs but continue to evidence damage due to visitors should be treated with more restrictive barrier systems.

Considerations. In general, proximity to the trail is one of the things that invites visitors to walk on the earthworks. The park's trails, however, are intended to provide visitors with an understanding of the military terrain and use of earthworks during the Atlanta Campaign and Battle of Kennesaw Mountain, indicating an inherent conflict that will be variously resolved by relocating some sections and improving barriers to access at others.

New features constructed to serve as barriers to visitor access to the earthworks should be designed to be unobtrusive and have the smallest footprint possible to limit the impact on historic resources and their setting. Barrier features should not be founded directly in the earthwork structure itself as this sends a conflicting message to visitors asked to refrain from accessing the earthworks. The use of natural materials, matte finishes, muted colors, and subtle yet effective placement are all important considerations in the design and installation of protective barriers. Possible materials for use as barriers include logs or fallen trees, boulders, thorny shrubs, fences, and bollards with chains.

Educational programs offered at the park should remind people of the fragility of earthworks, provide information that instills a sense of respect and stewardship, and convey the fact that the earthworks are one of the only tangible resources that survive from the battle.

The park should consider offering alternatives to visitors that replace the need to climb on the earthworks. Options include constructing a scale replica earthwork near the visitor center with which visitors are invited to interact, and building puncheons or overlook structures near the earthworks that allow visitors to see beyond the parapet wall to the site of the attacking enemy, important nearby landscape resources, or opposing lines of earthworks (for more information, see CLR treatment plan).

Related Implementation Projects.

- Visitor access controls are likely to be needed in association with current and future new and relocated trails (Implementation Project 7).

- Thinning and clearing projects recommended herein may lead to increased visitor access to the earthworks, requiring the addition of more access controls. (For more information, see the CLR treatment plan.)

Project Implementation Process.

1. Identify the locations where visitors are currently accessing earthworks. Include the locations on base mapping that will be used for monitoring procedures.

2. Evaluate the existing systems in place to deter visitors from climbing on earthworks. Consider the range of approaches available to further restrict access:

a. Tall grass

b. Signage

c. Log edging

d. Worm or rail fencing

e. Shrub plantings, including species with thorns

f. Bollards and chains

g. Fencing, possibly accompanied by a raised overlook

3. Determine the least intrusive approach from the preceding list (indicated above in order from least to most intrusive) and design the feature so that it works with the trail but is not founded within the structure of the earthwork.

4. Install the new feature.

5. Repair any damage to the earthwork with native soil, and cover with either leaf litter where the site will be maintained under woodland cover, or herbaceous plant seed or plugs where the site will be maintained under grass cover.

6. Monitor the site regularly for evidence of continued visitor access. Proceed to a more restrictive approach if the initial effort is not found to be successful in deterring visitor access.

Appendix C: Military Earthworks Terminology

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The following terms and definitions are adapted from the glossary provided in *05 Currents: Sustainable Military Earthworks Management.*[*]

Abattis or **Abatis** (Fr.): felled trees, arranged in the form of a hedge with trunks aligned and anchored in a shallow ditch. Branches were sharpened and interlaced pointing toward the enemy. The purpose of abatis was to prevent surprise and to delay an attacking force within range of defensive weapons.

Advanced Works: fortifications in advance, but still within firing range, of the main works.

Angle: where two faces of a fortification meet.

Apex: the foremost *salient angle* of a fortification that protrudes farthest toward the enemy.

Approach: a trench established to get closer to the enemy line. Also known as a *sap* in siege operations.

Artillery Strong Point: a *battery*, *redoubt*, or *bastion* that anchors a larger system of fortifications.

Artillery Works: earthworks designed to protect artillery and to provide an effective *field of fire*.

Back, Rear, or **Interior Ditch**: a ditch dug behind a parapet.

Banquette (Fr.) or **Firing Step**: a shelf dug behind a parapet that allowed a defender to step up from the ground to fire over the parapet, then step back down under cover to reload. A banquette was only necessary when the parapet was higher than a man's armpits. It was a common feature associated with prepared fortifications, *curtains*, and detached works, such as *redoubts*. If a banquette survives, it is often blurred by soil eroding from the parapet.

Balk: a narrow barrier of earth within the ditch purposely left unexcavated to mark divisions between units in the line or serve as the base for a traverse made of logs.

Barbette (Fr.): artillery positioned to fire over the parapet rather than through an opening in it. A cannon firing *en barbette* had an unrestricted (180-degree) field of fire, but its gunners were more exposed to fire than one firing through an opening, referred to as *en embrasure*. A barbette gun was raised to fire over the parapet by means of a large carriage or by a gun platform built up to the appropriate height.

Bastion (Fr.): an angular work that projected outward from the main face of a fortification. The purpose of a bastion was to eliminate *defilade* by directing fire along the front of an adjacent curtain wall. Like a lunette, a bastion consisted of four parts: two *faces* forming a *salient* angle oriented towards the enemy, and two *reentering flanks* that directed fire sideways across the faces of adjacent bastions.

Battery: an artillery unit or a fortification designed to defend an artillery unit.

Berm or **Berme** (Fr.): a narrow ledge or shelf left at grade to separate the *scarp* of the ditch and the *exterior slope* of the parapet. When constructing high-relief defenses, workers stood on the berm to relay earth from the ditch up onto the parapet. The berm was sometimes left to retard slumping of the parapet, but many engineers felt that it assisted attackers in scaling the parapet and had it pared down after construction. Soil eroding from the parapet will typically blur a berm's outline.

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* National Park Service, *05 Currents: Sustainable Military Earthworks Management*, <www.nps.gov/history/hps/hli/ currents/earthworks/index.htm>

Blockhouse: a building constructed of heavy logs in the shape of a square, rectangle, or cross, to serve as a strong point for infantry or artillery. A ditch was often excavated around the exterior with the spoil thrown up against the wooden structure as a protection against fire and gunfire. Often part of the first floor of a blockhouse was below ground, while the upper floor, pierced with loopholes and embrasures, was built with an overhang so that defenders could fire down around the base of the structure. Blockhouses were used to defend railroad trestles, bridges, and depots, or served as a "keep" or place of final refuge in a larger fortress or stockade. The excavations associated with many blockhouses survive, although timbers were often scavenged for other uses. Some had brick or stone flooring and fireplaces.

Bombproof: a log or plank room or bunker covered over with earth to protect troops from artillery fire. A surviving bombproof appears as a large mound of earth, sometimes with an elongated depression in the top where underlying timbers have collapsed or in the side where the entrance used to be.

Bottom of the Ditch: the flat space at the base of the ditch that separated the *scarp* and *counterscarp*.

Boyau (Fr.): a *communication trench* or a sap pushed forward toward the enemy typically constructed in a zigzag pattern to prevent exposure to direct fire from the front.

Breaching Battery: a battery constructed during *siege operations* to enfilade a portion of the enemy's defenses or to batter down the enemy's walls or parapets.

Breastwork: a linear earthwork that was tall enough to cover the chest of a man standing behind it. A breastwork could also be constructed of ad hoc materials, such as logs, stones, barrels, or cotton bales.

Capital: the imaginary line that bisects an earthwork's *salient angle*.

Casemate: an enclosed and roofed-over artillery position. Casemates vaulted with stone were a basic component of permanent masonry fortifications. Casemates were constructed only rarely in the field with logs and earth.

Cheek: the side of an *embrasure*, often reinforced by *gabions* or sandbags.

Caponière (Fr.): a projection from the front of a curtain wall that enabled infantry or artillery to fire into an exterior ditch.

Chevaux-de-frises (Fr.): portable obstacles built of logs with projecting sharpened stakes, joined together by chains; called "horses of Friesland" where the device was invented in the mid-1600s.

Circumvallation: siege lines built to "invest," or enclose, the enemy's defenses.

Column of Fire: a volume of fire directed perpendicular to the parapet. Entrenched soldiers tended to fire directly to their front when under attack, rather than side to side. To deliver fire where it was most needed, engineers changed the orientation and relationships of a fortification's *faces* and *flanks*. Each segment of parapet had a specific column of fire that swept the front or interlocked with fire from an adjacent segment.

Command: the height of an earthwork above grade.

Communication Trench: a ditch and parapet that connected one part of an entrenchment with another to move troops and supplies. Communication trenches were also called *covered ways* if deep enough to conceal movement.

Continuous Line: a line of fortifications presenting a solid front to the enemy.

Corbeil or **Corbeille** (Fr.): a form of *gabion* comprised of a small wicker hamper, wider at the top, that was placed along the parapet and filled with earth. The tapered shape left a musketry *loop-hole* between corbeils.

Corduroy Road: logs laid side-by-side in a roadbed to make it passable in wet weather. The technique was often applied to establishing gun platforms to support artillery pieces.

Counterbattery Fire: artillery fire directed at the enemy's artillery in an attempt to silence or disable the guns. Because of the threat of counterbattery fire, artillery positions were typically stronger and more massive than infantry entrenchments.

Counterscarp: the outer or exterior slope of a ditch.

Countervallation: siege lines built in conjunction with lines of *circumvallation* to protect the rear of the besieging force from assault by a relief force or from raids.

Covered or **Covert Way**: a walkway extending around the outside of the moat or ditch of the main line, or a ditch and parapet designed to protect and conceal the movement of troops and supplies to the front lines from camps or supply caches in the rear. A covered way was not "covered," in the sense of being roofed over but provided cover from gunfire.

Cremaillière (Fr.) or **Indented Line**: a stepped or saw-toothed line of fortifications, designed to generate *crossing fires* all across the front of the line.

Crossing or **Interlocking Fire**: fire that converged on the same target from two different points. When laying out a line of defense, engineers sought to generate interlocking fire whenever possible.

Crownwork: a detached earthwork open at the gorge, formed of a central *bastion* and two flanking *demilunes* with two long *flanks* extending to the rear and inclining toward the *gorge*.

Cunette (Fr.): a narrow drainage ditch running along the bottom of a trench. Drainage was a continual concern whenever an earthwork was occupied for any length of time. Drainage ditches have been observed to survive, typically within semi-permanent forts, siegeworks, and larger batteries.

Curtain or **Curtain Wall**: a straight line of parapet that connected two *bastions* or artillery strong points, technically with an exterior ditch.

Dam: often used in conjunction with military earthworks to flood an area for defensive purposes.

Dead Angle: area in front of a *salient angle* into which the defenders cannot fire. A sector without fire was extremely vulnerable unless defended by fire directed from another part of the fortification.

Defilade or **Dead Ground**: a ravine, gully, or depression within range of an earthwork's weapons that could not be seen or fired into from the defenders' position.

Deliberate Entrenchments: defenses constructed in anticipation of need, to defend a town, depot, or bridge, for example, typically constructed with a front or exterior ditch. If defending an important position and occupied for a long period of time, deliberate earthworks might be improved to a semi-permanent condition. Magazines and bombproofs were built. The parapets might be sodded with grass, revetments faced with sawn planks or stone, roads and ramps paved with flagstones, a well dug, and a more complete drainage system installed. Frame barracks and storehouses might be constructed within or adjacent to the earthworks for the garrison.

Deliberate Fieldworks: improvements made to an existing line of rapid entrenchments, typically the addition of *detached works* for artillery.

Demi-bastion (Fr.): an angular work that projected outward from the corner of an enclosed or detached earthwork. A demi-bastion consisted of one *face* and one *flank* forming a salient angle. The flank directed fire across the front of an adjacent face or curtain.

Demilune (Fr.): a crescent shaped parapet protecting a single cannon, typically ditched in front. Also called an epaulement.

Dentate: zigzag or saw-toothed parapet designed to direct fire obliquely left and right across the front, designed to create interlocking fields of fire.

Detached Works: fortifications constructed in advance of the main line to delay an enemy's approach or built as components of a *line of intervals*, generally redans, ravelins, lunettes, or redoubts. Other variations included *swallow's tails, hornworks, crownworks*, and *priest caps.*

Direct Fire: incoming fire striking perpendicular to the parapet or line of battle. Incoming fire could be *direct, enfilading, plunging, reversed*, and *ricochet*.

Ditch: excavation providing soil to construct a parapet. A ditch could be in front of the parapet (*front-ditch* or *exterior*), behind it (*back-ditch* or *interior*), or on both sides (*double-ditch*). Engineers preferred front-ditch construction whenever time and labor permitted, as it created a stronger *profile.* Batteries, redans, lunettes, and redoubts were consistently constructed with a front-ditch. Back-ditch construction was the fastest way to entrench, and therefore was used most often for rapid infantry entrenchments. A double-ditch resulted from digging in front to widen an existing back-ditch parapet, from constructing a *covered way* behind a front-ditched line, or from capture and *refacing*. Some evidence of the ditch-a shallow trough-often survives even if its parapet has eroded away. The *scarp* and *counterscarp* are the inner and outer slopes of the ditch.

Double-ditch: parapet with both an interior and exterior ditch. Double-ditching was used to widen an existing back-ditch parapet or to provide a covered way behind a front-ditch parapet. An earthwork that was captured and turned (refaced) would have a double-ditch.

Dugouts and Bunkers: rectangular excavations, usually 5 to 10 feet on a side, associated with the principal defenses of an earthworks complex. These typically served a command or logistical function. On rare occasions in the field or during siege operations, dugouts might be roofed or partially roofed with logs and earth.

Earthworks: any earthen structure excavated for military purposes. In simplest form, a defensive earthwork was composed of a parapet or mound of earth and a ditch from which the earth was excavated.

Earthworks Complex: consists of the *Main Line of Defense*, a *Zone of Occupation* behind the main line, a *Zone of Fire* in front of it, and a *Zone of Contention* (No Man's Land) separating advanced positions of the combatants. The entire fortified front, taking in both combatants, might be a mile or more deep with each zone identified by a specific grouping of features and artifacts.

Embrasure (Fr.): a wedge-shaped opening cut to allow artillery to fire through the parapet. A cannon firing en embrasure had a restricted (45-degree) field of fire but the parapet protected the gunners. The sides, or *cheeks*, of an embrasure often were reinforced by logs, planks, stones, sandbags, or gabions. A single gun might have had multiple embrasures.

Enceinte (Fr.): the "body of the place" or the area of a fort or redoubt enclosed by the parapet.

Enclosed Work: an earthwork designed to be defended from all sides.

Enfilade or **Enfilading Fire**: fire from the flank that swept along the length of a parapet or line of battle. Enfilading fire could be particularly destructive as incoming rounds might strike multiple targets and no return fire could be brought to bear. Traverses were often constructed behind a parapet to limit

casualties caused by enfilade. Incoming fire could be *direct, enfilading, oblique, plunging, reversed*, or *ricochet*.

Entanglement: obstacles placed in front of an earthwork to trip up and delay attackers, sometimes used to refer to an *abatis*. During the Civil War, telegraph wire was strung from stump to stump at shin level to form a "wire entanglement." Most wire was retrieved or scavenged during or after the war, so little would be expected to survive archeologically.

Entrenchment or **Intrenchment**: a generic term for any form of earthen fortification. In common usage, terms like breastwork, trench, entrenchment (intrenchment), curtain, and fieldworks were applied with little precision.

Escarp, **Escarpment** (Fr.), or **Scarp**: rear or inner slope of a ditch. In a front-ditch earthwork, a continuation below grade of the *exterior slope* of the parapet. See *Counterscarp.*

Exterior Slope: the outer side of the parapet that faced the enemy and intercepted incoming fire. The exterior slope typically inclined 45 degrees, the natural angle of repose for most soils. The *interior slope* was more vertical to enable defenders to stand directly behind it. Nearly all extant earthworks in original condition will display some difference in angle between the exterior and interior slopes.

Face: a straight segment of parapet making up a larger earthwork that delivered *direct* or *oblique* fire to the front.

Facing: covering or treatment of a slope with sod, sandbags, stone, or other materials, also referred to as the revetment.

Fascine: tightly bound bundle of saplings used to reinforce a parapet or in revetment.

Field of Fire: area within weapons range that can be seen and swept by fire. Fields of fire were often improved by *slashing* (cutting down) all of the trees or pulling down buildings in front of the line.

Fieldworks: earthworks constructed by armies while actively campaigning, whether on the battlefield or in camp. Also referred to as *hasty* or *rapid entrenchments*.

Fill: logs, rails, stones, or other available materials used to add bulk to the parapet typically gathered and placed along the intended line before digging begins.

Fire: organized and directed discharge of weapons.

Flank: left or right end of a line of battle or position; side; a segment of parapet thrown back to protect the side of a position or to allow defenders to deliver fire across the front of an adjacent *face*.

Flanking Fire: fire directed from one segment of parapet to sweep the front of an adjacent segment.

Flêche (Fr.): a small *redan* with a central, bisecting *traverse* giving it the appearance of an arrow.

Fort: an enclosed fortification defended by artillery; a complex, multi-component earthwork; a wooden stockade with corner blockhouses, often with ditching or other earthen components; also generically, a military base.

Fortification: earthen works or other structures erected to defend a place or position.

Fortress: a system of defenses designed to work together as a whole to defend a fixed position. Often a *permanent fortification*.

Fossé (Fr.): an exterior ditch fronting a *rampart* or *curtain*.

Foxhole: an individual shelter hole.

Fraise (Fr.): a row of pointed logs set close together and inclined toward the enemy, often erected in the exterior ditch of a *redoubt* to prevent attackers from scaling the parapets. Sometimes also referred to as a *palisade*.

Front: the exterior of an earthwork facing toward the enemy.

Fronting: the orientation of an earthwork vis-à-vis the enemy.

Front-ditch or **Exterior Ditch**: a ditch on the outside of a parapet designed as an additional obstacle to assault. A front-ditch allowed the parapet to have greater bulk and a stronger profile than rear-ditch construction. This was the engineers' preferred method and was consistently applied to prepared fortifications, to detached works, and artillery fieldworks. It is common to find a mix of front-, rear-, and double-ditch entrenchments in a single continuous line.

Fully Stocked Forest Stand: a full overstory canopy capable of replenishing the forest floor. Foresters typically use basal area to measure stocking in a forest. A rule of thumb is that the lower limit of full stocking is around 60 square feet of basal area per acre. In pine and pine-hardwood forests, it is 80 square feet per acre. Basal area (BA) = 0. 005454d 2 BA is basal area in square feet and d = tree diameter in inches. Summing the basal area from all trees over an acre provides basal area per acre which is a measure of stocking. Basal area for mature deciduous forests in the eastern United States generally range from 100 to 150 square feet per acre.

Gabion: a large basket of interwoven vines and saplings used to strengthen or shape an earthwork. The gabion was set into position and filled with earth on site. When gabions deteriorated, the fill collapsed into shapeless mounds that can sometimes be identified in the field.

Glacis (Fr.): the outer edge of the ditch, or, by extension, the *field of fire* of a fortification. In permanent fortifications, the glacis was shaped so that the ground rose gently as it approached the ditch to protect and conceal the masonry revetment of the *scarp*. In fieldworks, time permitting, the glacis was sloped as a continuation of the angle of the *superior slope* of the parapet. Some surviving artillery works have a shaped glacis, though it is fairly rare.

Gorge: the entrance into a detached work, or simply the rear of the work, as in, a lunette is open "at the gorge." Leaving the rear of a work open allowed defenders in a secondary line to fire into it in case it were captured. A wooden *stockade* was sometimes built to close off the gorge.

Grade: the original ground level. *Ditches* are below grade; *parapets* are above grade.

Greater or **Major Fieldworks**: earthworks constructed with an exterior or *front-ditch*.

Gun Pit: an entrenched artillery position, platform, *demilune,* or epaulement.

Gun Platform: a flat, usually rectangular, area behind a parapet on which an artillery piece was positioned. The platform surface was usually floored with planks or split logs or *corduroyed* with logs placed side by side. A platform might be excavated or elevated relative to grade, depending on whether it was firing through an *embrasure* or over the parapet (*en barbette*). The size of the platform is indicative of the size of cannon it was intended to service (average 10 by 14 feet for a standard field piece). Sometimes, a platform was edged by a narrow drainage ditch or flanked by traverses.

Gun Ramp: a ramp constructed to move a cannon into firing position on its platform; the ramp may ascend or descend to the platform from ground level. A gun ramp is a common surviving feature of artillery works.

Holes and Pits: foxholes and other personal defenses. Single-man skirmish pits or picket holes (foxholes) were typically about 4 feet in diameter and 2 to 3 feet deep with the dirt thrown forward to

form a low parapet. These holes were sometimes enlarged to hold two- or three-man firing teams. Pickets and skirmishers were deployed from 50 to 300 yards in advance of the main line of defense at intervals of 5 to 15 yards. This regularity of placement is one of the principal indicators used in the field to differentiate a picket or skirmish line from random holes caused by tree-throw. Interspersed along the skirmish line might be slit trenches, which were short, discontinuous segments of parapet dug to cover 3 to 5 men. Fire pits or mess holes might be dug out of the ditch behind the main lines for cooking and sleeping. "Officer holes" sometimes appear at regular intervals from 5 to 10 yards behind the main lines, where file closers, usually non-commissioned officers, were stationed to keep the rank and file in line.

Hornwork: a detached earthwork formed of two adjacent *demi-bastions* and two long *flanks* extending to the rear and inclining toward the open *gorge*.

Hurdle: a *revetment* formed by interlacing vines or saplings through a series of posts set upright against the *interior slope* of the parapet.

Impoundment or **Inundation**: flooded ground in front of or within a fortification for defensive purposes.

Improving: continuing to strengthen a system of rapid entrenchments over time. A simple rifle trench could be improved by widening the parapet, adding traverses, excavating dug outs or fire pits behind the line, or adding supply caches and a covered way to the rear. Soldiers tended to work on their entrenchments more or less continuously for as long as they occupied them to make them safer, more comfortable, and more defensible.

Infantry Works: earthworks designed for defense by infantrymen.

Interior Slope: rear slope of the parapet, usually nearly vertical to enable the defender to stand against it to fire over the parapet; often faced by a *revetment* of logs, rails, planks, sod, wickerwork (called hurdles), stones, sandbags, or other available materials.

Internal Works: structures built within a larger earthwork, such as magazines, bombproofs, and traverses.

Keep: a blockhouse or redoubt built within a larger fort for use as a place of final refuge or last-resort defense. Also called a *citadel* or *cavalier*.

Lesser or Minor Fieldworks: earthworks constructed with an interior or rear-ditch. Because soldiers stood in the ditch to fire over the parapet, the total relief rarely exceeded 5 feet.

Line of Battle: a tactical, linear formation of troops in which the front ranks stood nearly shoulder to shoulder and the rear ranks stood behind them in the intervals. Eighteenth- and nineteenth-century armies deployed in such dense lines in order to concentrate their musketry in a single direction. Since effective fire could be delivered only to the front, the entire line of battle needed to shift position to change the direction of fire. Military earthworks reflected these linear tactics.

Lines at Intervals: a line of mutually supporting detached works, typically *redans*, *lunettes*, or *redoubts* that were not connected by infantry parapets, also called a discontinuous line. In theory, lines at intervals allowed defenders greater mobility to conduct an *active defense*.

Listening Well: a shaft sunk during siege operations to detect an enemy's attempt to tunnel under an entrenched position.

Loop-hole: a narrow slit through which a weapon could fire.

Lunette (Fr.): a detached earthwork, open to the rear, composed of two *faces* forming a *salient angle* and two *flanks*, flanks and faces being of nearly equal length. Called a *bastion* when connected to another lunette by a *curtain wall*. Imprecisely applied to a *demilune* or epaulement.

Magazine: a secure, water-tight place to store ordnance supplies; in prepared works or fieldworks, a log or plank room or bunker covered over with a thick layer of earth to protect ammunition from accidental discharge or incoming artillery fire. Most artillery fortifications occupied for any length of time had at least one magazine, depending on the number and types of guns. The entrance was to the rear, opposite any incoming fire. Communication trenches or at least unobstructed paths for runners lead from the entrance to the gun platforms.

Maham Tower: a platform of logs, earth, and *gabions* constructed during *siege operations* to allow besiegers to fire over the defenders' parapets.

Main Line of Defense: a line along which the principal strength and effort of the defenders was concentrated.

Merlon: a section of parapet between two *embrasures*.

Military Crest: the shoulder of a hill or ridge rather than its actual crest. The military crest is the highest contour of elevation from which the base of its slope can be seen without *defilade*. When surveying an area for surviving earthworks, it is often useful to search along the military crest.

Mine: a tunnel dug beneath an enemy fortification, either to undermine its foundations or to set off an explosion. Mine tunnels are occasionally discovered today in association with siegeworks, usually when a portion of it collapses. The best defense against enemy mining was counter-mining, digging tunnels to intercept the enemy's mine.

Moat: a ditch in front of an earthwork that was purposely filled with water.

Mutual Support: two artillery or infantry strong points, each within the other's range and *field of fire* and able to assist the other if attacked. Engineers typically designed a fortification so that its parts were mutually supporting.

Oblique Fire: incoming fire that strikes the parapet or line of battle at an acute angle from left or right. Incoming fire could be *direct, enfilading, oblique, plunging, reversed,* or *ricochet.*

Palisade (Fr.): a phalanx of sharpened logs or *fraise*, anchored in a shallow ditch and slanted to the front as an obstacle to advancing infantry. Also a wall of logs or *stockade*.

Pan Coupé (Fr.): a short straight stretch of parapet constructed across the capital of a salient angle, having the effect of reducing the angle's *sector without fire*.

Parade or **Parade Ground**: a flat assembly area within a larger permanent or semi-permanent fortification; often adjacent to barracks or other garrison buildings; sometimes improved by leveling and draining.

Parallel: a parapet thrown up to confront defenses when conducting a siege by *regular approaches*. The First Parallel was constructed out of range of the enemy's guns. *Saps* were pushed forward fifty or a hundred yards to construct a Second Parallel, and so on, until reaching the ditch of the enemy fortification. Imprecisely applied to describe a *curtain wall*.

Parallel Fire: fire directed across the front of an entrenched line or line of battle.

Parapet (It. parapetto, shield the chest): a linear mound of earth built to defend against incoming fire. The thickness of a parapet was determined by the armament that it was expected to withstand-for musketry, 5 to 7 feet; field artillery, 8 to 16 feet; for siege or naval guns, up to 35 feet. The parapet

consisted of an *interior slope*, usually revetted with logs, planks, rails, stones, sandbags, or fascines, so as to be nearly vertical, *the superior slope* or *crest*, which inclined slightly downward toward the enemy, and the *exterior slope* or outer face, which took the brunt of enemy fire. The exterior slope typically inclined 45 degrees, the natural angle of repose for most soils.

Passive Defense: a strategy of holding an entrenched position and awaiting the enemy's attack.

Peneplein (Fr.): a flat interior of an enclosed earthwork, synonymous in usage with *terreplein.*

Permanent Fortifications: defenses constructed to defend towns, garrisons, depots or other fixed positions that were intended to last for a long time with minimal repair. A fort's ramparts could be constructed entirely of stone and brick or, if built largely of earth, would have masonry revetments within and without to deter erosion.

Picket: a guard or *vidette*.

Picket Line: a row of guards, or videttes, spread out in intervals and formed in advance of the main line to provide warning of an attack; a row of individual foxholes entrenched by the pickets. Picket lines were advanced anywhere from 50 to 300 yards in front of the main lines, depending on the terrain and proximity of the enemy.

Plunging Fire: fire directed from higher to lower ground.

Priest Cap: a detached earthwork consisting of two *faces* joined in a *reentrant* and two long *flanks* extending toward the rear and inclining away from the open gorge. The design served to converge the fire of the two faces on a specific target to the front. The severity of the re-entering angle determined the distance to the point of convergence.

Profile: the cross-section of an earthwork. The higher and wider the parapet, the wider and deeper the ditch, the "stronger" the profile. A simple rear-ditched rifle trench had a "weak" profile.

Ramp: an incline leading up to the *banquette* or allowing access to a gun platform.

Rampart: a broad embankment of earth that supported the functioning elements of a permanent or semi-permanent fortification. The parapet and banquette were built at the front of the rampart; ramps moved troops from the interior of the work onto the *terreplein* of the rampart. In early forts, a rampart was often improvised by constructing double parallel revetments of logs and filling the intervening space with stones and hard-packed earth. Ramparts typically were not a component of field fortifications but appeared occasionally in simpler form in some artillery works. Sometimes called a *bulwark*.

Rapid Entrenchments: fieldworks constructed in the presence of the enemy, usually with a rear or interior ditch and often with ad hoc materials for fill and revetment, also called hasty or temporary entrenchments. Although built "hastily, "these were rarely built "carelessly," as the modern use of the word might imply. Experienced soldiers could throw up a shelter trench sufficient to absorb small arms fire in less than an hour with only rudimentary tools.

Ravelin: a detached earthwork open to the rear with two long *faces* forming a *salient angle* and two short *flanks*.

Rear: interior, away from the enemy.

Rear-ditch or **Interior Ditch**: ditch in which soldiers stood to fire over the parapet; most commonly used in rapid infantry entrenchments. Rear-ditch was the fastest way to entrench because each shovel of earth lowered the ditch and at the same time raised the parapet.

Redan (Fr.): a detached fortification with two *faces* forming a *salient angle*, often built as an outer work to cover an advanced position. The work was open at the rear. A redan was a common form of all military eras. When bisected by a traverse down its center (along the capital line), it was called a *flêche*, or "arrow." When connected to adjacent strong points by curtain walls, it served as a *caponière*.

Redan Line: a series of *redans* connected by *curtains*.

Redoubt: an enclosed fortification designed to be defended from all sides. The *trace* of a redoubt could be square, polygonal, or occasionally circular. A redoubt could stand alone as a *detached work*, serve as a place of refuge within a larger fortification, or be incorporated into a continuous line of entrenchments as an artillery or infantry *strong point*. Redoubts were a common feature of all military eras.

Reentering Angle or **Reentrant**: the angle in an earthwork or line of earthworks that points toward the rear and away from the enemy. Systems of earthworks were purposely designed with both reentering and salient angles.

Reface: to "turn" or change the *facing* of an earthwork.

Relief: the distance from the crest of the parapet to the bottom of the ditch; relief is a component of the *profile*.

Regular Approaches: siege operations conducted by building saps, parallels, and breaching batteries, based largely on a system devised for the French armies by Sebastien le Prestre de Vauban (1633-1707).

Regular and Irregular Works: enclosed earthworks. Regular works were based on classic models-square or six-sided redoubts, and bastioned forts-and generally appeared balanced in proportion and symmetrical in trace. Irregular works were adapted to the peculiarities of the terrain and took a variety of shapes and traces. Although less "elegant" in terms of geometry, irregular works were often measurably stronger than the more rigid, classical prototypes.

Retrenchment: a secondary line of earthworks built to seal off a gap in the main line or to prevent a breakthrough.

Reversed Fire: incoming fire that strikes the rear of a parapet or line of battle. Incoming fire could be *direct, enfilading, oblique, plunging, reversed,* or *ricochet*.

Revetment: a retaining wall constructed to support the interior slope of a parapet. Made of logs, wood planks, fence rails, fascines, gabions, hurdles, sods, or stones, the revetment provided additional protection from enemy fire, and, most importantly, kept the interior slope nearly vertical. Stone revetments commonly survive. A few log revetments have been preserved due to high resin pine or cypress and porous sandy soils. After an entrenchment was abandoned, many log or rail revetments were scavenged for other uses, causing the interior slope to slump more quickly. An interior slope will appear more vertical if the parapet is eroded with the revetment still in place.

Ricochet Fire: fire that strikes the ground first then bounds into the air, used primarily by artillery firing a round, solid shot. The *glacis* was shaped to deflect ricochet rounds up and over the parapet rather than into it.

Rifle Pits: generically, any grouping of light, rapid entrenchments, usually discontinuous, with a rear-ditch and low parapet. See *Holes and Pits*.

Rifle Trench: a parapet for infantry, typically thrown up rapidly with a rear-ditch. Also called a *shelter trench*.

Salient: a portion of a system of earthworks that protruded or bulged outward toward the enemy.

Salient Angle: an angle in a work or line of earthworks that pointed toward the enemy also referred to as a *reentering angle*. Systems of earthworks were designed purposely with both reentering and salient angles.

Sally Port: an opening left in the parapet as an entrance to an enclosed earthwork. All enclosed earthworks had a sally port. This feature is referred to as a *postern* when vaulted or roofed to form a tunnel.

Sandbags: features used to strengthen prepared entrenchments and siegeworks, often filled off-site and transported to the work under construction. A stratum of sand overlying a different base soil, particularly in an artillery work, might indicate the use of sandbags.

Sap: a trench built to connect one parallel to the next in order to advance siegeworks, sometimes built as a zigzag approach or straight with internal traverses.

Sap Roller: a large wickerwork cylinder rolled ahead of a crew to absorb incoming fire as it worked on a *sap*.

Sapper: a pioneer or engineer engaged in digging field or siegeworks.

Shelter Trench: a simple rifle trench for infantry, typically with a *rear-ditch*.

Siege Operations: the systematic entrenching method employed to approach an enemy's defenses, using classic engineering techniques.

Siegeworks: earthworks built to advance or retard siege operations.

Skirmish Line: soldiers deployed at intervals in front of the main line of battle to harass the enemy and delay any enemy advance; a row of individual foxholes entrenched by the skirmishers. Skirmish lines were advanced anywhere from 50 to 300 yards in front of the main lines, depending on the terrain and proximity of the enemy. Sharpshooters often manned the skirmish line.

Slashing: cutting down all trees in front of a line to create a clear field of fire. Trees were felled in the same direction with branches toward the enemy, serving as an obstacle to attack. Downed trees might then be trimmed and arranged more formally into an *abatis*.

Slit Trench: slang for a short trench, similar to a rifle pit, constructed for three to five men. Often found in a picket line interspersed with foxholes or as shelter in the rear of a main line.

Spoil: the earth removed from an excavation, termed in French the *déblai*. The spoil provided the bulk of the *remblai*, that is, the material used to construct a rampart or parapet.

Star Fort: an enclosed work with alternating *salient* and *reentering angles*. A star fort might have from four to eight salient angles projecting toward the enemy. This was a popular form until the middle of the Civil War, but many engineers considered it to require more work than needed for a strong defense. Examples of star forts survive from various time periods.

Stockade: generically, a log fort; when used as an adjunct to earthworks, a vertical wall of logs tied or nailed together to protect the *flank* or *gorge* of a battery, lunette, or redoubt. Loopholes were cut in the logs to allow for rifle fire. The exterior of the stockade wall might be ditched with the earth thrown up against the logs. Archeological excavation might reveal evidence of the postholes or remains of the post in the ground.

Strong Point: a dominating position, usually high ground, defended by entrenched artillery or a concentration of infantrymen; an artillery work within a continuous line of entrenchments.

Superior Slope: the crest of the parapet on which soldiers rested their weapons to fire. The *interior slope* was nearly vertical so that a man could stand comfortably against it. The superior slope inclined slightly toward the enemy. The *exterior slope*, which intercepted most incoming fire, inclined more abruptly.

Supply Cache: a rectangular excavation, usually 5 to 10 feet on a side and 3 feet deep, found in rear of the Main Line of Defense. See *Earthworks Complex*. These served as temporary storage for boxes of food or ammunition and are found in sheltered terrain adjacent to a road or a covered way. On rare occasions in the field or during siege operations, a supply cached might be roofed or partially roofed with logs and earth.

Swallow's Tail: a detached earthwork consisting of two *faces* joined in a *reentrant* and two long flanks extending toward the rear and inclining toward the open *gorge*.

Tenaille (Fr.) **Line**: a series of adjacent *redans*, of equal or differing sizes, joined at the flanks with no connecting curtains.

Terreplein (Fr.): ground level, grade; generically a level area inside an enclosed fortification; in permanent fortifications, the flat surface of the *rampart* behind the parapet.

Tête-de-pont (Fr.): an entrenched bridgehead with both flanks anchored on a river, designed to hold a river crossing.

Throw Up Works: to entrench. Earthworks were described as being "thrown up."

Trace: the outline of a fortification as drawn on a plan or "traced" upon the ground. In terms of engineering, the trace of an earthwork was its most important characteristic. To be effective, the trace should take advantage of the military strengths of the terrain and mitigate its weaknesses; its design should accomplish its purpose in the overall plan of defense; its length should be adjusted to the number of soldiers designated to hold the position.

Traverse: a short segment of parapet used to prevent incoming *enfilade* fire from sweeping the length of a line, to protect the rear wall of an enclosed work from a *plunging* fire from the front, to cover a sally port, or to provide extra protection for a magazine or supply cache. Traverses were sometimes built of or reinforced by *gabions* and were usually constructed perpendicular to incoming fire, rather than perpendicular to the defensive parapet. In rapid entrenchments, traverses might be constructed entirely of logs.

Trench: usually short for entrenchment, sometimes referring to the ditch of an entrenchment or to an auxiliary entrenchment in rear of a *rampart*.

Trous de loup (Fr.): rows of pitfalls, 4 to 6 feet deep, dug in checkerboard fashion in front of an earthwork to obstruct an attacking force. Each cone-shaped pitfall concealed a sharpened stake.

Turned Works: an entrenchment captured by the enemy and refaced, resulting in ditching on both sides of the parapet.

Work: any discrete component of a system of fortifications, applied most often to detached defenses, to forts, or artillery strong points.

Zigzag Trench: a sap pushed forward toward the enemy typically constructed in a zigzag pattern to prevent exposure to direct fire from the front.

Zone of Contention: No Man's Land or the area separating the deployed skirmishers of the combatants, often defined by the foxholes of the opposing skirmish lines. Because skirmishers tended to advance or withdraw according to nuances of the terrain and localized pressure, the width of this zone fluctuated.

Zone of Fire or **Kill Zone**: the area between the *Main Line of Defense* and the advanced skirmish or picket line, typically no wider than the effective ranges of standard infantry weapons. In this zone, soldiers cut down trees to clear a field of fire and often erected obstacles, such as an *abatis* or entanglements, to slow down and break up an attack. Nothing would remain from such obstructions unless it was the shallow ditch that anchored the abatis. One might find larger dugouts that held reserve pickets that could be fed out to the skirmish line as needed.

Zone of Occupation: an area behind the Main Line of Defense. This zone might extend 200 yards or more behind the front, depending on the terrain. In this zone were activities of logistics and support, which sometimes left evidence in the form of support trenches, dug-out supply caches, bunkers for officers and non-combatants, or covered ways through which troops and supplies could move unseen from the rear to the front line. In some cases, artillery positions were constructed to fire over the front lines at distant targets.