National Park Service
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Vicksburg National Military Park
Vicksburg, Mississippi

Vicksburg National Cemetery

Cultural Landscape Report



Cultural Resources, Partnerships and Science

Southeast Region

Vicksburg National Cemetery

Vicksburg, Mississippi

Cultural Landscape Report

October 2019

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About the front cover: View of Vicksburg National Cemetery, October 2014.

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Vicksburg National Cemetery

Vicksburg, Mississippi

Cultural Landscape Report

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Foreword

The Vicksburg National Cemetery is the oldest part of Vicksburg National Military Park. Established to be a final resting place for Union soldiers who made the ultimate sacrifice during the Vicksburg Campaign, it evolved over time into a memorial to soldiers and veterans who served from the Civil War through Vietnam. Through that time it has become a place for community members to pay homage to the memory of the sacrifices of these soldiers, and to the sacrifice of soldiers and veterans of all wars.

Throughout its history the landscape of the Vicksburg National Cemetery has evolved while maintaining its memorial character. Structures have been built and taken down; trees have been planted, grown, and died. In many cases the long term impacts of these changes were not fully considered. Some of the older trees, for example, have grown over and around burials and headstones that were once just nearby.

This plan is intended be a tool for future managers to help them make choices for future management of this hallowed ground.

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Introduction

Project Summary

Vicksburg National Cemetery is located within the boundaries of Vicksburg National Military Park, which is located approximately one mile to the east and north of the historic center of the city of Vicksburg, Mississippi. Vicksburg is the seat of Warren County. The city is located 40 miles west of the Mississippi capital of Jackson, and 234 miles northwest of New Orleans, Louisiana. Vicksburg National Cemetery is administered by the National Park Service. The Superintendent for Vicksburg National Cemetery also oversees management of Vicksburg National Military Park.

Establishment of Vicksburg National Cemetery began on July 14, 1866, when Gen. Montgomery C. Meigs requested that he be given the power to establish a national cemetery at Vicksburg as well as other national cemeteries elsewhere within the South. The land to be used to establish Vicksburg National Cemetery, as described in the original plat, was situated ". . . immediately on the north side of Mint Spring Bayou about one and a half miles north of the city of Vicksburg . . . and between the Yazoo Valley Road and Mississippi River, on the west side of said road . . . and a fraction less than 40 acres [in size]" (Figure 1).[1] It was to be constructed on land occupied by Union forces during the siege of Vicksburg. As local residents began to return to the land associated with the Siege and Battle of Vicksburg, and fields were put back into cultivation, the bodies of soldiers were discovered; the public outcry that ensued helped hasten establishment of the cemetery.



FIGURE 1. Historic map, circa 1867–1872, showing the location of the cemetery, with the Mississippi River as its western boundary. Source: Vicksburg National Military Park Archives.

1. Richard Meyers, *The Vicksburg National Cemetery: An Administrative History* (Vicksburg: National Park Service, 1968), 9.

As noted in the Administrative History:

> Vicksburg National Cemetery is among the nation's oldest national cemeteries and has the largest number of Civil War interments of any national cemetery in the United States. The land for the national cemetery was deeded to the United States government on August 27, 1866, by Alney H. Jaynes and his wife for the sum of $9,000. Burials began in 1867, with a 260-man labor force responsible for the interments as well as the grading of the grounds, installing of sod on the slopes, and maintenance of the graves. This labor force was made up of one commissioned officer, three superintendents, two clerks, four white foreman, seventy white laborers, 170 African American laborers, and ten African American teamsters.[2]

By August 1868, the remains of 15,595 Union soldiers had been interred at Vicksburg National Cemetery. Contemporary reports indicated that although no attempt was made to separate the burials of the known from the unknown, interments in the cemetery were segregated according to race. Citing an 1867 progress report on work at the cemetery, the Administrative History notes: "Whereas the reinterments of the first white soldiers were displaced through sections A, B, C, D, E, F, G, H, and O, all of the initial reinterments of 543 Negro soldiers were in section M."[3]

Vicksburg National Military Park was established on February 21, 1899, "to commemorate the campaign, siege, and defense of Vicksburg, Mississippi, and to preserve the history of the battles and operations of the siege and defense on the ground where they were fought and carried on."[4] With Antietam, Chickamauga/Chattanooga, Gettysburg, and Shiloh, Vicksburg was one of the first five national military parks established by the federal government in the 1890s to protect the sites of decisive battles for military education, to commemorate the battles, and to support national reunification. These parks were initially administered by the War Department. In 1933, President Franklin Roosevelt signed two executive orders that became effective on August 10, and which transferred the War Department's parks and monuments to the National Park Service. This reorganization was one of the most significant events in the evolution of the National Park System.[5] Both Vicksburg National Military Park and Vicksburg National Cemetery were included in the transfer.

Until 1947, Vicksburg National Cemetery had its own superintendent. Between 1933 and 1947, the cemetery superintendent reported to the superintendent of Vicksburg National Military Park. Thereafter, both sites were managed by a single superintendent. The cemetery was closed to burials in 1961 except for those with outstanding grave site reservations.

Since 1866, the cemetery has expanded to 120.03 acres. The CLR generally addresses all 120 acres of the national cemetery, with a particular focus on the original 40-acre property, and sections M and W in the northwest corner.

Vicksburg National Military Park, including Vicksburg National Cemetery, was first listed in the National Register in 1966 as part of the

2. Ibid., 22.
3. Ibid., 36, citing "Information relative to the progress of work at the Vicksburg National Cemetery, with sundry abstracts relative to its completion," June 1867.
4. Hosea W. Rood, comp., *Wisconsin at Vicksburg: Report of the Wisconsin Vicksburg Monument Commission Including the Story of the Campaign and Siege of Vicksburg in 1863 with a special Reference to the Activities therein of Wisconsin Troops* (Madison, Wisconsin: Wisconsin State Printer, 1914), 21.
5. Barry Mackintosh, *The National Parks*, third ed., 2000, updated 2004, https://www.nps.gov/parkhistory/online_books/mackintosh1/sts2b.htm, accessed April 2019. See also Executive Order 6166, June 10, 1933, and Executive Order 6228, July 28, 1933, Organization of Executive Agencies (5 U.S.C. SECS. 124-132) https://www.archives.gov/federal-register/codification/executive-order/06166.html.

National Historic Preservation Act.[6] National Register documentation of the property was prepared for Vicksburg National Military Park by the National Park Service Southeast Regional Office in 1976 and accepted by the Keeper of the National Register on December 9, 1977. The nomination form identified the Vicksburg National Cemetery and the cemetery entrance gate as contributing features. The National Register nomination for Vicksburg National Military Park does not specifically cite the National Register evaluation criteria or criteria considerations in the significance section. Also, as the nomination is primarily focused on the overall park, it does not specifically address Vicksburg National Cemetery in the assessment of significance.

Based on research and evaluation conducted on behalf of this CLR, Vicksburg National Cemetery appears significant between 1863 and 1961, with the beginning date reflecting the military campaign for Vicksburg, and the end date closure of the cemetery to new burials. Significant dates include establishment of Vicksburg National Cemetery in 1866, construction of the Cemetery Arch in 1880, the gardener's cottage in 1883, the second superintendent's lodge in 1928, and the brick rest pavilion in 1931.

Over time, the landscape of Vicksburg National Cemetery has evolved in response to management and maintenance practices and visitor uses. Due to its location adjacent to Vicksburg National Military Park, Vicksburg National Cemetery is experienced by a wide range of visitors. To accommodate visitors, the cemetery is connected to the park through circulation systems that were not part of the original design. In addition, development within view of the park, including industrial warehouses west of the cemetery is impacting the cemetery's integrity of setting, and historic viewsheds.

Other challenges faced by park managers include the instability, tendency toward erosion and undercutting, and related difficulties associated with accessing and mowing the steeply-sloped terrain of the cemetery, as well as maintenance of historic trees, monuments, and markers. Erosion problems are aggravated by heavy rainfall coupled with inadequate drainage systems. Historic tree and masonry markers are vulnerable to damage from mowing and trimming equipment.

In order to support informed planning for future management and preservation of the national cemetery, including protection and enhancement of the cemetery's integrity, the National Park Service engaged a team of preservation professionals that included Wiss, Janney, Elstner Associates, Inc. (WJE) of Northbrook, Illinois, and Commonwealth Heritage Group (CHG, formerly JMA), and Liz Sargent HLA, of Charlottesville, Virginia, to prepare a Cultural Landscape Report (CLR) for Vicksburg National Cemetery. CLRs serve several important functions. They are the principal treatment documents for cultural landscapes and the primary tool for long-term management and treatment decisions about a landscape's physical attributes, biotic systems, and use, when that use contributes to the historical significance of a property. Based on the identification of character-defining landscape characteristics and features, values, and associations that make a landscape historically significant, coupled with site management goals, including such issues as access, contemporary use, and interpretation, CLRs provide recommendations for appropriate treatment of the historic landscape.

Description of Study Boundaries

Vicksburg National Cemetery, located adjacent to and west of Vicksburg National Military Park, lies approximately one mile to the east and north of the historic center of the city of Vicksburg, Mississippi. The landscape between the city's downtown and the cemetery is characterized by commercial, industrial, and institutional

6. Public Law 89-665; 54 U.S.C. 300101 et seq.

developments, as well as residential subdivisions, urban neighborhoods, and forest (Figure 2).



FIGURE 2. Regional Location Map. Source: CHG, derived from NPS, "Vicksburg Area Map," www.nps.gov/vick/planyourvisit/directions.htm, accessed April 2015.

The cemetery is edged to the east by Vicksburg National Military Park, which features the USS *Cairo* Museum just outside the cemetery gate. (A portion of the USS *Cairo* pavilion and parking lot fall within the 120 acres of the unit, although not within the core 40 acres.) The western boundary of the cemetery is formed by North Washington Street and the Vicksburg Southern Railroad line (formerly the Yazoo and Mississippi Valley Railroad). Further west is the Yazoo River Diversion Canal, which occupies a portion of the former Mississippi River channel. The river formed a new channel during a flood in 1876, and has since remained in that location. A diversion canal was created between 1878 and 1903 to connect the Yazoo River to the Mississippi River. Industrial land use is present to the west of the cemetery and North Washington Street, and is visible from many parts of cemetery (Figure 3).



FIGURE 3. Red indicates the unit boundary. The main focus of the CLR is the original 40 acres. Source: CHG.

The original entrance to the cemetery was located at an entrance arch in the southwest corner of the property. The entrance was accessed from a bridge crossing of Mint Spring Bayou. While the original bridge has been replaced, the route can still be seen as a trace that includes the ruts of carriage wheels. Although the historic entrance arch, constructed in 1880, is extant today, the entrance is closed to vehicular access (Figure 4).

Current vehicular access to the cemetery occurs from the Vicksburg National Military Park tour road, which can be reached from the park entrance on Clay Street (US 80) (Figure 5 and Figure 6).



FIGURE 4. The historic 1880 entrance arch and perimeter brick wall at the original entrance to the cemetery.



FIGURE 5. A separate entrance arch is associated with Vicksburg National Military Park.



FIGURE 6. Directional signage associated with the Vicksburg National Military Park tour road, located beyond the entrance arch. The cemetery can be reached from the tour road.

A local entrance into the park occurs at Cherry Street. This entrance leads to Fort Hill Drive and the park tour road. Within the vicinity of the cemetery, the tour road is referred to as Connecting Avenue, one of the roads that bridges Union and Confederate Avenues within the park. Connecting Avenue parallels the eastern edge of the cemetery and leads to the main entrance gates near the USS *Cairo* Museum. Vicksburg National Cemetery is Stop 8 on the Vicksburg National Military Park driving tour (Figure 7 and Figure 8).



FIGURE 7. View from the Vicksburg National Military Park tour road to the cemetery entrance.



FIGURE 8. Main entrance to the cemetery from Connecting Avenue (part of the Vicksburg National Military Park tour road).

Historical Summary

Prior to the end of the Civil War in 1865, patriotic groups and military personnel began to mark key battle locations to commemorate valorous acts and decisive events. On July 4, 1864, on the first anniversary of the surrender at Vicksburg, a small stone obelisk was placed to mark the site of the surrender interview between Lt. Gen. John

Clifford Pemberton and Maj. Gen. Ulysses S. Grant.

The federal government was first faced with the need to bury Union soldiers following the initial Civil War conflicts of 1861. On September 11, 1861, the War Department issued two General Orders that made the Quartermaster General responsible for burials, ordered that a register of all burials be kept, and required that a registered marker be placed at the head of each grave. The Army continued its traditional system for managing soldier burials, including burying soldiers at the site of death, at a military post cemetery, or in a private cemetery selected by the soldier's family. However, the challenges posed by the increasing number of conflicts, a lack of authorization to acquire burial lands, and the need for immediate burial of soldiers on battlefields, near hospitals, and at campsites, led to passage of General Orders No. 55, which allowed the Army to acquire plots in cemeteries near large hospitals.

However, given the unique circumstances of the Civil War, Congress determined that those engaged in fighting to preserve the Union deserved special burial spaces commensurate with the need to honor their sacrifice. On April 3, 1862, the War Department expanded the responsibilities of the Army by issuing General Orders No. 33, which included all zones of active hostilities in the new burial program. The proclamation indicated that commanding generals were responsible to ensure that a burial ground was laid out in a suitable location near every battlefield as soon as feasible after the battle. General Orders No. 33 also stipulated that the commanding officers direct the reinterment of their fallen soldiers.[7] The concept of the national cemetery system was developed in response.

In the Act of July 17, 1862, Congress authorized President Abraham Lincoln to create a national cemetery system and to "purchase cemetery grounds and cause them to be securely enclosed, to be used as a national cemetery for the soldiers who shall die in the service of the country."[8] The first fourteen national cemeteries were completed by the end of 1862. In some cases, the cemeteries were used not only to inter the bodies of those who had fallen on a particular battlefield, but all Union dead for the surrounding area.[9]

Immediately upon Gen. Robert E. Lee's surrender in 1865, the Quartermaster Department began the Federal Reburial Program to locate and identify the remains of all Union soldiers that had been buried after a battle or other military event on the battlefield and reinter them within a national cemetery. Over a period of several years, army staff and individuals hired for the job searched battlefields, hospital and prison sites, and other scenes of Civil War military action. The Reburial Program was limited in its success due to the chaotic nature of the war and the number of years that had elapsed since the battles had occurred.

As lands associated with the Battle and Siege of Vicksburg were put back into cultivation, bodies of soldiers were discovered. The ensuing public outcry led to authorization for the establishment of Vicksburg National Cemetery on April 12, 1866, by Gen. Montgomery Meigs; land for the cemetery was acquired on August 27, 1866. The 40-acre property had been occupied by Union forces during the siege.

Interments at the Vicksburg National Cemetery began in January 1867. Throughout 1867, carriage roads were laid out following the curves of the banks and ridges in the cemetery. Terraces were also constructed to address steep topographic

7. Therese T. Sammartino, Multiple Property Documentation Form, "Civil War Era National Cemeteries" (Washington, D.C.: Department of Veterans Affairs, 1994), E-5.
8. Sammartino, E-5.
9. Richard West Sellars, "Pilgrim Places: Civil War Battlefields, Historic Preservation, and America's First National Military Parks, 1863–1900," In *CRM Journal* (Winter 2005): 24–25, 32; and Drew Gilpin Faust, *This Republic of Suffering: Death and the American Civil War* (New York: Alfred A. Knopf, 2008), 217.

conditions and establish stable burial sites. By August 1868, a total of 15,595 interments, at least 12,000 of which were unknown, had been made at Vicksburg National Cemetery.

In 1868, Alexander Henry was appointed as the first permanent superintendent of Vicksburg National Cemetery. In 1869, James Gall, a civil engineer, reported to Vicksburg National Cemetery to create a plan for the prevention of land slips and slumps. Gall concluded that, while the terraces had been built correctly, they lacked proper drainage. Gall recommended that a drainage system be installed that would consist of drain tiles laid 4 feet below the graves and 20 to 30 feet apart. The system would direct water to nearby Mint Spring Bayou. In addition to the drain tiles, he recommended a surface drainage system, consisting of shallow sod gutters, be installed. Construction of the drainage systems was initiated in 1869 and took more than four years to complete.

In 1870, General Meigs consulted with noted landscape architect Frederick Law Olmsted regarding the appearance of the national cemeteries within the growing system. Olmsted suggested that they be "studiously simple . . . the main object should be to establish permanent dignity and tranquility . . . a sacred grove—sacredness being expressed in the enclosing wall and in the perfect tranquility of the trees within."[10] As a result, indigenous trees and shrubs were planted by the War Department to embellish the sacred grounds of national cemeteries. Greenhouses were constructed at some cemeteries to supply plant material. It was also during the 1870s that masonry walls were built around most national cemeteries to replace the original wood rail fences. Plaques and monuments were also erected to complement the headstones and footstones that honored the dead.[11]

The decision was made in early 1873 to construct a brick wall around Vicksburg National Cemetery. The wall and four iron gates were completed in December 1874.

When the first interments were made at the cemetery in 1867, the grave markers were constructed of wood. In 1875, the use of wood markers was abandoned in favor of marble headstones as the wooden features were subject to deterioration and already showed signs of severe water damage.

In 1879, a brick rostrum was constructed adjacent to the flagstaff. The platform of the rostrum served as a setting for speeches and memorial events. In the same year, a new entrance arch and roadway were constructed near the southwest corner of the cemetery and completed in 1880.

In early 1882, plans were made to construct new outbuildings in the cemetery. Completed by April 1883, these included a stable, shed, and brick gardener's cottage constructed on the west end of the cemetery near the new entrance gate.

As noted in a report from a routine inspection in 1888, a new fountain was also constructed near the main entrance to the cemetery. It featured a 10-inch Columbiad cannon placed at the site in 1875.

In 1895, the Vicksburg National Military Park Association was formed to promote congressional designation of a federal reservation at Vicksburg. On February 21, 1899, President William McKinley signed into law an act to establish a national military park to commemorate the campaign, siege, and defense of Vicksburg. The enabling legislation called for the restoration and marking of the battlefield. The legislation also gave authority to any state that had troops engaged in the campaign, siege, or defense of the city of

10. Frederick Law Olmsted to Montgomery Cunningham Meigs, August 2, 1870, *The Papers of Frederick Law Olmsted: Volume 6* (Baltimore. Maryland: The Johns Hopkins University Press, 1992), 386–388.

11. U.S. Department of Veterans Affairs, "History and Development of the National Cemetery Administration," 5.

Vicksburg from March 29 to July 4, 1863, to erect monuments and markers in memory of its soldiers.

The development of Vicksburg National Military Park brought changes to the national cemetery. In November 1906, two bronze tablets marking the location of the sharpshooter lines of the 25th and 31st Iowa Regiments were placed along the roadway in the cemetery at the request of William Rigby, Chairman of the Vicksburg National Military Park Commission.

By 1911, limited burial space remained in the national cemetery. As a result, new sections (W and M-U) with room for 128 graves were laid out in the northwest corner of the cemetery.

By October 1924, the vegetation in the cemetery had become infested with Argentine ants, which threatened to kill the flowers, shrubs, and trees. Fortunately, the ants were eradicated without significant loss of vegetation.

In July 1931, plans were made to replace the wood arbor at the top of the Indian Mound, constructed in 1876. A new brick rest pavilion was completed in place of the arbor by November 1931.

In early 1933, three sections of the cemetery wall, along the southern boundary, slid into Mint Spring Bayou after a series of heavy rains.

On August 10, 1933, management of Vicksburg National Cemetery, as well as that of ten other national cemeteries, was transferred from the War Department to the Department of the Interior. President Franklin Delano Roosevelt's New Deal-era Civilian Conservation Corps (CCC) program was also initiated in 1933; four CCC camps were established in Vicksburg National Military Park, each housing 200 enrollees, later that year. The CCC spent much of their time in the park working to correct and prevent further erosion of the steep slopes. One of the areas targeted was Indian Mound and its environs within Vicksburg National Cemetery. The Federal Relief Administration also provided funds used to hire seventy-five African American women to conduct general maintenance within the cemetery.

After several unsuccessful attempts to expand the cemetery during the late nineteenth and early twentieth centuries, 80 acres were acquired from more than forty private land owners in late 1939. That same year, North Washington Street was realigned. As a result, the existing cemetery wall along the west portion of the cemetery had to be removed and rebuilt to the east. Work on the new wall began in 1939 and continued until 1942, when the work was halted due to the outbreak of World War II.

Randolph Anderson retired as superintendent of Vicksburg National Cemetery in March 1947. The position of cemetery superintendent was not filled and supervision of the cemetery became the responsibility of the superintendent of Vicksburg National Military Park. Later in 1947, two terraces were prepared along the west wall of the cemetery for burials of World War II soldiers. The first interments of World War II dead occurred in November 1947.

The 80 acres of land acquired for the cemetery in 1939 remained unused as of 1957, despite the increased demand for burials after World War II and the Korean War.

By January 1960, only 100 unreserved and available grave sites remained within the cemetery, although unused land remained. In March of 1961, Jackson E. Price, Assistant Director of the National Park Service, advised the Chief of the Cemetery Branch, Office of Support Services, that all unreserved grave space would be in use by May 1, 1961, and stated, "Therefore, we are designating that date for the closing of the cemetery for future burials except for outstanding grave site reservations."[12] The cemetery was closed to future burials, with the exception of the use of

12. Meyers, 197–199. Letter, Jackson E. Price, Assistant Director, National Park Service, to Chief, Cemetery Branch, March 6, 1961.

outstanding reservations.[13] At the time of its closing, Vicksburg National Cemetery housed 17,077 Civil War interments, 12,909 of which were unknown. In addition to Civil War interments, there were 1,280 graves associated with soldiers, sailors, airmen, and marines who had participated in the Spanish American War, World War I, World War II, and the Korean War.

Scope of Work and Methodology

Scope of Work

As described in the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*:

> A CLR serves two important functions: it is the principal treatment document for cultural landscapes and the primary tool for long-term management of those landscapes. A CLR guides management and treatment decisions about a landscape's physical attributes, biotic systems, and use when that use contributes to historic significance.
>
> A CLR must establish preservation goals for a cultural landscape. The goals must be grounded in research, inventory, documentation, and analysis and evaluation of a landscape's characteristics and associated features. The content of a CLR provides the basis for making sound decisions about management, treatment, and use. Information about the historical development, significance, and existing character of a cultural landscape is also valuable for enhancing interpretation and maintenance.
>
> A CLR clearly identifies the landscape characteristics and associated features, values, and associations that make a landscape historically significant (according to the National Register criteria). A CLR may include information spanning numerous disciplines in order to evaluate a landscape's historical, architectural, archeological, ethnographic, horticultural, landscape architectural, and engineering features, along with ecological processes and natural systems. Based on this information and site management goals, such as access, contemporary use, and interpretation, a CLR outlines appropriate treatment for a landscape consistent with its significance, condition, and planned use.
>
> CLR treatment decisions are generally determined through the park planning process via a General Management Plan or a Site Development Plan. The physical implementation of the treatment for a particular landscape is guided by the CLR. When treatment of a landscape has not been defined through the planning process, a CLR may augment or be combined with a Site Development Plan to determine the preferred treatment alternative and physical design.
>
> The scope and level of investigation for a CLR varies depending on management objectives. A CLR is a flexible document, the scope of which is determined by the needs of park management, type of landscape, budget, and staffing requirements. Management decisions should be based on a comprehensive understanding of an entire landscape so that actions affecting an individual feature can be understood in relation to other features within a property. Management objectives may, however, require a CLR to focus on a portion of a landscape or an individual feature within it, or to be prepared in phases. Therefore, it is imperative that a CLR's scope and objectives be clearly defined and articulated and any treatment decisions made in a CLR be limited to the scope and objectives. Before any treatment decisions are made, Part 1 of a CLR including Site History, Existing Conditions, and Analysis and Evaluation must be prepared.

The CLR for Vicksburg National Cemetery has been prepared in conformance with the guidance

13. The reasons for closing of the national cemetery are not clearly understood at this time. See further discussion in the historical narrative in the next chapter of this report.

provided above. The CLR includes a site physical history of the cemetery landscape; existing conditions documentation of extant historic, natural, and cultural resources; comparative analysis of historic and existing conditions; National Register-level significance evaluation and an integrity assessment; and treatment plan that considers long-term management of the historic landscape in order to protect historic resources while addressing issues of concern and the needs of park managers. These include such topics as accessibility, interpretation, and maintenance. The components that comprise the CLR include the following:

Site Physical History. The CLR site physical history chapter consists of a narrative chronological depiction of the landscape and its evolution over time illustrated with historic maps, plans, and photographs. The narrative is based on research of primary and secondary sources and other available historical documentation. It provides sufficient supporting material to illustrate the physical character, attributes, features, and materials that contribute to the significance of the landscape over the course of its history. This section introduces the historical contexts and periods of significance associated with the landscape. Each significant period of development or change is illustrated with a historic period plan.

Existing Conditions. The existing conditions documentation chapter includes a narrative description of the extant landscape and the individual resources and systems present therein. Resource descriptions are organized into a series of landscape characteristics as defined in the National Park Service *Guide to Cultural Landscape Reports*. The documentation is based on both research and field investigations. 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 of existing features and a labeled site plan.

Analysis and Evaluation. The analysis and evaluation chapter compares findings from the site physical history and existing conditions documentation chapters to identify the significance of the landscape within broader historic contexts. A statement of significance for the landscape is included that indicates the proposed criteria, areas, level, and period of significance for the cemetery. An understanding of which features were present during the period of significance is derived from analysis and comparison of contemporary and historic conditions, as supported by the preparation of period plans. The identification of changes that have occurred over time within the landscape and knowledge of surviving historic resources is also used to develop an integrity assessment. The historic integrity of resources and the park as a whole is assessed using the seven aspects of National Register criteria—location, design, setting, materials, workmanship, feeling, and association—to determine if the characteristics and features that defined the landscape during the historic period continue to convey their historic associations.

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 use. The treatment plan incorporates narrative and graphic information to convey recommendations for repair, rehabilitation, and management of the landscape. The CLR suggests a preferred treatment alternative for the cemetery selected from the four alternatives s identified by the Secretary of the Interior in the *Standards for the Treatment of Historic Properties*: preservation, rehabilitation, restoration, and reconstruction. Treatment recommendations and guidelines that balance the preservation of park resources with the 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 specific treatment recommendations.

The CLR also provides information for use in developing possible National Park Service Project Management Information System (PMIS)

statements for landscape preservation and rehabilitation projects. Park staff may use the information provided in the treatment plan to generate new projects, further develop existing projects, generate cost estimates, and other needs associated with PMIS, in support of seeking funding to implement the CLR.

Appendices and Bibliography. The primary chapters of the CLR are followed by a bibliography that lists the sources used in the preparation of the document. Appendices form the last section of the document. These contain drawings, illustrations, maps, technical information, or other supplemental support documentation for the CLR. Primary among them is an inventory of park landscape resources generated by the CLR team.

Project Methodology

The CLR for Vicksburg National Cemetery was prepared in accordance with the guidance afforded 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: Guidelines for Documenting and Evaluating Rural Historic Landscapes*
- *National Register Bulletin: Guidelines for Evaluating and Registering Cemeteries and Burial Places*
- *National Register Bulletin: Guidelines for Identifying, Evaluating, and Registering Battlefields*
- *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*
- *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 in September 2014, CLR team members began to collect documents and other materials pertaining to the project and site. These included the National Park Service List of Classified Structures for park resources, secondary sources addressing the history of the site and region, and information available from the National Park Service Denver Service Center Electronic Technical Information Center (e-TIC). In preparation for field investigations, project personnel requested Geographic Information Systems (GIS) files from the park and the National Park Service Southeast Regional Office to use in developing base maps for field inventory. The team also referred to past research materials associated with its work on a cultural landscape report for Vicksburg National Military Park and a

cultural landscape inventory for Vicksburg National Cemetery.

Start-up Meeting. On September 3, 2014, WJE and CHG project team members met with park and regional NPS personnel at Vicksburg National Military Park to initiate work on the CLR for Vicksburg National Cemetery. Those participating in the meeting included:

Southeast Regional Office

- David Hasty, Contracting Officer's Technical Representative and Historical Landscape Architect, NPS Southeast Regional Office (SERO)

Vicksburg National Military Park

- Mike Madell, Superintendent, VICK
- Rick Martin, Chief of Operations, VICK
- Virginia DuBowy, Natural Resources Specialist, VICK
- Elizabeth Joyner, Museum Curator, VICK
- Jim Jacobs, Chief of Maintenance, VICK
- Ellis Jones, Cemetery Supervisor, VICK
- Patty Montague, Park Ranger, VICK
- David Slay, Park Ranger, VICK

Wiss, Janney, Elstner Associates, Inc. (WJE)

- Deborah Slaton, Project Manager/Historian

Commonwealth Heritage Group, Inc. (CHG)

- Jane Jacobs, Historical Landscape Architect
- Christina Osborn, Preservation Specialist

During the meeting, the purpose, goals, methodology, and schedule for the CLR were reviewed, as well as previous work completed by the project team for Vicksburg National Military Park (Cultural Landscape Report, 2009) and Vicksburg National Cemetery (Cultural Landscape Inventory, 2011).

The project team reviewed the research material gathered for previous studies as noted above and the updated e-TIC list provided by Superintendent Madell prior to the meeting. Superintendent Madell also provided the recently completed draft Foundation document (September 2014) for use by the team, noting that the park expected the final document to be completed in late fall 2014. Other research sources available to the project team were reviewed, including reports on archeological investigations at Vicksburg National Cemetery conducted by the National Park Service Southeast Archeological Center (SEAC); other park and cemetery planning studies; mapping sources; archival documents and photographs; research conducted with the Veterans Administration for other CLRs for national cemeteries; and correspondence with the National Archives for supplemental reference material to previous research. In addition, the park planned to seek additional documentation related to the 1961 closing of the cemetery from City of Vicksburg archives, state archives, and the local American Legion. The park offered to provide any information gathered to the project team for use in developing the CLR. David Slay described recent work to compile the cemetery ledgers (original and copy) and information on burial certifications. The park also offered to make this information available to the project team as assembled. It was anticipated to contain useful information, such as sources for the stone used to fabricate grave markers.

Recent and anticipated work at the cemetery was discussed, including the repair of the perimeter wall, potential future reconstruction of the rostrum, restoration of the officers' circle and the gardeners' cottage, potential restoration of the fountain, potential projects associated with the superintendent's house and historic environs, potential re-establishment of the original entry to the cemetery, and maintenance of historic views and viewsheds.

After the meeting, NPS personnel toured the site with the CLR team to provide overview and orientation information. Park personnel indicated the locations of current and anticipated future rehabilitation and construction projects, and ongoing maintenance issues and concerns. Of note

were concerns about impacts of vegetation on the headstones and monuments (Figure 9 and Figure 10), the desire for an approach to planting and vegetation management consistent with the historic design intent and appropriate for the park's maintenance capabilities, the need for comprehensive ground cover to protect against erosion (Figure 11 and Figure 12), the condition of existing drainage structures and pipes and associated maintenance and management issues (Figure 13 and Figure 14), consideration of options for an ABAAS compliant route into/through the cemetery (Figure 15, Figure 16, and Figure 17), the need for additional interpretation within appropriate limits, the degree to which battle information should be provided within the cemetery, and the amount of information and media format that should be available to visitors about the individuals buried in the cemetery.



FIGURE 9. Large tree roots can overtake headstones and markers, and cause ground upheaval that can crack the stone.



FIGURE 10. Mature tree growth can also engulf burial markers.



FIGURE 11. Erosion of terrace slopes threatens the stability of some markers and graves.



FIGURE 12. Erosion problems also exist around markers located in level areas where shady conditions lead to the loss of the protective grass cover.



FIGURE 13. Concrete culverts are subject to cracking, while the flow of storm water leaves silt and other debris in the grass ditches, suffocating the grass and blocking the movement of the water.



FIGURE 14. Slopes that slump can sometimes impede the flow of storm water through concrete drainage ditches.



FIGURE 15. The steep slope of the Indian Mound is accessed by a system of steps and landings that do not meet ABAAS compliance standards.



FIGURE 16. The area around the gravel drive and grassy slopes near the original entrance arch and Mound E section of the cemetery are not universally accessible.



FIGURE 17. The asphalt drive that extends through the cemetery offers limited areas of universal accessibility.

The specific maintenance concerns noted during the orientation tour included the challenges associated with mowing around headstones and on steep slopes (Figure 18 and Figure 19), the difficulty associated with managing ground cover in shaded areas, use of other grass types or other ground covers, and slumping of the terraces and washout of soils due to surface and sub-surface drainage issues that affect the graves (Figure 20).



FIGURE 18. Mowing around grave markers can cause chipping and cracking of the stone.



FIGURE 19. Mowing is difficult on the steep terrace slopes that are an integral part of the cemetery cultural landscape.



FIGURE 20. Slumping of terrace slopes occurs in various parts of the cemetery.

Other issues discussed during the tour included:

1. Problems at the base of the bluff stabilization nail walls (2011); and with the stabilization of the eroding slope adjacent to the Mint Spring Bayou. In 2016–2017, the park completed construction of a mechanically-stabilized earth retaining wall and a stabilized earthen berm to address ongoing erosion of the slopes above Mint Spring Bayou (Figure 21);

2. Tree maintenance and removal;

3. Ongoing wall repairs;

4. Placement of new waysides; and

5. The overall appearance of the cemetery.



FIGURE 21. Drainage continued to be a problem after the 2011 bluff stabilization project was completed. An additional stabilization project began in 2015.

Base Mapping. An AutoCAD base map of the park was developed by the CLR team by compiling information available from National Park Service GIS mapping, aerial photography, site plans, and field investigations. The GIS information was also used in conjunction with the AutoCAD map to generate diagrams and other report graphics in AutoCAD and Adobe Illustrator.

Field Investigations. CLR team members conducted preliminary field investigations by documenting landscape resources associated with the site. Project team members photographed primary and representative landscape features (both cultural and natural) and annotated copies of base mapping with observations about materials, resource condition, and information to be used to update the mapping files. The location and orientation of photographs were noted on the field maps prepared prior to the site visit. Where available mapping was lacking in detail, team members prepared sketch maps in the field that were later used to enhance the electronic files.

Historical Landscape Documentation and Site Physical History. WJE personnel conducted research at the park archives after the

start-up meeting. Research was also conducted via correspondence with the National Park Service Southeast Archeological Center, and the Veterans Administration. The site physical history was drafted based upon review of materials collected during the various research efforts. The important dates associated with physical events at Vicksburg National Cemetery were organized into a site history chronology. 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. Three historic period plans of Vicksburg National Cemetery were prepared to represent the site and the appearance of the cemetery in 1863–1866; 1867–1899; 1900–1935; and 1936–1961. The CLR team developed the historic period plans through comparison of historic mapping sources with existing conditions information; preparation of the existing conditions base map thus preceded work on the period plan. The project team then reviewed historic photographs and written descriptions of the landscape found in the research materials collected for the project to create the period plan. 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 several National Register Bulletins, including *Guidelines for Evaluating and Registering Cemeteries and Burial Places, How to Evaluate and Nominate Designed Historic Landscapes,* and *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 a series of landscape characteristics as suggested by the methodologies listed above, including:

- Natural Systems and Features
- Responses to Natural Resources
- Topographic Modifications
- Patterns of Spatial Organization
- Land Uses and Activities
- Circulation
- Cultural Vegetation
- Views and Vistas
- Buildings and Structures
- Small-scale Features
- Archeological Resources

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 Warren County proved invaluable in establishing a geographic and geologic context for Vicksburg National Cemetery and in understanding local conditions.

The team also prepared an inventory of existing landscape features based on documentation of the cemetery 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 *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.

The condition ratings were annotated as possible to include specific condition-related observations made in the field that help to justify the ratings.

Evaluation of Significance. Vicksburg National Military Park, including Vicksburg National Cemetery, was administratively listed in the National Register of Historic Places as part of the passage of the National Historic Preservation Act on October 15, 1966. Documentation of the park in the form of a National Register nomination was prepared in 1976 and accepted by the Keeper of the National Register in 1977. Based on the review of the 1976 documentation, significance of Vicksburg National Cemetery is not adequately evaluated based on the current understanding of the importance of the National Cemetery system as a whole, and Vicksburg National Cemetery more specifically. In order to consider the National Register eligibility and significance of Vicksburg National Cemetery in more detail, the CLR follows the guidance afforded in the National Register Bulletin: *How to Apply the National Register Criteria for Evaluation* in providing an understanding of what areas, criteria, level, and period of significance pertain to the property, and the historic contexts within which is has been evaluated.

Comparative Analysis of Historic and Existing Conditions. To better understand the relationship between the existing landscape and the character of the landscape during the period of significance identified as part of the significance evaluation, the CLR team prepared a comparative analysis of historic and existing landscape 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, identifying contributing, non-contributing, and missing landscape resources.
- Establish that 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 development of a well-grounded treatment plan for the cultural landscape.

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—following the guidance afforded in the National Register Bulletin *How to Apply the National Register Criteria for Evaluation*.

Treatment Plan. Development of the treatment plan was based upon the findings of each of the chapters conveyed in the CLR. The comparative analysis and the National Register-level significance evaluation suggested an overarching treatment approach of rehabilitation to address both long-term protection and management of the park's historic landscape character and park goals involving enhanced visitor access, protection of natural resources, and enhanced interpretation. The CLR also presents a treatment concept narrative intended to serve as a framework for the treatment guidelines and recommendations that follow. Treatment guidelines and recommendations were developed to respond to the specific management issues and concerns conveyed to the CLR project team by the National Park Service during project meetings and in the project scope of work, the condition assessment of site resources developed through field investigations, and best management and stewardship practices relating to historic preservation and sustainability goals. Methods for achieving the treatment recommendations were identified through the development of several prioritized implementation projects, conveyed in a format that is consistent with the National Park Service's PMIS statements to facilitate the preparation of funding requests.

This report includes five appendices, as follows:

- Appendix A: Resource Inventory Table
- Appendix B: Historic Maps

- Appendix C: Replacing Trees in Cultural Landscapes
- Appendix D: Enabling Legislation Establishing Vicksburg National Military Park
- Appendix E: Guidelines for Consideration in the Development of the Maintenance Manual for Masonry, Stone, and Metal Resources of the Cemetery

Summary of Findings

Based on the findings of the CLR, Vicksburg National Cemetery appears significant at the national level under Criteria A, C, and D, as a designed historic landscape in the areas of Archeology (Historic, Non-aboriginal), Commemoration, Landscape Architecture, Military History, Politics/Government, and Sculpture for its association with the context of federal national military cemetery development between circa 1863 and 1933. The cemetery also meets the eligibility requirements of Criteria Consideration D and F, as a cemetery and commemorative property, due to its age and association with important trends in American history. The cemetery also retains many contributing features as well as sufficient integrity to convey its historic associations. This study indicates a period of significance of 1863–1961 for the cemetery, beginning with the events associated with the Siege and Battle of Vicksburg, and ending with closing of the cemetery to further burials. The cemetery also retains many contributing features as well as sufficient integrity to convey its historic associations. The national cemetery does not appear to be specifically associated with the lives of individuals significant in our past; as a result, it does not meet Criterion B.

Per Criterion A, Vicksburg National Cemetery is significant in the areas of Commemoration, Military History, and Politics/Government for its association with events that have made a significant contribution to the broad patterns of our history. Under this criterion the site is significant both for its association with the Siege and Battle of Vicksburg (May 18–July 4, 1863) that was the culmination of the Vicksburg Campaign (March 29–July 4, 1863), and for the establishment of a cemetery on the battlefield for the reinterment of the Union dead.

Per Criterion C, Vicksburg National Cemetery is significant in the areas of Landscape Architecture and Sculpture, and embodies the distinctive characteristics of a type, period, or method of construction. Features of Vicksburg National Cemetery, including large portions of the perimeter wall, tree-lined drives and walks, and the designed terraces, along with examples of designed commemorative markers, reflect formal design principles intended to honor the important contributions of United States soldiers and sailors that are consistent with practices conducted at most national cemeteries within the system.

Per Criterion D, the site is likely to yield information important in prehistory or history. While no extensive archeological investigations have been performed at the national cemetery, investigations of specific areas (such as the Indian Mound) were performed in 1975. In 1999, the US Army Corps of Engineers undertook a literature and records search and conducted a survey of the Mint Spring Bluff and Bayou area abutting the south end of the cemetery. Despite the lack of prehistoric or archeological resources found during these investigations, the national cemetery is likely to yield information important in prehistory or history.

Vicksburg National Cemetery also meets the eligibility requirements of **Criteria Consideration D** as a cemetery property that derives its primary significance from age, distinctive design features, and association with historic events. Since all cemeteries and human burial sites can be considered to be commemorative in nature and possessing of archeological potential, this criteria consideration is intended to clarify that cemeteries must possess historical or architectural significance in order to be eligible for listing in the National Register. Vicksburg National Cemetery is a highly significant and integral part of the historic events that occurred at the site during the Civil War era as well as later commemorative efforts. Also, the nineteenth-century landscape design of

the cemetery retains integrity and is an important aspect of the significance of the site.

In addition, the cemetery meets the eligibility requirements under **Criteria Consideration F** as a commemorative property due to the fact that its design, age, and symbolic value has invested the cemetery with its own exceptional significance. For a commemorative property to be considered eligible for listing in the National Register, it must generally be more than fifty years old and must possess significance based on its own value, not the importance or value of the event or person being commemorated. Due to the long history of commemoration at the site, which began during the Civil War, Vicksburg National Cemetery clearly exhibits significance as a commemorative property due to tis design, age, and symbolic value.

Based on the research and studies performed for this CLR, historic resources within the cemetery landscape represent a period of significance covering the year 1863–1961. The period of significance begins with events of the campaign (March 29 to July 4, 1863) and Siege and Battle (May 19 to July 4, 1863) of Vicksburg. It is further represented by the establishment of Vicksburg National Cemetery in 1866 as well as the development of the cemetery, including the construction of the Cemetery Arch in 1880, the gardener's cottage in 1883, the second superintendent's lodge in 1928 and the brick rest pavilion in 1931. The end date of 1961 corresponds to the closing of the cemetery to future burials.

Vicksburg National Cemetery was established in 1866, one year before US Congress passed the National Cemetery Act of February 22, 1867. It is among the nation's oldest national cemeteries, closely following a series of Congressional acts and General Orders of the Army beginning in 1861 helping to define and refine the role of the federal government in establishing burial grounds worthy of honoring members of the armed forces. Vicksburg National Cemetery is one of fourteen national cemeteries administered by the National Park Service today.

The National Park Service, while following the guidance afforded in National Cemetery Administration and Veterans Administration protocols for managing national cemeteries, also considers the historic resource value of the national cemetery property under their stewardship. This adds an additional layer of consideration in the management process. This CLR recognizes the many concerns and considerations involved in maintaining the cemetery as a place of honor, while also stewarding historic resources, and allowing for on-going use and interpretation for park visitors. The treatment recommendations provided as part of the CLR are carefully balanced to suggest preservation of those historic elements that survive in their original location and in good condition, while also addressing the need to accommodate contemporary interpretation and access goals.

The overarching treatment approach recommended as part of this CLR is rehabilitation, which guides protection of historic resources while also allowing for limited appropriate modification to address access, interpretation, and anticipated environmental conditions associated with climate change. This approach and the associated treatment recommendations included in the report are intended to enhance the integrity of the historic cemetery, while increasing access for all visitors, and providing a rewarding interpretive experience. The CLR also suggests methods for maintaining historic masonry, metal, and vegetation resources, taking into consideration the threats posed by factors such as weather, visitor access, and mowing.

The primary goal for cultural landscape treatment of Vicksburg National Cemetery is the long-term preservation and protection of existing cemetery features that contribute to the historic character and significance of both the cemetery and Vicksburg National Military Park, addressing specifically the goals, issues, and concerns identified for consideration by the CLR. Also considered was the protection of the commemorative atmosphere of the cemetery and the park, which fosters an awareness of patriotism,

sacrifice, duty, honor, country, and civic education.

Research conducted for this study by the project team, with assistance from the park, has indicated that further study would be useful on several topics related to the history, evolution, and condition of Vicksburg National Cemetery. These topics are described in detail at the end of the Treatment chapter of this report.

Site History

Development of the Site prior to the Siege

Earliest Human Occupation and Early Settlement

The loess bluffs and eastern Mississippi shoreline of the Vicksburg region offered several advantages for human occupation, including prospect, natural springs, relatively fertile soils in the bottomlands, and access to the river, which could be used for transportation. Archeological evidence suggests that the site of present-day Vicksburg may have been occupied by prehistoric peoples as early as 200 CE, which falls within the Middle Woodland period.[14] Artifacts attributed to prehistoric activities have been found on the loess ridges overlooking the stream corridors that wind their way through Vicksburg National Military Park. These suggest the area was at least seasonally occupied for hunting and gathering. The bluffs and creek bottoms were also likely used increasingly for limited cultivation; elsewhere within the park the terrain is generally too steep and erodible for extensive agriculture.[15]

Beginning in the mid-1500s, Spanish, French, and British expeditions explored the area that was to become Mississippi. In 1540–1541, Spanish explorer Hernando De Soto became the first European known to enter the region. De Soto spent the winter with the Chickasaw and reached the Mississippi River, at a point south of present-day Memphis, Tennessee, in the spring.

On May 17, 1673, Father Jacques Marquette, a French missionary, and Louis Joliette, a fur trapper, launched an expedition to explore the Mississippi River. They reached the area that now comprises the state of Mississippi in July and traveled as far south as the mouth of the Arkansas River, approximately 120 miles north of present-day Vicksburg. Two years later, Robert Cavalier de La Salle navigated the Mississippi River to its mouth and claimed for France all lands drained by the river. In 1699, an expeditionary French and French-Canadian force established Fort Maurepas near present-day Ocean Springs, Mississippi. The purpose of the fort was to discourage Spanish and English incursions into the area claimed by France and to help protect French commerce and fur trading in North America.

In the early 1700s, as European settlers began to arrive in the area that is now western Mississippi, its inhabitants included the Natchez, Chickasaw, Choctaw, and Houmas Indians. Early trappers and traders took advantage of the existing native trade routes, such as the Natchez Trace, to facilitate their exploration and commerce; the initial contact between French settlers and trappers and the native inhabitants was generally friendly.

In 1716, Fort Rosalie was established near the site of the future town of Natchez, Mississippi, and in 1719, Fort St. Pierre was established near the

14. Kevin Risk, *Draft Cultural Landscape Report, Vicksburg National Military Park* (Atlanta, Georgia: National Park Service, Southeast Region), undated [status report dated March 16, 2000], citing Crawford H. Blakeman, Jr., and Michael K. Collins, *Archeological Site Survey in the Vicksburg National Military Park: 1975.* (Mississippi State University, Department of Anthropology, 1975), 21.
15. Ibid., 22.

mouth of Yazoo River, approximately 12 miles north of Vicksburg. A small French settlement developed along the river. By 1729, ". . . a few extensive and many large plantations existed. . . ."[16] At the time, settlement in the territory of the Natchez Indians, which comprised most of what would become the state of Mississippi, included approximately 750 French settlers, soldiers, and enslaved laborers. That year, the commandant at Fort Rosalie demanded that the Natchez Indians vacate one of their villages, including the site of a sacred mound, to make way for a new French farm. On November 28, 1729, Natchez warriors retaliated by killing French settlers with guns borrowed from the settlers for hunting. The Natchez promised freedom to the enslaved persons who joined them in the uprising. Following the massacres, surviving settlers abandoned their claims at Fort St. Pierre and on the outlying plantations. Over the next few years, the French, aided by the Choctaw, struck back and by 1732, the Natchez ceased to exist as a tribe.

In 1736, the governor of Louisiana, Jean-Baptiste Le Moyne de Bienville, led a military force to attack the Chickasaw in their fortified villages located in present-day northeastern Mississippi. Bienville, however, was unsuccessful in conquering the Chickasaw. Both sides suffered numerous casualties in the engagement.

In 1754 the French and Indian War, known as the Seven Years War in Europe, began in North America. Lasting for nine years, this conflict was the last major colonial war between the British, the French, and their American Indian allies. As a result of this war, Mississippi and all other French territory east of the Mississippi River passed into British control. In addition, to compensate its ally Spain for the loss of Florida, France ceded control of French Louisiana west of the Mississippi.

In 1779, Mississippi briefly came under the control of Spain when Bernardo Galvez, the governor of Spanish Louisiana, captured Natchez. Following the end of the Revolutionary War in 1781, and under the provisions of the Treaty of Paris of 1783, West Florida, which included the southern half of Mississippi, came under Spanish control, while the United States gained possession of Mississippi north of the 32 degree 28 minute parallel.

In the 1790s, the Nogales fortifications were built by the Spanish along the bluffs and lower land overlooking the bend in the Mississippi River north of present-day Vicksburg. Fort Mount Vigio, one of the smaller fortifications, occupied the site of present-day Fort Hill. The largest battery, Fort Nogales, was located across Mint Spring Bayou from the present-day Vicksburg National Cemetery site. Fort Sugarloaf was located on the erroneously named "Indian Mound" that survives within the cemetery today (Figure 22).[17] In 1797, Francis Bailey described the Spanish forts from observations made during a trip down the Mississippi River:

> About five o'clock we came to the Walnut Hills. . . . Here there is a strong fort kept up by the Spaniards. It is an irregular fortification, occupying a great part of the hill on which it stands, which is very high and steep. . . .
>
> Walnut Hills is a beautiful situation for a town, and an advantageous one for a fort. There are two forts at this place, one of them commands the other, being situated upon an eminence behind it. The few houses which are scattered around it, and the green bank on which they stand, surround[ed] with flowering, verdant, and lofty trees, presented at once a picturesque and romantic appearance to our eyes, fatigued with the uniformity of the prospect to which we had for so many miles been witness.[18]

16. *Biographical and Historical Memoirs of Mississippi* (Chicago: Goodspeed Publishing Co., 1891), 64, quoted in M. J. Mulvihill, Sr., *Vicksburg and Warren County Mississippi: Tunica Indians, Quebec Missionaries, Civil War Veterans* (City of Vicksburg, 1931).
17. The hill was referred to as the Indian Mound because it was said to have been an ancient ceremonial burial site of indigenous American Indian tribes. Meyers, 75.
18. Francis Bailey, *Journal of a Tour in Unsettled Parts of North America in 1796 & 1797*, 146–

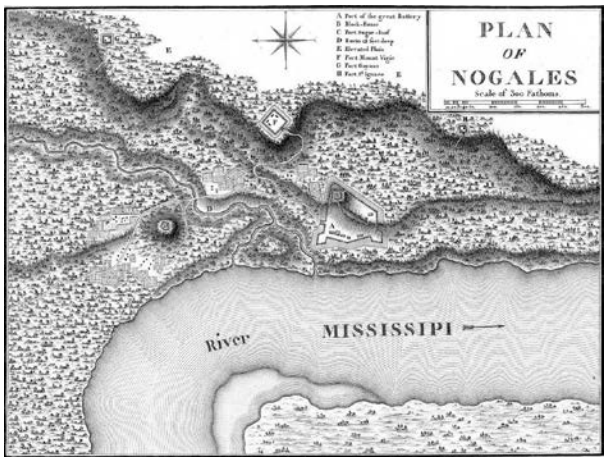


FIGURE 22. 1796 map of Nogales by French Gen. George Henri Victor Collot. Source: *Plate from A Journey in North America, containing a Survey of the Countries watered by the Mississippi, Ohio, Missouri, and other Affluing Rivers . . .* (Paris: Arthus Bertrand, 1796). Engraved by P. F. Tardieu.

Early Development of Mississippi and Vicksburg

In 1797, following several years of dispute regarding the location of the southern boundary of US holdings within the region, Spain yielded all of its land in Mississippi north of the thirty-first parallel to the young nation. By the following year, Spain had decided to withdraw entirely from Mississippi, and the region was reorganized as an American territory. The first territorial governor, Winthrop Sargent, was appointed by President John Adams in 1798.[19] The Americans renamed Fort Mount Vigio as Fort McHenry, and established Fort Snyder on the site of the former Fort St. Pierre, 12 miles to the north.[20]

In 1801, a treaty with the Chickasaw and Choctaw allowed the Natchez Trace to be developed as a mail route and major road. The territorial capital was moved from Natchez to Washington, a small town near the Natchez Trace. In 1803, the Louisiana Purchase was enacted by a treaty signed on April 30 of that year. Through this treaty, the United States purchased from France more than 800,000 square miles of land extending from the Mississippi River to the Rocky Mountains. The Spanish, who had never ceded physical possession of Louisiana to the French, did so in a ceremony at New Orleans on November 30, 1803. On December 20, 1803, the French turned the Louisiana Territory over to the United States in a second ceremony. The Louisiana Purchase led to increased American settlement as well as further commerce along the Mississippi River.

In 1805, by the Treaty of Mount Dexter, the Choctaws sold 4.5 million acres of land to the US government, including the Piney Woods region of Mississippi. In 1810, following the West Florida rebellion, the United States, aware that Spanish forces had been weakened by the invasion of Spain by Napoleon, took control of a portion of Spanish West Florida. This area included land between the Mississippi and Perdido rivers, and encompassed the southern portions of the present-day states of Louisiana, Mississippi, and Alabama. At this time, the US government argued that this territory had been part of the Louisiana Purchase. In 1812, this territory would be divided between Louisiana and Mississippi, with the portion between the Pearl and Perdido rivers becoming part of the Mississippi Territory.[21]

On June 12, 1812, the United States declared war on Great Britain as a result of disputes related to the impressment of American soldiers by the British and disagreements over the Northwest Territories and the border with Canada. Offensive actions by the United States failed to capture Canada, and the British army in turn failed to

147, quoted in John W. Reps, *Cities of the Mississippi* (Columbia, Missouri: University of Missouri Press, 1994), 138.

19. Sargent was dismissed from the position in 1801 by incoming President Thomas Jefferson, due to his opposing political party affiliations.
20. Kevin Risk, in an undated *Draft Cultural Landscape Report for Vicksburg National Military Park,* notes that no evidence of the Spanish forts Nogales and Mount Vigio was located during a 1975 archeological survey. Nonetheless, these pre-Civil War fortifications are considered a significant part of the park's broader history.
21. "Mississippi History Timeline," Mississippi Department of Archives and History," http://www.mdah.ms.gov/timeline. Accessed September 2018.

capture Baltimore and New Orleans. The war, which lasted for two years, was noteworthy primarily for American naval victories over the British and because it essentially ended in a stalemate. On December 24, 1814, the Treaty of Ghent was signed, ending the war. Fighting continued, however, until the following February. On January 8, 1815, American forces under Gen. Andrew Jackson decisively defeated British forces trying to capture New Orleans. In 1816, the Treaty of Fort Stephens with the Choctaw opened the area around the Tombigbee Prairie for settlement. On December 10, 1817, Mississippi was admitted to the Union as the twentieth state. Treaties with the Choctaws and Chickasaws between 1805 and 1834 opened Indian lands in Mississippi to settlement.

In 1822, the state capital was moved to Jackson, a planned city named for Andrew Jackson. In 1830, by the Treaty of Dancing Rabbit Creek, all Choctaw territory east of the Mississippi River was ceded to the US government and most of the Choctaws left the state. In the same year, as a result of the Treaty of Pontotoc Creek, north Mississippi Indian territory was also ceded to the government, and the Chickasaws left the state as well. A state constitutional convention in 1830 resulted in the Constitution of 1832.

In 1812, Reverend Newett Vick and his family settled on the bluffs just south of the Walnut Hills area described by Francis Bailey in 1797, which falls within present-day Vicksburg National Military Park. The landscape of the region was generally covered by tall hardwood forests. Vick and other early settlers cut down many of the trees and planted crops on the level ridgelines and hilltops. The sites for houses and roads also generally followed the ridgelines.

The new settlement of Vicksburg grew rapidly and was incorporated as a town on January 29, 1825. Vicksburg became the seat of Warren County and was incorporated as a city in 1836. Its location near the juncture of the Mississippi and Yazoo Rivers helped the city develop into a port town and a commercial and agricultural center (Figure 23). Although Vicksburg took advantage of river access, much of the city was developed on the higher ground of the ascending loess hills to protect against flooding.



FIGURE 23. Lithographic view of Vicksburg, circa 1851. Source: Lithograph by Adolphus F. Forbriger, printed by Onken's Lith, Cincinnati, Ohio, [1851]. From John W. Reps, *Cities of the Mississippi: Nineteenth-Century Images of Urban Development* (Columbia: University of Missouri Press, 1994).

An 1835 account described the prosperous town as follows:

> There is no town in the south-west more flourishing than Vicksburg. It is surrounded by rich plantations, and contains many public-spirited individuals; whose co-operation in public enterprises is opening new avenues of wealth for the citizens, and laying a broad and secure foundation for the future importance of the town. It is already a powerful rival of Natchez: but the two places are so distant from each other, that their interests will always revolve in different circles. The situation of this town, on the shelving declivity of a cluster of precipitous hills, which rise abruptly from the river, is highly romantic. The houses are scattered in picturesque groups on natural terraces along the river, the balcony or portico of one often overhanging the roof of another. . . . Cotton is often conveyed to Vicksburg . . . from a distance of one hundred miles in the interior.[22]

One of the early settlers of the area was Nicholas Gray, an Irish immigrant who moved to Mississippi from New York City after being named Register of the Land Office of the Mississippi Territory. In the 1830s, Gray moved from the settlement of Washington in Adams County to the Vicksburg area. In 1837, Gray purchased a tract of land on the loess hills northeast of the town of Vicksburg from T. H. Goodall, soon building a house that he named Wexford Lodge after his home county in Ireland. Due to its prominent position on a high ridge, the house soon became a landmark for travelers along the Jackson Road, which linked Vicksburg and the state capital. Gray listed the property for sale in 1849, describing it as:

> A most desirable residence in a healthy location, 2-1/2 miles from town. The dwelling is 40 by 60 feet, containing nine rooms, seven large ones and a wide passage. There is on the premises a cistern, a spring of never failing water, stable, hen-house, etc. Attached 14 acres of good rich land, a variety of fruit trees, fine range for cattle, winter and summer. Also a 16 acre lot adjoining and well suited for building and gardening.[23]

After passing through an additional owner, the property was purchased by James Shirley in 1851. The house, which is the only surviving antebellum dwelling in the main unit of Vicksburg National Military Park, continues to carry Shirley's name today.

The location of Vicksburg adjacent the Mississippi River between the commercial ports of Memphis and New Orleans, near developing rail lines, and in the midst of the cotton-growing region, made the city, together with Natchez and Grand Gulf, an important export center. Commercial river transport between Vicksburg and New Orleans expanded with the development of the steamboat industry after 1816 and the clearing of the Mississippi River channel by the US Army Corps of Engineers after 1824, which made possible efficient river-based transport between Vicksburg and New Orleans.[24] In 1850, US Congress transferred title to more than 3 million acres of swamp and overflow land along the Mississippi River to the state of Mississippi. By this time, 310 miles of levees had been built along the banks of the Mississippi River, and the delta had been drained and was available for cultivation.

Transport from Vicksburg to the state capitol at Jackson was provided by the Vicksburg & Meridian Railroad (also referred to as the Southern Railroad of Mississippi), the only east–west rail line located between New Orleans and Memphis. The combination of river and rail access made Vicksburg a particularly strategic location for supply and transportation. North–south railroad lines led from Jackson to New Orleans and to Grand Junction, Tennessee, where the

22. Joseph H. Ingraham, The South-West: By a Yankee (New York: Harper & Brothers, 1835), vol. 2, 169–170, quoted in John W. Reps, Cities of the Mississippi (Columbia, Missouri: University of Missouri Press, 1994), 138.
23. Notice appearing in the Vicksburg *Weekly Whig*, December 5, 1849.
24. Risk, citing Mark Morgan, *Vicksburg Riverfront and Cultural Landscape Study* (National Park Service, 1992), 21.

Mississippi Central line met the Memphis and Charleston line. A second railroad, the Vicksburg, Shreveport, and Texas line, traversed De Soto Point in the bend of the Mississippi River, to a railhead at De Soto Landing just opposite the port of Vicksburg.[25] The De Soto Ferry crossed the Mississippi River from Vicksburg to the railhead at De Soto Landing, providing supplies such as beef and arms imported from Europe by way of Mexico and Texas.[26] Both the railroad supply lines and the Mississippi River corridor were to be of strategic importance during the Civil War.

Although Vicksburg was ideally suited for river and rail transport, the landscape immediately surrounding the city was not entirely suited for intensive agriculture due to the steep slopes and highly erodible soils. The ridgelines that encircled the city were bisected by spring channels and meandering bayous that had cut nearly impassable ravines in the loess. In order to use the more level terrain of the river bottomlands, plantation owners had built levees to protect their lands from flooding. Nonetheless, the landscape around the city evolved into "a mosaic of small farms, pastures, wooded ravines, and deeply cut springs."[27] Much of the tall hardwood forest had been cut down for cultivation, primarily of cotton but also of grains, fruits, and vegetables. Primary routes of transportation included rail lines and river transport, such as barges, steamboats, and ferries, that helped connect farmers to larger markets for their goods. Roads had been built along ridge spurs and stream channels, connecting the city of Vicksburg with the capital in Jackson—the Jackson Road (present-day Old Jackson Road)—and other settlements within the region.

Roads during this period, however, remained unreliable as the earth surfacing turned to mud during rains, and became rutted and bumpy during dry spells. According to the 1860 census, the population of Vicksburg stood at approximately 4,500 on the eve of the Civil War.

Prelude to the Civil War

The practice of slavery became an increasingly polarizing issue in American politics over the course of the mid-1800s. The Compromise of 1850 was composed of five statutes enacted in September of 1850 in an attempt to balance the interests of the slave states and the free states following the inclusion of new territories arising from the Mexican-American War of 1846–1848. The Compromise resulted in admission of California to the Union as a free state; organization of the territory of New Mexico (including present-day Arizona and Utah) without any specific prohibition of slavery; and fixed the boundary of the state of Texas. The legislation also called for the abolition of the slave trade (but not slavery itself) in Washington, D.C., and amended the Fugitive Slave Act to require that all citizens assist in the return of runaway enslaved persons regardless of the legality of slavery in the specific states. The strengthening of the Fugitive Slave Act increased the determination of abolitionists to end slavery in the United States. Although the Compromise of 1850 provided a means to keep the nation united, it was only a temporary solution. On December 20, 1860, South Carolina, which had

25. Ibid., 21–23. The *Draft Cultural Landscape Report* also notes that the Vicksburg and Clinton Railroad was organized in 1831 to transport cotton and other goods to Vicksburg from inland Mississippi. By 1846, the line was completed across the entire state and renamed the Vicksburg and Meridian Railroad. The Vicksburg, Shreveport, and Texas line, which started at De Soto Point, had only been constructed as far west as Monroe, Louisiana at the time of the Vicksburg campaign.

26. Risk, "Part One: Site History," citing Jim Miles, *A River Unvexed: A History and Tour Guide to the Campaign for the Mississippi River* (Nashville, Tennessee: Rutledge Hill Press, 1994), 190.

27. Ibid.

threatened to secede in 1850 over California statehood, left the Union in response to Abraham Lincoln's election as President in 1860. Lincoln, a Republican, was seen as a threat to Southern states' rights and the continuation of the practice of slavery. Mississippi followed suit on January 9, 1861, becoming the second state to secede from the Union. By June 8, 1861, eleven states had seceded and formed the Confederate States of America.

The Vicksburg Campaign and the Siege of Vicksburg, 1863

Refer to Figure 51, Period Plan 1863–1866.

The Importance of the Mississippi River

Beginning in 1862, Union commanders began to focus on taking control of the Mississippi River, which played a key role in military transportation and supply operations, and was pivotal to the geographic cohesion of the Confederate states. By 1860, the Mississippi River had become an important transportation artery linking the West with ports on the Gulf and the Atlantic seaboard. Following the opening volleys of the Civil War at Fort Sumter near Charleston, South Carolina, President Abraham Lincoln proclaimed a blockade of shipping operations in the South that included the port of New Orleans at the mouth of the Mississippi. In response to the threat posed by the blockade to its control of the Mississippi, the Confederacy began to fortify strategic points along the river where it bordered the Confederate states of Arkansas, Tennessee, and Mississippi, and where the river extended through lower Louisiana (Figure 24). Vicksburg was seen as one of the key locations to control, along with the Red River in Louisiana and the Arkansas and White rivers in Arkansas, which provided access for shipping as well as to the rich farmland of the Mississippi delta region.

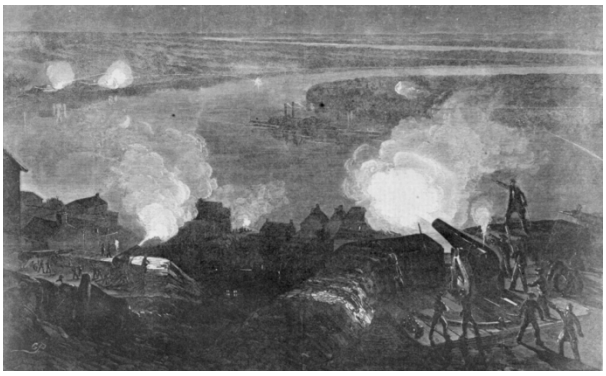


FIGURE 24. The US ironclad gunboat *Indianola* running the Confederate blockade at Vicksburg on February 13, 1863, Illustration from *Harper's Weekly* 7 (March 7, 1863) Source: Library of Congress Prints and Photographs Division, Washington, D.C., Card No. 99614196.

North of Vicksburg, the Confederates quickly fortified Island No. 10 and New Madrid, Missouri, across the river from the Tennessee-Kentucky state line with defensive positions. To the south of Vicksburg, the Confederates established Forts Jackson and St. Philip, as well as several smaller forts, to defend New Orleans.

Despite these fortified positions, both sites to the north fell to Union forces led by Brig. Gen. John Pope on April 7, 1862, while Federal river forces, led by Flag Officer David G. Farragut and Commodore David Dixon Porter, overcame the Confederate defenses below New Orleans between April 25 and 28, 1862, leading Confederate troops to evacuate the city. These Union successes opened the river to Union shipping as far south as Fort Pillow near Memphis, Tennessee, and as far north as Vicksburg. Following his victory, Farragut took several cruisers and gunboats upriver to Vicksburg, where Brig. Gen. Martin L. Smith refused to surrender the city. Farragut ordered an intermittent bombardment that lasted from mid-May through July of 1862.

Fortifying Vicksburg

With the city threatened by Union gunboats, Confederate engineers began to construct fortifications at Vicksburg in September 1862. The topography of Vicksburg and its relationship to the Mississippi River made it a strategic location;

and the specific topographic features around the city affected the position of the defenses and avenues of attack during the siege. The unique combination of rugged, dissected, and elevated terrain to the east of the city, and a tortuous turn of the Mississippi River that forced attacking boats to slow where artillery could focus their fire, was seized and embellished upon by the Confederate army in their struggle to maintain control of the Mississippi. In October, Lt. Gen. John Clifford Pemberton, a Pennsylvania native who sided with the South because of influence of his Virginia-born wife, arrived in Jackson, Mississippi, to take command of the newly created Department of Mississippi and East Louisiana. Prior to his arrival, soldiers and enslaved workers had initiated construction of a system of fortifications that consisted of a series of artillery batteries placed along the bluffs overlooking the river to protect against gunboat attacks, and a nearly continuous horseshoe-shaped line of fortifications and rifle pits encircling the city along a nearly continuous ridgeline to protect against landward attacks (Figure 25).

With the natural topography rendering much of the defensive circle impassable, the Confederate defenders were able to concentrate at key points along the ridgelines, generally at the intersecting transportation routes leading to Vicksburg. These key points were fortified with earthworks that included Great Redoubt and Third Louisiana Redan at Jackson Road near the Shirley House; Railroad Redoubt at the Southern Railroad of Mississippi; Stockade Redan at the Graveyard Road; Square Fort (Fort Garrott); the Salient Work (Horn Work) on Halls Ferry Road; the Second Texas Lunette; Confederate Fort Hill at the Mississippi River at the north end of the defensive line; and South Fort at the south end of the defensive line.

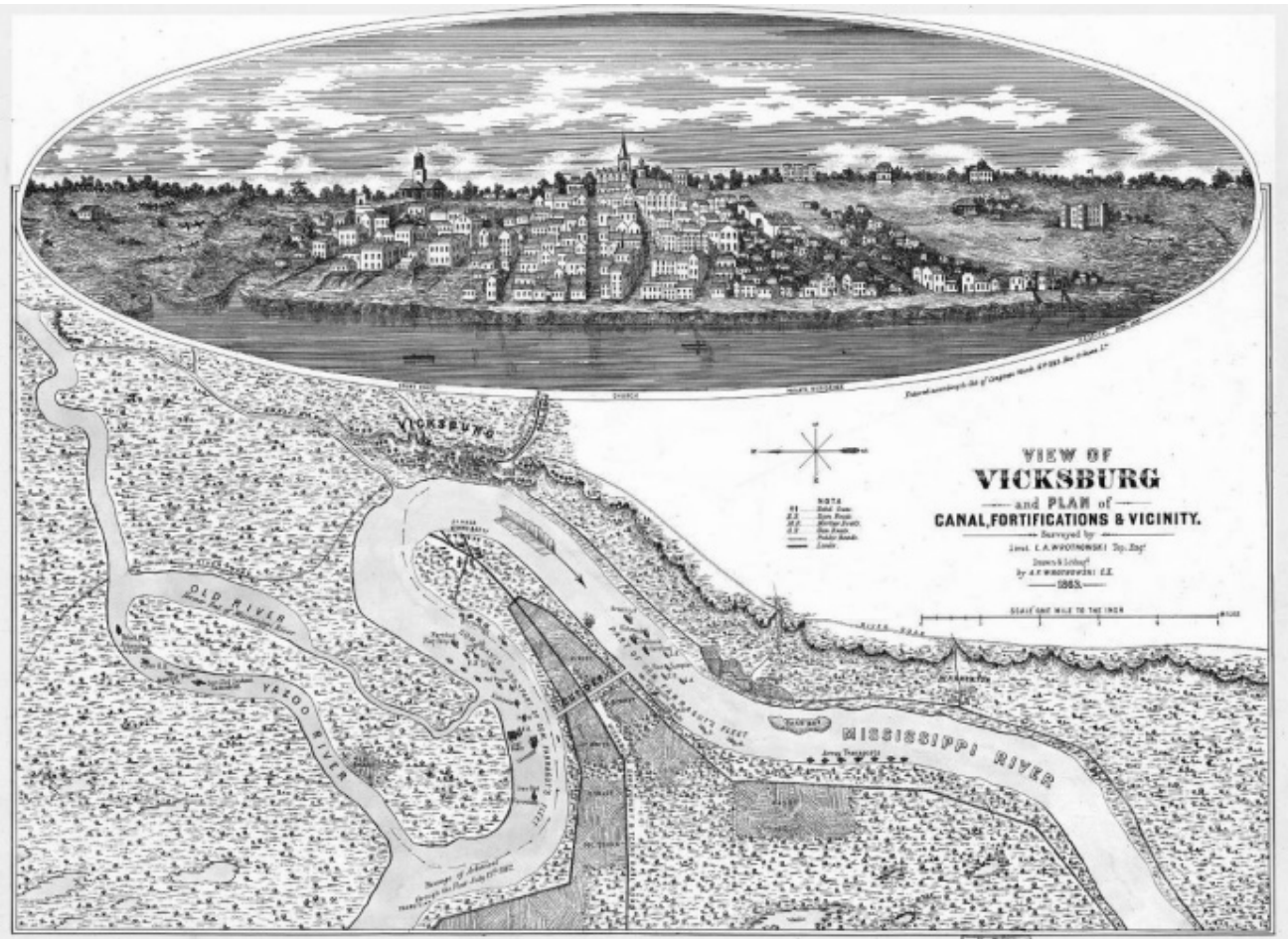


FIGURE 25. Bird's eye view and map of Vicksburg, 1863. Source: Library of Congress Geography and Map Division, Washington, D.C., (dlc) 99447435.

While these large fortified positions were placed to block all likely Union avenues of approach, which included roads and rail lines, a suite of obstacles to troop movements were laid in front of the line everywhere else. Obstacles were both natural and manmade. They included downed trees placed in piles with their branches sharpened into spikes, known as *abatis*, and in intersecting diagonal rows of sharpened spikes, called *chevaux-de-frise*. Dense vegetative thickets in the ravines and bayous were left to serve as an obstacle in and of themselves. Obstacles were also created by tying vines and wire between tree stumps or stakes.

Construction of the fortifications entailed the establishment of earthen walls, or parapets, fronted by ditches, to create a formidable obstacle to attack and a protected position from which to fire guns and artillery. To reinforce the soil parapets, the Confederates placed logs, cylindrical baskets of native cane called *gabions*, and tightly-bound bundles of brush, called fascines. Most of the available trees in the vicinity of the 8-mile defensive line were cut to provide lumber for construction or to clear fields of fire, leaving the area around the defensive line relatively free of tree cover.

The Western Theater, 1862

In addition to the threat posed by Union river access to Vicksburg, Confederate control of the Western Theater was placed under pressure by then Brig. Gen. Ulysses S. Grant to the east in Tennessee and Kentucky, as well as eastern Mississippi. In western Tennessee, Union forces led by Grant and Flag Officer Andrew Foote captured Fort Henry on the Tennessee River and Fort Donelson on the Cumberland River by mid-February 1862. After the loss, Confederate Gen. Albert Sidney Johnston evacuated the state capital of Nashville and concentrated his forces at Corinth in the northeast corner of Mississippi, hoping to protect rail communications along the Memphis & Charleston and Mobile & Ohio railroads.

Recognizing the importance of the rail lines, Union forces led by Maj. Gens. Ulysses S. Grant, Henry W. Halleck, and Don Carlos Buell, attempted to sever the Southern railroads. To address Johnston's control of the lines in Corinth, Grant's army traveled along the Tennessee River by steamboat, disembarking at Pittsburg Landing, northeast of the town, in spring 1862. There Grant established a base of operations on a plateau west of the river, setting the stage for the Battle of Shiloh, with Union forward camps posted 2 miles inland around a log church called Shiloh Meeting House. Buell's Army of the Ohio, marching overland from Nashville, moved to join Grant's forces to advance on Corinth and permanently break western Confederate railroad communications.

Johnston determined to attack Grant's army at Pittsburg Landing before Buell arrived, and on April 6, the Confederate forces attacked the forward Federal camps around Shiloh Church. Although the Confederates gained ground against the surprised Union forces, Albert Johnston's forces became disorganized and Johnston himself was killed in the fighting, leaving Gen. P. G. T. Beauregard in command of the Confederate army. Fighting ended at nightfall, and Buell's army reached Pittsburg Landing overnight. At dawn on April 7, the combined Union armies attacked the outnumbered Confederates, who withdrew to Corinth. The battle resulted in 23,746 casualties, and control of Corinth's railroad junction was not resolved.[28]

By late May, three Federal armies were entrenched within range of Confederate fortifications at Corinth. Beauregard withdrew his army south to Tupelo, abandoning the east–west rail

28. The following synopsis of the Vicksburg campaign is based primarily on several sources, including Michael B. Ballard, *Vicksburg: The Campaign that Opened the Mississippi,* Civil War America Series (Chapel Hill, North Carolina: University of North Carolina Press, 2003) and Ballard, *The Campaign for Vicksburg* (Fort Washington, Pennsylvania: Eastern National, 1996).

communications lines. On June 6, 1862, Memphis surrendered to a naval Federal force led by Commodore Charles Davis, opening the way to a land campaign against Vicksburg.

In the late summer of 1862, Confederate forces launched counteroffensives including an attack by troops led by Gen. Earl Van Dorn against the Union garrison at Corinth. On August 5, a Confederate army led by Gen. John C. Breckinridge attacked the Louisiana capital of Baton Rouge but was defeated by Federal forces led by Gen. Thomas Williams. Although the Confederates lost the Arkansas River, they occupied Port Hudson on the eastern bluffs of the Mississippi River north of Baton Rouge, providing a defensive barrier against further southern approaches to Vicksburg.

On September 19, 1862, fighting ensued at Iuka between Federal forces led by Grant and Maj. Gen. William Rosecrans and Confederates led by Maj. Gen. Sterling Price. Each general tried to prevent the other from sending reinforcements to Tennessee. Price united his retreating troops with those of General Van Dorn, who attacked Rosecrans's Federal garrison at Corinth on October 3. In heavy fighting on October 3–4, the Confederates were repulsed. The fighting at Corinth, the last Confederate offensive in Mississippi, weakened the only mobile Southern army defending the Mississippi Valley and permitted Grant to launch his campaign to capture Vicksburg.

The Vicksburg Campaign

During the Vicksburg campaign, Grant led the Federal forces, closely assisted by Maj. Gen. William Tecumseh Sherman, Maj. Gen. John A. McClernand, and Maj. Gen. James B. McPherson. The campaign for Vicksburg entailed attempts to capture the city by land and by water.

On October 20, 1862, General McClernand convinced President Lincoln and Secretary of War Edwin M. Stanton to allow him to organize volunteer troops in the Midwest for an amphibious operation against Vicksburg. However, McClernand's plans were thwarted by Gen. Henry Halleck, who opposed the idea and reassigned his companies and regiments to prevent their participation.

At the same time, Grant began to assemble an invading force at Grand Junction, Tennessee, where the Mississippi Central Railroad intersected the Memphis and Charleston line that connected Memphis and Corinth. Grant planned to have two forces simultaneously invade Mississippi, one led by himself that set out from Grand Junction, and the other led by Sherman from Memphis. (Grand Junction was the site of the first contraband camp, established by Chaplain John Eaton acting on Grant's orders. The camp at Grand Junction, established in August 1862, sheltered 1,713 persons by March 1863. The contraband camps housed fugitive African Americans who had been serving as forced labor for the Confederate army.[29])

After delays caused by supply problems and Confederate cavalry raids, the Federal forces finally moved southward, occupying Holly Springs, Mississippi, before continuing toward the Tallahatchie River. The Federal approach caused the Confederates to move southward and dig in behind the Yalobusha River at Grenada, Mississippi. Grant reorganized his army for an advance on Grenada. In order to keep Pemberton pinned down in north Mississippi, he sent Sherman and one division back to Memphis to organize an amphibious expedition against Vicksburg. Sherman's forces included 40,000 men and the support of the Union navy.

Little went as planned. In December, Confederate raids, including Brig. Gen. Nathan Bedford

29. Bobby L. Lovett, "Contraband Camps," *Tennessee Encyclopedia*, https://tennesseeencyclopedia.net/entries/contraband-camps/, accessed April 2019.

Forrest's attacks on the Federal supply line and Maj. Gen. Earl Van Dorn's raid on the Federal supply base at Holly Springs, caused Grant to pull his army back to Memphis. Union gunboats moving up the Yazoo River withdrew after the USS *Cairo* was sunk by an electrically detonated mine on December 12, 1862. When Pemberton learned that Sherman's forces were moving toward Vicksburg, he ordered reinforcements for Martin Smith's garrison and traveled there himself. On December 20, 1862, Federal transports began ferrying troops downriver.

Sherman's army landed and marched toward the Walnut Hills north and northeast of Vicksburg. Although Grant had retreated, Sherman attacked the Confederates stationed near the confluence of the Yazoo and Mississippi rivers on December 27–29. In the ensuing Battle of Chickasaw Bayou, the Federal troops outnumbered the Confederates, but the swamps and bayous on site made movement extremely difficult and the Confederate forces, under the tactical command of Brig. Gen. Stephen D. Lee, held well-fortified high ground. On January 1, 1863, a defeated Sherman returned to Milliken's Bend, Louisiana.

After the failure of Sherman's December offensive, Grant moved his troops to the west side of the Mississippi River and proceeded down the Louisiana side of the river, intending to cross the river south of Vicksburg.

From January 4 to 12, 1863, McClernand, in command of Sherman's forces, attacked Arkansas Post (Fort Hindman) 50 miles up the Arkansas River from where it emptied into the Mississippi River. Union capture of the fort meant that it could no longer be used as a refuge from which Confederate gunboats could attack Union shipping.

In January and February 1863, Grant attempted to build a bypass canal at De Soto Point, near the hairpin curve in the Mississippi River in front of Vicksburg (Figure 26). A canal would have allowed Federal troops to bypass the bend in the river and the threat posed by the Confederate batteries in order to approach Vicksburg from the south. Grant's effort followed a previous failed attempt by Gen. Thomas Williams to dig a canal at this location in 1862 that had suffered due to low water and disease among his men.

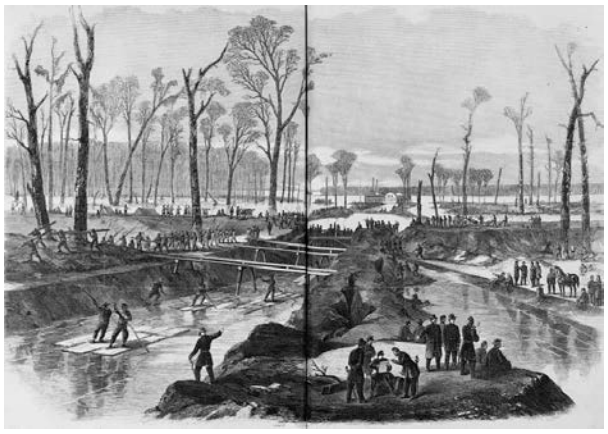


FIGURE 26. Construction of Grant's canal, 1863. Source: Library of Congress Prints and Photographs Division, Washington, D.C., Card No. 2003668335.

In a letter to General Halleck of February 18, 1863, Grant described the canal work (Figure 27):

> The work upon the canal here is progressing as well as possible, with the excessively bad weather and high water we have had to contend against. Most of the time that troops could be out at all has been expended in keeping water out of our camps. Five good working days would enable the force here to complete the canal 60 feet wide, and of sufficient depth to admit any vessel here. Judging from the past, it is fair to calculate that it will take from ten to twelve days to get those five days.[30]

By late March, however, the work was abandoned, due in part to fluctuations in the water level.

30. *Official Records of the Union and Confederate Armies*, series I, vol. 14, part I, 18.

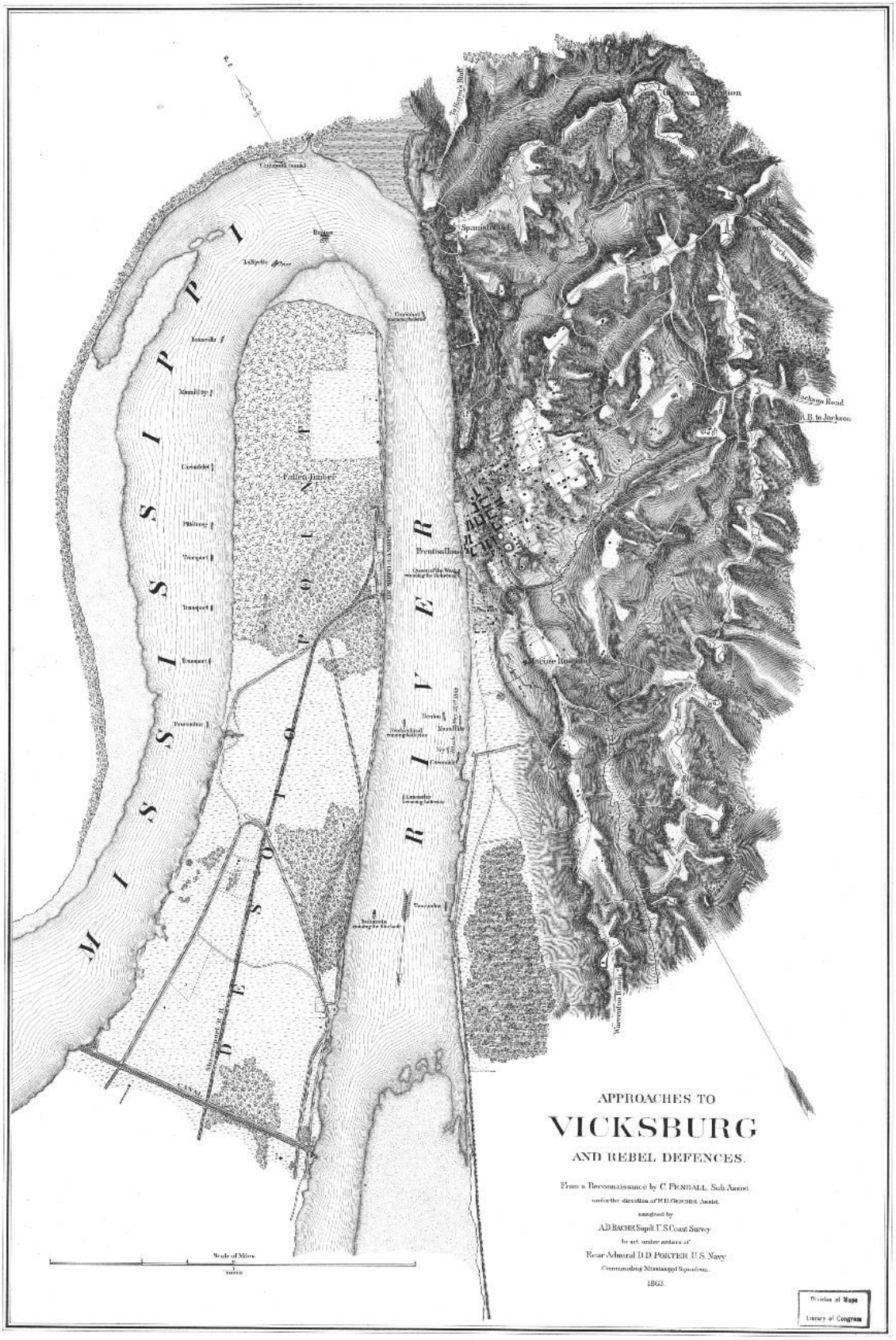


FIGURE 27. US Coast Survey map of Vicksburg and vicinity, 1863, showing gunboats and the canal across the De Soto Peninsula. Source: Library of Congress Geography and Maps Division, Washington, D.C. (dlc) 11927341.

On the night of April 16, 1863, the Federal gunboat fleet, under the command of Rear Adm. David Dixon Porter, began to run the batteries at Vicksburg, while several diversions resulted in large numbers of Confederate troops moving out of Vicksburg. As Porter's boats rounded De Soto Point, Confederate lookouts sounded the alarm. The soldiers stationed along the river set bales of cotton soaked in turpentine and barrels of tar lining on fire to illuminate the river, allowing the artillery to aim at the vessels. Although each vessel was hit repeatedly, Porter's fleet was able to pass through the range of the Confederate batteries with the loss of only one transport. They continued downriver to the rendezvous with Grant on the Louisiana shore south of Vicksburg.[31]

Grant's engineers also attempted to provide access from Lake Providence, 75 miles above Vicksburg on the Louisiana side of the river, to streams leading into the Red River, and then to the Mississippi River south of Vicksburg. This effort, which offered the possibility of moving troops south, and then north to attack Vicksburg, also did not succeed.

From March 14–21, Rear Admiral Porter led an amphibious expedition up Steele's Bayou in an attempt to gain the Sunflower River, which led to the Yazoo River above Vicksburg. Porter's flotilla included ironclad gunboats, mortar boats, and tugboats. The expedition had great difficulty with obstructions placed in the river by the Confederates as well as trees growing in the bayou, and the fleet eventually had to be rescued.

On March 31, Grant's army began to march down the west side of the Mississippi River to a point below Vicksburg, with the intent of having river transports ferry the men across, despite the Union boats having to run the gauntlet of Confederate defenses at Vicksburg. Grant organized a diversion by Federal troops destroying Confederate supplies at Greenville, Mississippi, to give the impression of action upriver. A further diversion was a successful Union cavalry raid from La Grange, Tennessee, on April 17, to Baton Rouge, Louisiana, on May 2, led by Col. Benjamin Henry Grierson.[32] Federal steamers returning north to Memphis suggested to the Confederates that Grant was pulling back; instead, boats were being moved away from the city to relieve river traffic congestion.

Pemberton doubted rumors that McClernand's corps was moving down the west side of the river, and ignored warnings from John Bowen that the Grand Gulf defenses needed to be protected. By April 17, Pemberton learned that several empty enemy vessels had successfully run the gauntlet of the Vicksburg batteries, but was distracted by Grierson's diversionary raids.

Sherman attacked Snyder's Bluff north of Vicksburg, diverting Pemberton's attention from Grand Gulf, where Union gunboats began an attack on April 29. Grand Gulf was the desired landing site for Grant's troops; however, when the gunboats could not neutralize the Confederate batteries, Grant elected to find a crossing farther south. On April 30, 1863, Union boats began ferrying the 17,000 troops of the XIII Corps ashore at Bruinsburg. The Union troops began marching toward Port Gibson through difficult terrain marked by steep ravines and high ridges. Troops of Maj. Gen. John Logan's division of James McPherson's XVII Corps were ferried across the river, swelling Grant's force to 25,000 men.

Bowen sent a detachment under Brig. Gen. Martin Green to Port Gibson to set up roadblocks west of the town, near where roads from Rodney and

31. "Passing the Vicksburg Batteries (April 16), Available at http://www.nps.gov/vick/learn/historyculture/runbatteries.htm (accessed October 25, 2015).

32. Pemberton was hampered by a shortage of cavalry and Grierson's raid was extremely successful, capturing more than 3,000 stand of arms, destroying 50 to 60 miles of railroad track as well as Confederate property, and capturing 1,000 horses and mules. See Ballard, *The Campaign for Vicksburg*, 23.

Bruinsburg converged. At the Battle of Port Gibson, the Confederates were outnumbered more than three to one. Led by Bowen, they fought the larger Union forces and, although defeated, bought Pemberton valuable time.

Pemberton, shaken by the loss of Port Gibson and Grand Gulf, decided to abandon Port Hudson and move his forces to Vicksburg. However, he received an order from President Jefferson Davis to hold both Vicksburg and Port Hudson. Pemberton wired Maj. Gen. Franklin Gardner to remain at Port Hudson with 2,000 men, who were later joined by 5,000 reinforcements. On May 21, Maj. Gen. Nathaniel Banks began siege operations against Port Hudson, with assaults by Federal troops on May 27 and June 11. The Federal troops included African Americans from Louisiana who were fighting for the Union. The Confederate defenders at Port Hudson did not surrender until July 9, five days after the fall of Vicksburg.

Grant marched his forces north–northeast, apparently moving toward the Big Black River, but actually intending to reach the Southern Railroad that connected Jackson and Vicksburg, and was joined by Sherman and his troops between Port Gibson and Raymond on May 8. Union forces were followed by supply wagon trains from a beachhead established at Grand Gulf. In response to this movement by Union troops, Pemberton decided to consolidate Confederate troops west of the Big Black River to protect Vicksburg. Despite urging by his officers, he decided not to take offensive action.

Maj. Gen. William Loring led a retreat from above Port Gibson to the Big Black River at Hankinson's Ferry and, despite the arrival of reinforcements, did not attack McPherson's corps. Anticipating a possible Federal attack on the capital at Jackson, Pemberton sent 3,000 men under Brig. Gen. John Gregg to Raymond. Gregg attacked the vanguard of McPherson's corps, mistakenly thinking that it was a rear guard or screening movement, but was outnumbered and retreated to Jackson. Resistance by Gregg's forces and reports that Gen. Joseph Johnston had come to Jackson to assemble an army to aid Pemberton convinced Grant not to turn his army west. Grant decided instead to attack Jackson first, before turning to meet Pemberton. Not realizing that reinforcements would have enabled him to hold off Grant until Pemberton could attack the Federal rear, Johnston decided to evacuate Jackson. The Federal assault on Jackson began on May 14, 1863, and with limited Confederate resistance, the city was soon in Federal control.

Following his victory at Jackson, Grant ordered Sherman to destroy the city's rail and industrial facilities as he moved his troops west to Clinton.

On May 16, Pemberton received an order to march for Clinton and meet the Confederate forces in Jackson. However, this message was intercepted by a spy and Grant had the opportunity to converge his three corps on Pemberton. Pemberton was concerned about leaving Vicksburg without proper defenses and decided to march southeast toward Grant's supply line. This movement kept the main Confederate army between Vicksburg and McClernand's forces, and also allowed Pemberton's forces to move back to Edwards if necessary to block any advance from Jackson.

On the morning of May 15, Pemberton attempted to move his forces but supply problems and a flooded creek interfered, and his three divisions made little progress. At dawn on May 16, he received Johnston's message that Jackson had fallen, which ordered him to move toward Clinton. Attempting to move his army northwest, Pemberton had to fight with the advancing Union forces on his front. Bowen's division, led by Col. Francis Cockrell and his Missouri troops, rushed to Champion Hill on May 16, and successfully crashed through Brig. Gen. Alvin Hovey's brigades, threatening the right wing of Grant's army. Having no reserves, Bowen had to retreat, while pressure from McClernand's troops caused Pemberton to retreat. Loring's division held long enough for Bowen's and Maj. Gen. Carter Stevenson's divisions to escape across Bakers Creek to their Big Black River entrenchments. Loring, concerned that he might be cut off by advancing Union troops, led his division south and then northeast toward Jackson, where he met Johnston. Pemberton's troops numbered 23,000

and Grant's 32,000. Confederate losses were 3,800 and Union losses were 2,400 in the ensuing battle.

Champion Hill was the decisive battle of the Vicksburg campaign and one of the most significant of the war. Had Grant lost, he would have been cut off from his base at Grand Gulf and the continued existence of his army would have been threatened. Grant's victory at Champion Hill was critical to his eventual capture of Vicksburg.

On May 17, Grant sent Sherman north of the railroad to cut off Pemberton's retreat, while McClernand moved his troops forward to meet the Confederates where the railroad crossed the Big Black River. McClernand attacked the Confederates on May 17. Pemberton's army escaped with the help of infantry and artillery on the bluffs along the west bank of the river, and with the burning of the railroad bridge and a boat that had been used as a bridge. Pemberton and his forces retreated to Vicksburg.

The Battles and Siege of Vicksburg

President Jefferson Davis had ordered Pemberton to hold Vicksburg, no matter what the cost, while Johnston had ordered Pemberton to escape to the northeast to save his army. When Pemberton reached Vicksburg, he organized his troops with Martin Smith's division on the Confederate left and Maj. Gen. John Forney's in the center, as these two divisions had never left Vicksburg and were fresh. Stevenson's division, exhausted from fighting, was placed on the right flank as less likely to receive assault, and Bowen's division was held in reserve. As Union forces approached, Confederate troops burned most of the farmhouses and other structures to create clear lines of fire in front of their defensive lines, with the exception of the Shirley House.

Grant's three corps reached the fortifications at Vicksburg soon thereafter and immediately attempted two assaults. On May 19, Maj. Gen. Frank Blair, Jr.'s division of Sherman's corps, positioned on the right (north) flank of the Federal army, charged against Stockade Redan, which commanded the Graveyard Road approach to the city. This assault was stopped by Confederate fire from Martin Smith's division and the Missourians of Cockrell's brigade. When Union soldiers appeared at the ditches at the base of the redan, defenders rolled cannon balls with shortened timing fuses into the attackers.[33] A simultaneous attack by McPherson in the center along Jackson Road and McClernand on the left along the Baldwin Ferry Road made only limited progress. During the fighting, Mrs. Shirley, her son, and two enslaved persons took shelter near the brick chimney of the house located along Jackson Road.

On May 22, Grant again attempted to overrun the Confederate fortifications at Vicksburg. A four-hour Federal artillery bombardment preceded a general assault in which Blair's and Brig. Gen. James Tuttle's divisions from Sherman's corps led unsuccessful attacks against Stockade Redan, the Third Louisiana Redan and the Great Redoubt. On the Federal left, McClernand's troops were successful in entering the Railroad Redoubt and advanced against the Second Texas Lunette and Square Fort. However, later in the day, Col. Thomas Waul's Texas Legion (attached to Carter Stevenson's division on the Confederate right) retook the Railroad Redoubt and Martin Green led a successful attack to remove Federal forces from in front of the Second Texas Lunette. These losses were attributed to the strength of the Confederate fortification system, described by Union Col. Holden Putman based on his experiences during the May 22 attacks:

> At 10 o'clock we pushed forward to the crest of the next hill, but were met by a terrible storm of grape, canister, and musketry, and the ground being almost impassable from gullies, covered by a heavy abatis of fallen trees, underbrush, vines, &c., the whole position enfiladed by the guns of the enemy, the brigade commander ordered a halt for a few moments.[34]

In the attacks of May 19, Grant lost 1,000 men and the Confederates 200, while on May 22, Grant lost

33. Ballard, *The Campaign for Vicksburg*, 47.

34. O.R., series I, vol. 14, part II, 67.

3,200 men as compared with Pemberton's loss of less than 500.[35] Following these heavy losses, Grant decided to lay siege to Vicksburg, concluding that "they could not last always."[36]

While the siege was planned, Union forces encamped on a ridgeline that paralleled the Confederate fortifications and was separated from them by steep ravines. At a few points, perpendicular ridgelines connected the parallel lines. These perpendicular ridges formed the primary land access points to the city and were the locations of important roads.

The character of the terrain and the military challenges it posed to Grant and his men was described in the *Official Records of the Union and Confederate Armies* by Capts. Frederick E. Prime and Cyrus B. Comstock, US Army Corps of Engineers:

> Perhaps the best idea of the ground around Vicksburg may be obtained by supposing that originally a plateau, having from 200 to 300 feet elevation, here reached the Mississippi; that the fine soil, which, when cut vertically, will remain so for years, has gradually been washed away by rains and streams till the plateau has disappeared, leaving in its place an intricate net-work of ravines and ridges, the latter everywhere sharp, and the former only having level bottoms when their streams become of some size. It has already been said that the soil when cut vertically will remain so for years. For this reason the sides of the smaller and newer ravines were often so steep that their ascent was difficult to a footman unless he aided himself with his hands. The sides of the ravines were usually wooded, but near the enemy's line the trees had been felled, forming in many places entanglements which under fire were absolutely impassable. At Vicksburg the Mississippi runs nearly south, and the streams which enter it from the east run southwest. One such stream enters the river 5 miles below the city, and the dividing ridge which separates two of its branches was that on which the defensive line east of the city was placed. This line on the northern side of the city was on a dividing ridge between two small streams, which enter the Mississippi above Vicksburg.[37]

After the two failed attacks, Grant reasoned that because the ridgeline surrounding Vicksburg was so well fortified, he could not afford to take it by force from any one direction. Rather, he endeavored to wait out the Confederates through a protracted siege and slowly break down the opponent's forces. In support of this approach, the Union army surrounded the city and the Confederate line along an opposing, irregular series of outer ridges, separated from the Confederate earthworks by steep ravines. The Union army maintained a line of positions 9 miles east of the park, with several batteries to the rear of their forward line as an Army of Observation to prevent surprise attacks by Confederate reinforcements.

On the ridges and knolls facing the Confederate line, the Union forces placed several very large and powerful batteries to maintain pressure on the large Confederate works guarding the approaches to the city. At the same time, Grant's men began to slowly move toward each of the major works by sapping or digging shallow trench lines. An approach is a zigzag trench with angles laid out so that no section of the trench is exposed to direct enemy fire down its length. During the siege of Vicksburg, Union soldiers dug thirteen separate approaches at various points along their twelve-mile line. The Union approaches extended over diverse terrain elements, including steep ravines filled with abatis, side slopes, as well as open, formerly cultivated fields. The saps were dug in a zigzag pattern to prevent being enfiladed. Large cylinders (*gabions*) were made of woven cane, a native plant that grew in the ravines, filled with dirt or cotton; these cylinders were pushed ahead of sapping operations for cover and concealment to protect the excavators from being hit by artillery fire.[38]

Within the city of Vicksburg, the remaining citizens as well as Confederate soldiers faced

35. Ballard, *The Campaign for Vicksburg*, 47.
36. Ibid., 49.
37. O.R., series I, vol. 24, part II, 169.
38. Miles, 429.

frequent shelling by the Union army from both the newly established positions east of the Confederate line and from gunboats located on the river. Pemberton was forced to continually cut rations as Grant's army prevented food from reaching the city. Shortages of clean water were a problem for local citizens and Confederate soldiers alike. Citizens cut caves into hillsides and lived there during the siege, bringing furnishings and candles to make the caves more habitable. The residents of Vicksburg attempted to carry on normal life between shellings, and a local newspaper continued to be printed, eventually on wallpaper when newsprint was no longer available. As the siege continued, yellow flags were raised over houses being used as hospitals, and many women served as nurses. Diaries of Vicksburg residents including Mary Loughborough and Emma Balfour provide a picture of life in the city during the siege.

Pemberton set up his headquarters in one of the city's mansions. Known at the time as "Mrs. Willis's House," the building was constructed by William Bobb in 1835–1836 in the Greek Revival style. By 1863, the house was owned by her son John Willis, a descendant of Vicksburg's founder, Reverend Newt Vick. The house is administered as part of Vicksburg National Military Park today, and is known as "Pemberton's Headquarters."[39]

Grant oversaw a series of military siege operations designed to breach the Confederate works. These included the digging of a series of thirteen separate protected approach trenches toward the Confederate lines that could be used to reach the Confederate fortifications in order to plant mines that could be exploded. The soldiers hid behind sap rollers and dug zigzag trenches toward the enemy works that could be used to protect them against direct fire. (Similar siege tactics had been used for centuries during military operations, including Gen. George Washington's successful capture of the fortifications at Yorktown, Virginia, in 1781.)

To protect themselves from Confederate artillery while in camp, the Union forces created a network of "shebangs" or dugouts on the slope southeast of the Shirley House (Figure 28).[40] These were small pit-like excavations enhanced by wood plank walls and roofs.



FIGURE 28. Shirley House during the siege, showing Union "shebangs" or dugouts. Source: Vicksburg National Military Park Archives, box 9.

The approach on Jackson Road, known as Logan's Approach, was one of the main efforts of the Union commanders:

> This was the approach in front of McPherson's corps, on which most work was done. It followed the ridge along which the Jackson road runs, and approached a high, commanding salient, called by us Fort Hill, which, if once in our possession, would have made this part of the enemy's line untenable.[41]

On June 25, as Union soldiers dug a tunnel under the Third Louisiana Redan on Jackson Road, the sound was heard by the Confederates within; in response, Maj. Samuel Lockett quickly had a line of secondary trenches constructed to the rear of the redan. The Union forces exploded a mine

39. In 1890, the house was sold to Mary Frances Cowan, and was thereafter known as the "Willis-Cowan" house. The house was designated a National Historic Landmark in 1977. On October 18, 2003, the National Park Service acquired the house.
40. The term "shebang" can refer to any type of temporary shelter built by soldiers.
41. O.R., series I, vol. 24, part II, 173.

containing 2,200 pounds of powder in the tunnel, creating a crater 12 feet deep and 50 feet across, but the Confederates successfully repulsed the 45th Illinois Infantry and a number of other regiments who followed through the crater during the twenty-six hour attack. The explosion of a second mine on July 1 severely damaged the redan, but no attack followed. In response to Federal efforts, Confederate engineers carried out countermining activities.

The Surrender

By the beginning of July, Pemberton began to realize that he would not be able to hold out much longer. Hoped-for reinforcements had not arrived. Recognizing that there was a good chance that no support would come from Jackson or from Confederate troops in the Trans-Mississippi states, Pemberton began to weigh his options. His decision to surrender may have been influenced by a letter signed "Many Soldiers," ostensibly written by his troops, suggesting surrender so that they would not have to desert. Before making a decision, Pemberton met with his four division commanders: Maj. Gens. Carter L. Stevenson, Martin Luther Smith, John H. Forney, and John S. Bowen. The commanders were unanimous in their conclusion that the exhausted troops could not be successfully evacuated and that surrender was the best course. Pemberton thought that better terms could be negotiated by offering to surrender on the Fourth of July. On July 3, 1863, he told his division commanders:

> " . . . my own preference would be to put myself at the head of my troops and make a desperate effort to cut our way through the enemy . . . . But my duty is to sacrifice myself to save the army which has so nobly done its duty to defend Vicksburg. I therefore concur with you and shall offer to surrender this army on the 4th of July."[42]

Later that day, Pemberton opened surrender negotiations with Grant, offering an armistice for several hours to arrange for the surrender. Gen. John Bowen, a neighbor of Grant's in St. Louis before the war, was assigned the mission of carrying the message to Grant, despite being severely ill with dysentery. Bowen hoped that his friendship with Grant would gain an audience with the union commander.

Following the delivery of Bowen's messages, Lieutenant General Pemberton, accompanied by General Bowen and Col. Louis M. Montgomery, met with General Grant, his staff, and Generals E. O. C. Ord, James McPherson, John Logan, and A. J. Smith at 3:00 p.m. under a tree only 200 feet from the Confederate trenches. The terms reached indicated that the Confederate soldiers were to give up their arms, after which they would be paroled. Officers were allowed to retain their side arms, clothing, and one horse. Grant likely agreed to these terms based on the practical difficulties of transporting 30,000 prisoners to Cairo, Illinois. Early in the morning of July 4, 1863, Pemberton sent Grant a message accepting the terms of surrender. Later that day, Federal soldiers marched into Vicksburg along Jackson Road to the Warren County Courthouse, where the Confederate flag was lowered and replaced by the Stars and Stripes.[43]

On July 9, 1863, the Confederate defenders at Port Hudson, Louisiana, also surrendered, rendering Union control of the Mississippi River complete. In a letter to James C. Conkling on August 26, 1863, President Lincoln wrote, "The Father of Waters again goes unvexed to the sea."[44]

The Civil War would continue for nearly two more years. Following a long and protracted siege of Richmond and Petersburg, Virginia, General Grant succeeded in driving Gen. Robert E. Lee from his trenches, and pursuing his forces to

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42. National Park Service ". . . to catch the rabbit . . ." <http://www.nps.gov/vick/forteachers/sitebulletins.htm>, accessed September 17, 2007.
43. Ibid.
44. President Abraham Lincoln, letter to James C. Conkling, August 26, 1863, in *Collected Works of Abraham Lincoln* 6 (Piscataway, New Jersey: Rutgers University Press 1953, 1990), 409.

Appomattox Court House where Lee was forced to surrender on April 9, 1865, effectively ending the war.

Early Commemoration

Even before the war had ended, patriotic groups and military personnel began to mark key battle locations to commemorate valorous acts and decisive events. On July 4, 1864, on the first anniversary of the surrender at Vicksburg, a small stone obelisk was placed to mark the site of the surrender interview between Pemberton and Grant, where the historic oak tree had stood.[45]

The monument, a stone obelisk set within a decorative iron fence (Figure 29), was described in the local newspaper prior to its completion:

> At present there is simply a square base, surmounted by an ornamental ball of marble, surrounded by masonry protected by Roman cement and an iron fence of simple but appropriate design. Lying outside the fence is a square white marble obelisk about eight feet long on which is the following inscription:
>
> Place of Interview
> —Between—
> Maj. Gen. U. S. Grant, U. S. A.
> —And—
> General Pemberton,
> July 4, 1863
>
> When the obelisk is placed on its base, surmounted by the ornamental ball, it will present a very neat appearance, and will be about fourteen feet high.[46]



FIGURE 29. The Surrender Interview Site Monument, 1865. Source: Vicksburg National Military Park.

Vicksburg National Cemetery was also the setting for Decoration Day celebrations. Decoration Day was one of the first commemorative traditions established to honor the fallen soldiers. The holiday originated in May 1864, in Boalsburg, Pennsylvania, with mourners who had lost family members in the war. A girl placing flowers on the grave of her father shared memories with a woman who was placing flowers on the grave of her fallen son. They brought flowers to the cemetery again the next year, and were joined by other members of the community. The custom spread, with men and women decorating the graves of fallen soldiers throughout the country.[47]

In response to the growing practice, Gen. John A. Logan, commander of the Grand Army of the Republic, issued Order No. 11 on May 5, 1868, designating May 30 as Decoration Day. Logan suggested that individuals mark the occasion by "strewing with flowers or otherwise decorating the graves of comrades who died in defense of their country (during the late rebellion) and whose bodies lie in almost every city, village, and hamlet churchyard in the land . . . ."[48] The term Memorial Day was first used circa 1882, but was not in

45. Meyers, 4.
46. *Vicksburg Daily Herald*, June 15, 1864.
47. Therese T. Sammartino, Multiple Property Documentation Form, "Civil War Era National Cemeteries" (Washington, DC: Department of Veterans Affairs, 1994), E-9.
48. Sammartino, E-10.

common usage until after World War I, as the day evolved to honor the dead from all American wars. Memorial Day became a holiday for federal workers in Washington, DC, in 1888.[49] The passage of the Uniform Monday Holiday Act in 1968 changed the observance of Memorial Day from May 30 to the last Monday in May.[50]

Many national cemeteries, including Vicksburg, eventually featured rostrums for the purpose of holding memorial ceremonies such as those associated with Decoration Day.[51]

Decoration Day events were held at Vicksburg National Cemetery that included African-American veterans. In 1887, 1,500 African American veterans and others from miles around marched to Vicksburg National Cemetery in a large procession to mark Decoration Day. By the 1910s, more than 10,000 African Americans attended Memorial Day functions at the cemetery. Typically, ceremonies included a reading of the Gettysburg Address.[52]

Establishment of the National Cemetery

Refer to Figure 52, Period Plan 1867–1899.

National Cemeteries in the 1860s and 1870s

The federal government began to address the need to bury Union soldiers and sailors involved in Civil War conflicts in 1861. The large number of soldiers who died during the Civil War overwhelmed the Army's traditional system for managing soldier burials. Until the Civil War, soldiers were typically buried at the site of death, at a military post cemetery, or in a private cemetery selected by the soldier's family. With the initial battles of the Civil War conflict, the US Army continued its traditional practices for soldier burials, which offered two options: burial near the place of death, such as in a military post cemetery, or transport to a private cemetery selected by the soldier's family. Army practices associated with post burial grounds generally included marking graves with a headstone fashioned of hard wood and bearing a suitable inscription, keeping cemetery registers with a fairly uniform system of recording burials, and assigning grave numbers in plots with name lists corresponding to those inscribed on headboards. However, given the circumstances of the Civil War, Congress determined that those who were fighting to preserve the Union deserved special burial spaces to honor their sacrifice. Thus, national cemeteries were created as the final resting places for Union soldiers who died during the Civil War.[53]

The first actions that guided the development of national cemeteries to honor Union soldiers occurred on September 11, 1861, when the War Department issued two General Orders that made the Quartermaster General responsible for burials, ordered that a register of all burials be kept, and required that a marker be placed at the head of each grave. The first markers were wood headboards with information recorded in paint or chalk.

49. Jacob R. Straus, "Federal Holidays: Evolution and Current Practices," Congressional Research Service, CRS Report for Congress, May 9, 2014, https://fas.org/sgp/crs/misc/R41990.pdf, accessed April 2019.
50. P.L. 90-363.
51. Sammartino, E-10.
52. Christopher Waldrep, *Vicksburg's Long Shadow: The Civil War Legacy of Race and Remembrance* (Lanham, Maryland: Rowman & Littlefield Publishers, Inc., 2005), 82, citing *Vicksburg Evening Post*, May 31, 1887, and October 16, 1917.
53. This background discussion on the evolution of the national cemeteries is based upon the "History and Development of the National Cemetery Administration," on the Department of Veterans Affairs National Cemetery Administration website. http://www.cem.va.gov/cem/docs/factsheets/history.pdf, accessed August 2015.

Although the provisions of the new burial policy addressed some of the needs of the Army and its officers, it remained flawed in one important aspect: no legislation was passed that allowed for the acquisition of burial lands. In Washington, D.C., which became the base and training area of the Army of the Potomac, the Board of Governors of the Soldiers' Home agreed to permit usage of a portion of the land originally assigned to its jurisdiction in 1851 as a cemetery to accommodate Union soldiers. The cemetery was opened on August 1, 1861.[54]

The first step in establishing a national cemetery system was passage of General Orders No. 33 on April 3, 1862, in which the War Department attempted, in Section 11, to include all zones of active hostilities in the new burial program. Additional legislation followed on July 17, 1862, by way of the thirty-seventh Congress and signed into law by President Abraham Lincoln. Section 18 of the Act provided: "That the President of the United States shall have power, whenever in his opinion it shall be expedient, to purchase cemetery grounds and cause them to be securely enclosed, to be used as a national cemetery for the soldiers who shall die in the service of the country."[55] The resulting national cemeteries were designed "for the soldiers who shall die in the service of the country." In addition to those who died during battles or of injuries received in combat, thousands of soldiers died in prison camps in both the North and the South due to exposure, overcrowding, lack of medical facilities, lack of food and shelter, and disease. These individuals were also afforded the right to be buried in the new national cemeteries. The significance and magnitude of this new program was not fully understood at the time of the bill's passage, either by the government or the people of the United States. Because the sites of great battles became the logical location for many national cemeteries, the physical relationship between the burial grounds and the sites of dramatic events in the military history of the nation invested the new cemetery system with a memorial aspect that was neither foreseen nor intended in the Act of 1862.[56]

The concerns raised by the public that the remains of Union soldiers were not properly accounted or cared for led to the designation of fourteen national cemeteries by the end of 1862. Additional battlefield sites, such as Gettysburg, became the location for new national cemeteries throughout the remainder of the war; others were added to the system after the war.

Immediately upon General Lee's surrender in 1865, the Quartermaster Department began the Federal Reburial Program to locate and identify the remains of all Union soldiers that had been buried after a battle or other military event on the battlefield. Over a period of several years, army staff and individuals hired for the job searched battlefields, hospital and prison sites, and other scenes of Civil War military action. The Reburial Program was limited in its success due to the chaotic nature of the war and the number of years that had elapsed since the battles had occurred. During the war, burials were hasty, often with little or no marking of gravesites, and death and burial records were not always well maintained. Government-issued identification tags did not exist during the Civil War, and makeshift identification marks fashioned by the soldiers themselves often did not survive. As a result of these challenges, many bodies were never located.

As the Reburial Program proceeded in 1866 and difficulties in identifying remains became clear, a Joint Resolution of Congress required the Secretary of War "to take immediate measures to preserve from desecration the graves of soldiers of the United States who fell in battle or died of disease in hospitals, to secure suitable burial places in which they may be properly interred, and to have the graves enclosed so that the resting places of the honored dead may be kept sacred forever." This resolution was followed by the first National Cemetery Act of February 22, 1867. This substantive legislation provided funds and specific

54. Sammartino, E-4 – E-5.
55. Ibid., E-5.
56. Ibid.

guidance for the creation of national cemeteries, including construction of features such as superintendent lodges, perimeter walls, and headstones. It also funded purchases of land to serve as national cemeteries and provided for salaried cemetery superintendents. The Reburial Program ended in 1870, after the re-interment of 299,696 Union soldiers in seventy-three national cemeteries. Only about 58 percent of the remains could be identified.

During the 1870s, the original cemetery legislation was amended to allow veterans of the Civil War to be buried in the national cemeteries. This expanded role led to the establishment of forty-seven new national cemeteries that were not sited based on Civil War battle locations. In addition, veterans who died while in residence at homes established by the federal government (Asylums for Disabled Volunteer Soldiers, later National Homes for Disabled Volunteer Soldiers) were buried in cemeteries developed on site that were later designated as national cemeteries. It was also during the 1870s that improvements were made to the cemeteries. Carefully designed landscape and built features were added to make the cemeteries peaceful settings for remembrance. One of the first important changes was the replacement of original wood headboards with permanent and more durable marble headstones beginning in 1877. Permanent superintendent offices and quarters, known as "lodges," were also built. Temporary lodges had been built before 1870 but were typically simple one-story wood structures with two to three rooms. These were replaced by larger masonry lodges designed under the supervision of Quartermaster Gen. Montgomery C. Meigs.

In 1870, General Meigs consulted with noted landscape architect Frederick Law Olmsted regarding the appearance of national cemeteries. Olmsted suggested that they be "studiously simple . . . the main object should be to establish permanent dignity and tranquility . . . a sacred grove—sacredness being expressed in the enclosing wall and in the perfect tranquility of the trees within."[57] As a result of Olmsted's recommendations, trees and shrubs were used to embellish the sacred grounds of national cemeteries. Although not specifically suggested by Olmsted, flowerbeds were also planted in the cemeteries. Greenhouses were constructed at some cemeteries to supply ornamental plantings. Wood rail perimeter fences were replaced by masonry walls, and plaques and monuments were erected to honor the dead. [58]

Vicksburg National Cemetery

On April 12, 1866, Vicksburg National Cemetery was authorized by Gen. Montgomery Meigs; land for the cemetery was acquired on August 27, 1866.[59] As lands associated with the siege were put back into cultivation, bodies of soldiers were discovered; bodies were also disinterred by erosion of the riverbanks. Concerns expressed by Col. James F. Rushing, who inspected the battlefield in February 1866, as well as by others

57. "Timeline: Civil War and National Cemeteries (1870)." National Cemetery Administration, U.S. Department of Veterans Affairs. Accessed September 2018. http://www.cem.va.gov/cem/history/timeline/timeline-1870.asp, citing Frederick Law Olmsted letter to General Meigs, August 2 1870.
58. During the Spanish-American War in 1898 and the Philippine Insurrection of 1900–1901, the bodies of military personnel who were killed abroad were generally shipped home to the United States for burial. National cemeteries were also established overseas near battlefields of the First and Second World Wars, for those who died in service during those conflicts. When historic military sites were transferred from the War Department to National Park Service administration in the 1930s, the agency acquired a number of national cemetery sites. The National Park Service continues to maintain fourteen national cemeteries. In 1973, most of the cemeteries still managed by the Army were transferred to the jurisdiction of the Veterans Administration (now the Department of Veterans Affairs).
59. National Park Service, Statement for Management: Vicksburg National Military Park (1990), 4.

helped hasten establishment of the cemetery.[60] Covering 40 acres, the cemetery at Vicksburg was constructed on land occupied by Union forces during the siege.

Interments at Vicksburg National Cemetery began in January 1867. Initially, 260 laborers were employed to work at the site. This labor force was made up of one commissioned officer, Captain Scully, and three superintendents, two clerks, four white foreman, seventy white laborers, 170 African American laborers, and ten African American teamsters.[61] The majority of these workers performed landscaping work, while only a small number participated in interments. By June 1867, the laborers were interring sixteen bodies per day. Throughout 1867, carriage roads were laid out following the curves of the banks and ridges in the cemetery. Terraces, 5 to 8 feet in height, and 50 to 100 feet wide, with sloped banks between them, were also constructed throughout the cemetery site at a cost of over $40,000 (Figure 30).

Confederate dead from the siege of Vicksburg were buried behind Confederate lines, mostly in the Vicksburg City Cemetery (Cedar Hill Cemetery), in an area referred to as "Soldiers' Rest." Approximately 5,000 Confederate soldiers are believed to be buried there; of these, only 1,600 could be identified.



FIGURE 30. Terraces at the national cemetery. Source: Mississippi Department of Archives and History.

From the initial period of cemetery development in 1867, the loess soil conditions posed a challenge. Capt. James W. Scully, the commissioned officer in charge of labor at Vicksburg National Cemetery, stated in a June 1867 letter that ". . . the composition of the soil is such that it is washed very easily by heavy rains."[62] As a result of the poor soil conditions, the coffins of several early interments were washed out by rain. (Problems included earth slides in the southwest corner of the cemetery, which has continued to be problem through the present day.)

In 1867, Capt. Charles W. Folsom raised concerns about the artificial channel that was constructed to redirect water from Dry Bayou to the south to provide more developable burial land within the cemetery. The bayou, which had formerly followed a meandering channel, was realigned and partially filled, leaving the ground along both sides of the ditch disposed to cave-ins. To address the problem, Folsom proposed laying a plank culvert that would extend for approximately 500 feet, with a 200 foot section along the north side where a stone retaining wall would be necessary. An additional 125 foot section would be an open waterway lined with stone. Beyond these structural changes, the original banks of the bayou would be left intact as the bayou had already cut a channel to solid rock, 25 feet below the surface.[63] Dry Bayou was eventually filled in completely, most likely during the 1930s and early 1940s when CCC labor was available to work on erosion control projects at Vicksburg.[64]

A flagstaff was erected in a location south of the superintendent's lodge constructed in 1868. The location of the flagstaff was chosen in 1867 because it was near the rear entrance and at one of the highest elevations in the cemetery and was clearly visible from the park loop road and from various vantage points within the cemetery.

60. Meyers, 1–6.
61. Ibid., 22.
62. Ibid, 23; citing letter, Scully to Folsom, June 17, 1867.
63. Ibid., 25–26.
64. Capt. Charles Folsom, "Report of Inspection." June 1867.

Discussions arose about abandoning the cemetery in favor of a site south of the city. This idea gained support as the costs to correct the poor conditions at the original site quickly mounted. Capt. Charles Folsom, who inspected the cemetery in June 1867, stated in his "Report of Inspection" that

> . . . whether the party or parties who purchased [the cemetery] also had in view to purchase a tract which would require as much work as possible to make it fit for its intended purpose, I have no means of ascertaining. They certainly could not have selected a tract around Vicksburg better adapted to that end.[65]

Despite the problems at the site, it was decided that the cemetery would not be moved to a new location largely due to the large amount of money that had already been spent on improvements at the original site.

Development of the National Cemetery, 1868–1899

By August 1868, a total of 15,595 interments, at least 12,000 of which were unknown, had been made at Vicksburg National Cemetery. These early interments were made in sections A, B, C, D, E, F, G, H, M, and O. Contemporary reports indicated that although no attempt was made to separate the burials of the known from the unknown, interments in the cemetery were segregated according to race. An 1867 progress report on work at the cemetery noted: "Whereas the reinterments of the first white soldiers were displaced through sections A, B, C, D, E, F, G, H, and O, all of the initial reinterments of 543 Negro soldiers were in section M."[66]

After it was found to have been defaced and damaged by visitors removing pieces of stone from the shaft as a souvenir, the Grant-Pemberton Surrender Interview Monument was moved from its original location, first to the Vicksburg Railroad Depot in 1867, and then to the top of the Indian Mound in the national cemetery in 1868 (Figure 31 and Figure 32).[67]



FIGURE 31. The Grant-Pemberton Surrender Interview Monument at the top of the Indian Mound. Source: Mississippi Department of Archives and History.

65. Ibid.
66. Meyers, 36, citing "Information relative to the progress of work at the Vicksburg National Cemetery, with sundry abstracts relative to its completion," June 1867.
67. The Grant-Pemberton Surrender Interview Monument was moved circa 1970 to the area now occupied by the visitor center.



FIGURE 32. The Indian Mound. Note the Grant-Pemberton Surrender Interview Monument in the background. Source: Mississippi Department of Archives and History.

In 1868, Alexander Henry was appointed as the first permanent superintendent of Vicksburg National Cemetery. Shortly after Henry reported for duty in September, construction began on a lodge for the new superintendent and his family. The three-room brick structure was completed in December 1868. Similar to the superintendent's lodges in other national cemeteries, the residence was a one story structure with corbeled brickwork and a gabled roof with bracketed overhanging eaves (Figure 33).

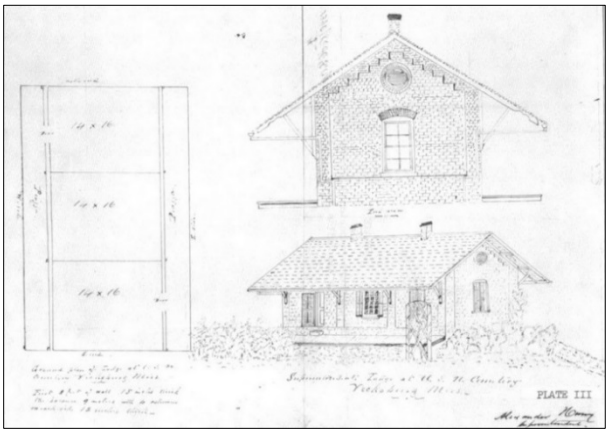


FIGURE 33. Schematic drawing for the first superintendent's lodge. Source: Vicksburg National Military Park.

Despite numerous attempts to address site problems, the land at the cemetery was still prone to slides caused by rain. In 1869, James Gall, a civil engineer, reported to Vicksburg National Cemetery to create a plan for the prevention of bank failure at the site. Gall concluded that, while the terraces had been built correctly, they lacked proper drainage. Gall recommended that a drainage system be installed consisting of drain tiles laid 4 feet below the graves and 20 to 30 feet apart. The system would direct water to nearby Mint Spring Bayou. In addition to the drain tiles, a surface drainage system, consisting of shallow sod gutters, was recommended. Construction of the new drainage systems was initiated in 1869 and took more than four years to complete.

In March 1873, plans were made to construct a cemetery office at Vicksburg National Cemetery. Prior to this, a room in the superintendent's lodge was used as the office. The one-story brick office was completed in November 1873 on the north side of the entrance, opposite the lodge.

The decision was made in early 1873 to construct a brick wall around the cemetery. The wall and four iron gates were completed in December 1874. Three carriage gates were located at the northeast, southeast, and southwest corners of the cemetery; a pedestrian gate was also located at the southeast corner. The carriage gate at the original rear entrance at the northeast corner of the cemetery had an adjacent pedestrian gate (Figure 34).

In 1875, marble headstones were installed at the graves to replace the original wooden headboards that suffered from severe water damage. Also in 1875, ten upright cannon emplacements, also called gun monuments, were placed throughout the cemetery. Two were located west of the rostrum and one was located north of the Indian Mound. Three of the gun monuments remain, including one in Section O, another at the fork in the road directly north of Section V, and the third, which has since been converted to a fountain, near the southwest corner of the cemetery. In 1878, an iron tablet inscribed with the Gettysburg Address was erected within the cemetery along the cemetery road east of Section V.



FIGURE 34. The original rear gates near the northeast corner of the cemetery, now used as the primary entrance to the site. Source: Vicksburg National Military Park.

A significant change to the postwar landscape occurred in 1876, when a flood diverted the Mississippi River from its channel. Formerly, the river had curved in a sharp bend at the northern edge of the city. After the change, the new river course cut off the northern portion of De Soto Point and met the bluffs south of the city. As a result, Vicksburg no longer overlooked the main channel of the river. A diversionary canal was built in the early 1900s from the Yazoo River to water the former channel of the Mississippi River in order to reestablish Vicksburg as a port.[68]

By the end of 1879, construction of a brick rostrum adjacent to the flagstaff was completed (Figure 35). The rostrum, similar to those in other national cemeteries, was an open brick structure covered by a wood pergola and accessed by two sets of stairs. The platform of the rostrum served as a setting for speeches and memorial events.



FIGURE 35. The rostrum, 1906. Source: Vicksburg National Military Park.

Also during that year, a new entrance arch and roadway were constructed near the southwest corner of the cemetery (Figure 36). The entrance arch, built at a cost of $7,000, was 36 feet 6 inches tall with a 20-foot-tall opening. The arch was constructed of rusticated limestone with a pair of Doric columns flanking the portal on each side. The entablature is inscribed, "Here Rest In Peace 16,600 Citizens Who Died for Their Country in the Years 1861–1865."



FIGURE 36. The entrance gate. Source: Vicksburg National Military Park.

In 1880 the original flagstaff was struck by lightning and destroyed. A new one, ordered by Quartermaster Gen. Montgomery C. Meigs from St. Louis, Missouri, was to have an ornamental iron socket.

68. Risk, "Part One: Site History." The abandoned oxbow bend was named Lake Centennial.

On April 12, 1880, former President Ulysses S. Grant returned to Vicksburg, nearly seventeen years after he captured the city for the Union forces. Grant was greeted at the national cemetery by thousands of people who had gathered to honor him.

In 1882, iron tablets with "Bivouac of the Dead" stanzas, cemetery rules and regulations, and text of the "Act to Establish National Cemetery," were erected along the north side of the carriage road in Section M.

In early 1882, plans were made to construct two new outbuildings at the cemetery. These brick structures, one a stable and the other a shed, were constructed on the west end of the cemetery near the new entrance gate. A brick gardener's cottage, with two rooms on the lower level and one large room on the upper level, was also constructed at this time adjacent to the new outbuildings (Figure 37). (As constructed, the building was a two-room cottage. The second level was expanded sometime after construction.) All of the new structures were completed by April 1883.



FIGURE 37. The gardener's cottage. Source: Vicksburg National Military Park.

As noted in a report from a routine inspection in 1888, a new fountain had been constructed near the main entrance to the cemetery (Figure 38). The fountain was constructed using a 10-inch Columbiad gun placed at the site in 1875. The gun was set in a concrete basin, and a jet of water sprayed through the gun's muzzle. The fountain was fed with water by gravity from Mint Spring Bayou. A catch basin for the fountain piping system was constructed in the middle of Mint Spring Bayou, east of the bridge at Connecting Avenue. It formed the centerpiece for a burial area known as the officer's circle.



FIGURE 38. The officers' circle and fountain, 1906. Source: Library of Congress.

In 1889, work began on a new greenhouse as well as a new kitchen. The greenhouse was constructed east of the main entrance to the cemetery, while the kitchen was constructed near the superintendent's lodge.

Ornamental plants were introduced in the late 1800s and early 1900s, and planted on the terraces among the grave markers. Mound O was surrounded by a clipped privet hedge and further enhanced by multiple rose beds (Figure 39 and Figure 40).



FIGURE 39. The Indian Mound. Source: Vicksburg National Military Park.



FIGURE 40. Memorial Day, circa 1905. Source: Vicksburg National Military Park.

Establishment of Vicksburg National Military Park, 1899

In the North, several veterans' organizations formed in the wake of the national cemetery movement. The largest and most influential of these was the Grand Army of the Republic (GAR), founded in Springfield, Illinois, in 1866.[69] From 25,000 members in 1877, the organization grew to 409,000 members by 1890 and offered benefits including funeral services for members and admission to old soldiers' homes run by the organization.[70] Numerous other veterans' groups, consisting of Union and Confederate veterans, also appeared in the decades following the war. In the South, these included the Southern Historical Society, founded in 1869 by veterans including Gen. Braxton Bragg; the Association of the Army of Northern Virginia (AANV), founded in 1870; and the Association of the Army of Tennessee, founded in 1871. In addition to groups formed by veterans, the United Daughters of the Confederacy (UDC) was formed by several local women's groups in September 1894.

African American veterans living in and around Vicksburg also formed veterans' groups at this time. In 1889, a Vicksburg chapter of the Grand Army of the Republic was formed. Within a year, an African American chapter was also established in Vicksburg, despite attempts by the Mississippi Grand Army of the Republic to prevent establishment of African American chapters.[71]

Early battlefield preservation efforts were led by private citizen groups and veterans' associations. The GAR was involved in the preservation of the Gettysburg battlefield as a memorial to the men who fought in the battle, and also in preserving the siege and battle landscape of Vicksburg.[72] The Societies of the Army of the Cumberland and the Army of the Tennessee also urged the creation of parks, the former to preserve the battlefields of Chickamauga and Chattanooga and the latter to preserve the battlefield of Shiloh.

Relations between the north and south were volatile in the decades following the Civil War. During this time, commemoration of the war was often led by Union veterans and their supporters, such as at Gettysburg, with the Confederate veterans and their supporters barely involved in commemoration efforts. Tensions, began to ease in the 1880s, however, as Blue-Gray reunions were held.[73]

Although early efforts to preserve battlefields were undertaken by private groups, by the 1890s the federal government began to take the lead in battlefield preservation. At this time, much of the United States Congress was composed of Civil War veterans, which helped further spur preservation of battlefields.

69. The GAR would become involved with commemoration at Vicksburg after organization of the Vicksburg National Military Park Association in 1895.
70. Wallace E. Davies, *Patriotism on Parade: the Story of Veterans' and Hereditary Organizations in America, 1783 –1900* (Cambridge, Massachusetts: Harvard University Press, 1955), 31–35.
71. Waldrep, 79–82.
72. Ibid.
73. Timothy B. Smith, *Altogether Fitting and Proper: Civil War Battlefield Preservation in History, Memory, and Policy, 1861–2015* (Knoxville, Tennessee: University of Tennessee Press, 2017), 33–35.

Given the national significance of the battlefield, Congress established a national military park at Chickamauga and Chattanooga on August 18, 1890. The new national military park at Chickamauga and Chattanooga was intended to bear witness to the actions and bravery of both the North and South, and to interpret the tactical aspects of the battles. . Congress later passed legislation that created Antietam National Battlefield in 1890, Shiloh National Military Park in 1894, and Gettysburg National Military Park in 1895.[74] Commemoration of the battlefields at the national military parks established during this time focused on memorializing the bravery of soldiers on both sides while also detailing military movements, rather than emphasizing the causes of the war, such as slavery.[75]

The battlefields chosen for preservation by the federal government were not selected at random, but instead:

> . . . constituted, almost from the beginning, a national battlefield park system. As the Army War College pointed out later, these national parks were designed by Congress, both to preserve the major battlefields for historical and professional study and also to serve as lasting memorials to the great armies of the war on both sides.[76]

In May 1890, a week-long reunion of Union and Confederate troops occurred at Vicksburg, with a parade, fireworks, concerts, and visits to various battlefield sites and the national cemetery. The veterans also attended the decoration of Confederate graves in the city cemetery at Cedar Hill.

In 1895, the Vicksburg National Military Park Association was formed to promote congressional designation of a park at Vicksburg. Initial association members included Capt. John F. Merry, Lt. Gen. Stephen D. Lee, Maj. L. C. Davidson, Capt. William T. Rigby, all veterans of the Vicksburg campaign, as well as and Col. Charles C. Flowerree.[77] On February 21, 1899, President William McKinley signed into law an act to establish a national military park to commemorate the campaign, siege, and defense of Vicksburg. The enabling legislation for a national military park at Vicksburg states that the park was established ". . . in order to commemorate the campaign and siege and defense of Vicksburg, and to preserve the history of the battles and operations of the siege and defense on the ground where they were fought and were carried on, the battlefield of Vicksburg . . . ."[78] (Refer to Appendix D for the text of the enabling legislation.)

The enabling legislation called for the restoration and marking of the battlefield. The legislation also gave authority to any state that had troops engaged in the campaign, siege, or defense of the city of Vicksburg from March 29 to July 4, 1863, to erect monuments and markers in memory of its soldiers. The legislation further specified that the Secretary of War must approve the location, design, and inscription of all memorials placed upon the battlefield. The Secretary of War was authorized to acquire title to land through purchase or leasing, and to detail an officer of the Engineer Corps of the army to assist the commissioners in establishing the park.

Further, the act established a commission of three members, to be appointed by the Secretary of War, each of whom had served at the time of the siege and defense. Two of the commissioners were to have served in the Union army and one in the

74. Sean M. Styles, *Stones River National Battlefield Historic Resource Study* (Atlanta, Georgia: Cultural Resources Division, Southeast Regional Office, National Park Service, 2004), 62, citing John C. Paige and Jerome A. Greene, *Administrative History of Chickamauga and Chattanooga National Military Park* (Denver: National Park Service, Denver Service Center, 1983), 9–10.
75. Ibid., 35.
76. Ronald F. Lee, *The Origin & Evolution of the National Military Park Idea* (Washington, D.C.: National Park Service, 1973), 16.
77. Risk, "Part One: Site History."
78. An Act to establish a national military park to commemorate the campaign, siege, and defense of Vicksburg, approved February 21, 1899 (30 Stat. 841).79. Ibid.

Confederate army. The commissioners were to elect a chairman as well as a secretary/historian, to have offices in Vicksburg or within the park. The duties of the commissioners were

> . . . to restore the forts and the lines of fortification, the parallels and the approaches of the two armies . . . to open and construct and to repair such roads as may be necessary to said purposes, and to ascertain and mark . . . the lines of battle of the troops engaged in the assaults, and the lines held by the troops during the siege and defense of Vicksburg . . . and other historical points of interest pertaining to the siege and defense of Vicksburg within the park or its vicinity. . . . [79]

The 1,200-acre park as established in 1899 encompassed the entire area of the siege and defense lines around the city and included the headquarters site of Union commander Maj. Gen. Ulysses S. Grant. Private property owners within the area to be incorporated into the park were offered life leases and required to:

> . . . cultivate their present holdings upon condition that they will preserve the present buildings and roads and the present outlines of field and forest, and they will only cut trees or underbrush under such regulations as the Secretary of War may prescribe, and they will assist in caring for and protecting all tablets, monuments, or such other artificial works. . . .[80]

In 1899, the Secretary of War appointed the commission required by the act; the commission included two Union and one Confederate veteran: Lt. Gen. Stephen D. Lee of Columbus, Mississippi, Capt. William T. Rigby of Mt. Vernon, Iowa, and James G. Everest of Chicago, Illinois. The group chose Lee as the chair of the commission. In the commission's first annual report, prepared in September 1899, the cost for continuing work at the park was estimated:

> . . . for the compensation of three civilian Commissioners, the Secretary, assistant Secretary and assistant to the Commissioner; for clerical and other services, labor, iron gun carriages, monuments, markers and historical tablets, maps and surveys, roads, bridges, restoration of earthworks, purchase and transportation of supplies and materials . . . , Two Hundred and Fifty Thousand Dollars. . . .[81]

An army engineer was appointed to prepare a topographical survey of the park property. The survey work began at South Fort in June 1899. Existing local roadways such as Graveyard Road and Old Jackson Road were considered for inclusion in the tour routes to the extent possible. Two new roadways, Union Avenue and Confederate Avenue, were defined, generally following the battle lines during the siege. Re-grading was required to create level roadbeds for these two new routes, and new bridges were built to carry these roadways over the ravines and bayous of the park. With input from veterans, markers and tablets were placed along the battle lines indicating the location of various regiments. A 1903 park plan shows the proposed routes for the avenues, as well as the proposed locations of state monuments.

One of the few Civil War-era structures to survive in the park was the Shirley House (refer to Figure 28). During the siege of Vicksburg, the Shirley House (known as the "White House") was used as headquarters for the 45th Illinois Infantry. The house served as a smallpox hospital for the Union army during 1864, and fell into disrepair after the Civil War. Alice Shirley Eaton sold the house to the US government in May 1900, on the condition that her parents would be buried in the back yard and that the home would be fully restored. In 1902, restoration work was initiated at the Shirley House. The house later served as a visitor center and residence for park employees, the last of whom left the house in the mid-1960s.

79. Ibid.
80. Ibid.
81. Risk, "Part One: Site History," citing Vicksburg National Military Park Commission, first annual report (September 1899).

By 1903, the tour roads and bridges were constructed.[82] Also in the early 1900s, three concrete observation towers were built to provide views over the battlefield. The towers were located at Logan Circle, just southeast of the intersection of Union Avenue and Old Jackson Road; on a high mound along Confederate Avenue to the east of Fort Hill; and near the southern end of the Confederate Avenue extension.

Beginning in 1903, monuments were constructed by states from which troops had served in the battle and siege of Vicksburg. These included Massachusetts (1903); New Hampshire (1904); Ohio (1905); Pennsylvania, Iowa, and Illinois (1906); Minnesota and Virginia (1907); Rhode Island (1908); Mississippi (1909–1912); Wisconsin (1911); Maryland (1914); Michigan (1916); Missouri and New York (1917); Louisiana (1920); West Virginia (1922); North Carolina (1925); Indiana (1926); and South Carolina (1935). In addition, a monument to the Union Navy was constructed in 1911. Many of these early state monuments had vertical proportions, enabling visitors to see the location marked from a great distance.

Continued Development of the National Cemetery, 1900–1933

Refer to Figure 53, Period Plan 1900–1935.

The development of Vicksburg National Military Park brought changes to the national cemetery. The current flagstaff was installed in 1906. In November of the same year, two bronze tablets marking the location of the sharpshooter lines of the 25th and 31st Iowa Regiments were placed along the roadway in the cemetery at the request of William Rigby of the Vicksburg National Military Park Commission, who cited the last section of "An Act to establish a National Military Park at Vicksburg, Mississippi" as the rationale:

> The provisions of this Section shall also apply to organizations and persons; and as Vicksburg National Cemetery is on ground partly occupied by Federal lines during the siege of Vicksburg, the provisions of this Section, as far as may be practicable, shall apply to monuments or tablets designating such lines within the limits of that Cemetery.[83]

In 1907, several small construction projects were completed in the cemetery. A new roof was installed on the superintendent's lodge, while a gallery was constructed connecting the lodge and the adjacent outkitchen. In the same year, the last greenhouse on site was demolished.

By 1911, limited burial space remained in the national cemetery. As a result, a new section with room for 128 graves was laid out in the northwest corner of the cemetery.

In March 1924, 59 feet of the perimeter brick wall located in the northwest corner of the cemetery collapsed. The collapsed section was rebuilt in May.

By October 1924, the vegetation in the cemetery had become infested with Argentine ants, which threatened to kill the flowers, shrubs, and trees. Despite pleas from Superintendent William Sullivan, the cemetery did not receive the proper pesticides from the Quartermaster Intermediary Depot in Jeffersonville, Indiana, until September 1925. Despite the delay, the ants were eradicated without significant loss of vegetation.

On December 1, 1927, a fire broke out in the center room of the superintendent's lodge. As a result, the superintendent and his family were forced to live in the outkitchen until a new lodge could be constructed. Plans for a new lodge had

82. National Park Service, *Statement for Management*, 7.

83. "An Act to establish a National Military Park at Vicksburg, Mississippi." February 21, 1899. 30. Stat. 841. Stephen D. Lee resigned as chairman of the Commission in 1901 but continued to serve as the Confederate representative until his death in 1908, at which time Rigby was named chairman.

fortuitously been prepared in early 1927, and the fire helped to expedite the construction of a new building. The new lodge was to be similar to the superintendents' lodges constructed at Marietta and Shiloh national cemeteries. The old lodge was torn down in early 1928, and by August 1928 the superintendent and his family had moved into the new lodge (Figure 41). Also in 1928, the cemetery approach road from Washington Street was paved.

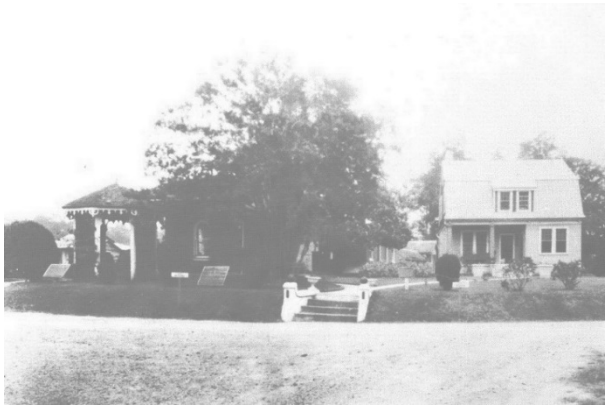


FIGURE 41. The superintendent's lodge. Source: Vicksburg National Military Park.

Shortly after work on the new lodge began, the Mississippi Power and Light Company extended its power lines to the cemetery. As a result, the new superintendent's lodge was the first building in the cemetery to receive electrical service.

In 1931, plans were made to construct a new service building (now the maintenance shops) to replace the sheds and stables constructed in 1882 and 1883. The building was constructed as a combination public toilet, stable, and vehicle building.[84] The upper story likely included a hay loft for mules housed in the barn below. Work on the new brick structure was completed by August 1931, at which time the earlier stables and sheds were demolished. As work was being completed on the new service building, improvements were made on the gardener's cottage. The improvements included the reconstruction of the second floor and front porch. At the same time, the wood pergola on the rostrum was repaired in a manner that would not harm the wisteria growing on the structure.

In July 1931, plans were made to replace the wood arbor at the top of the Indian Mound, which had been constructed in 1876. A new brick rest pavilion was completed in place of the arbor by November 1931 (Figure 42).



FIGURE 42. Mint Spring Bayou Bluff after 1931. Note the brick rest pavilion on the top of the Indian Mound. Source: Vicksburg National Military Park.

Early National Park Service and Civilian Conservation Corps Activities, 1933–1942

Refer to Figure 54, Period Plan 1936–1961.

As one of his primary goals, National Park Service Director Horace Albright sought to have the National Park Service acquire historical parks as well as natural areas, including the historical properties managed by the War Department. In response, President Franklin Roosevelt directed Albright to initiate an executive order for the transfer of the War Department's historical parks and monuments; Roosevelt signed two executive orders on July 10 and July 28, 1933—Executive Orders 6166 and 6228—which became effective on August 10, 1933. The reorganization that resulted from these orders created a single system of federal parks that included historic as well as

84. Meyers, 169.

natural areas.[85] Management of Vicksburg National Cemetery, as well as that of ten other national cemeteries, was transferred from the War Department to the Department of the Interior to be administered by the National Park Service.[86] As part of the transfer, the National Park Service acquired eleven national cemeteries, one of which was later returned to US Army administration.[87] The National Park Service has since acquired four additional national cemeteries, and now manages fourteen national cemeteries, among them Vicksburg National Cemetery.

Much of the development that occurred in national parks during the Great Depression of the 1930s was a result of the funding and labor provided by the programs of President Franklin D. Roosevelt's New Deal. On March 31, 1933, President Roosevelt signed the Federal Unemployment Relief Act, which provided for emergency conservation work on public lands and created the Civilian Conservation Corps (CCC) to provide work for the unemployed. In mid-May 1933, the National Park Service prepared to open sixty-three camps accommodating 12,600 men to work on national parks and monuments.[88] Projects in the national parks involved land reclamation and park development, with $40 million allocated by the Public Works Administration from 1933 to 1937 to fund road and trail construction, campground development, museum construction, and restoration of historic structures.[89]

Four CCC camps were established at Vicksburg.[90] The CCC camp sites are indicated on a topographic survey map of the park prepared in 1935. By this time, the park was experiencing significant problems from erosion of the fine loess soil. Sections of the tour road and several state monuments were in imminent danger of being undermined by the unstable soil.[91] Between 1933 and 1941, the CCC regraded and planted areas within the park to stabilize soil conditions, focusing on areas directly south of the Indian Mound. Other CCC activities included road grading and paving, restoration of monuments (Figure 43), and construction of a bridge. The severity of the erosion and the degree to which CCC work altered the topography of the park are illustrated by photographs taken at the time (Figure 44 through Figure 48).

Typical work included the removal of "undesirable plant growth along park drives, etc., and around commemorative structures," and the "pruning of broken and diseased branches from trees along park driveways and also vista cutting to afford a better view of the historical remains in the park as well as the planting of trees and shrubs for screen and roadside beautification purposes. . . ."[92] Bulldozers were used to reshape eroded hillsides, and concrete-lined diversion gutters were created to improve drainage in the park.

CCC members stationed at Vicksburg were assigned to the cemetery to cut grass and spray evergreen trees to guard against disease. The Federal Relief Administration also provided seventy-five African American women to the cemetery to provide general maintenance, including gathering fallen leaves that would have otherwise clogged the cemetery drains.[93]

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85. Barry Mackintosh, *The National Parks*, third ed., 2000, updated 2004, https://www.nps.gov/parkhistory/online_books/mackintosh1/sts2b.htm, accessed April 2019. See also Executive Order 6166, June 10, 1933, and Executive Order 6228, July 28, 1933, Organization of Executive Agencies (5 U.S.C. SECS. 124-132) https://www.archives.gov/federal-register/codification/executive-order/06166.html.
86. Ibid, 195.
87. Executive Order No. 6166.
88. Linda Flint McClelland, *Building the National Parks* (Baltimore, Maryland: Johns Hopkins University Press, 1998), 336.
89. Arthur M. Schlesinger Jr., *The Coming of the New Deal* (Boston: Houghton Mifflin, 1959), 284–288.
90. Meyers, 184, citing "Superintendent's Annual Report," Fiscal Year 1933, NPS.
91. Risk, "Part One: Site History."
92. Superintendent's Narrative Report, February 6, 1935, sheet 6 of 19.
93. Meyers, 184.



FIGURE 43. Repairs to the Wisconsin State Memorial, November 14, 1934. Source: Vicksburg National Military Park archives, box 22, image 461.1.



FIGURE 44. View looking west, showing erosion approximately 150 yards northeast of the Missouri State Memorial during clearing and construction of anchor dams, October 11, 1934. Source: Vicksburg National Military Park archives, box 22, image D-474.



FIGURE 45. The same view as Figure 44, showing erosion that occurred immediately during and after the clearing work, February 1935. Source: Vicksburg National Military Park archives, box 22, image D-474.1.



FIGURE 46. The same view as Figure 44, showing filling operations, February 1935. Source: Vicksburg National Military Park archives, box 22, image D-474.2.



FIGURE 47. Earth grading operations at the same location as Figure 44 July 18, 1935. Source: Vicksburg National Military Park archives, box 22, image D-474.3.

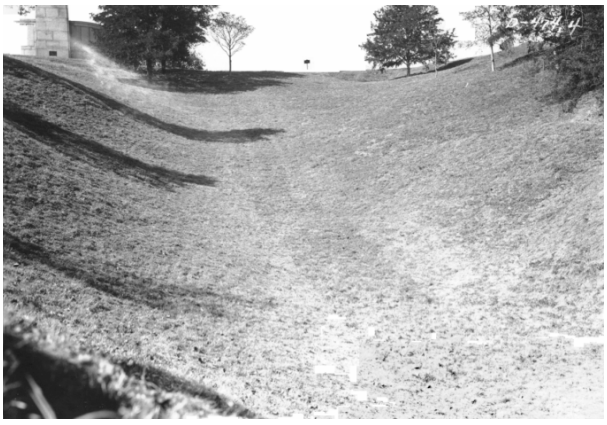


FIGURE 48. The completed filled and regraded slope, November 7, 1935.Source: Vicksburg National Military Park archives, box 22, image D-474.4.

CCC workers planted new trees and contributed to forestation of the park (other than ornamental tree planting at the park perimeter). Records of the War Department in the 1930s note:

> Vicksburg's military park became the focus of CCC efforts. On April 13, Holt wrote his supervisors asking that a camp of fifty or a hundred men be assigned to Vicksburg. Holt expected the men to plant trees; he argued that since the park was "well laced up with highways," the people would "get a close up view of governmental care of this growing forest." [94]

Three portions of the cemetery wall along the south side of the site slid into Mint Spring Bayou after a series of heavy rains in early 1933. As a result, a new drainage system was constructed to prevent any rain-related damage to the area in the future.

After several unsuccessful attempts to expand the cemetery, funding was secured for the extension of Vicksburg National Cemetery by March 1935. Following the collection and examination of deeds and abstracts of title, 80 acres were acquired from more than forty private land owners in late 1939. In the same year, North Washington Street was repaired and realigned. As a result, the existing cemetery wall along the west portion of the cemetery had to be removed and rebuilt farther east.

Work on the reconstruction of the wall began in 1939 and continued until 1942, when the work was halted due to US entry into World War II. Members of the CCC stationed at Vicksburg were responsible for razing and rebuilding portions of the wall. The reconstruction of the wall was not complete when the last CCC camp closed at Vicksburg in March 1942.[95]

In August 1940, the Grant-Pemberton Surrender Interview Monument, which had sat on the top of the Indian Mound since 1868, was returned to its original site at the location of the surrender interview.[96]

World War II, 1941–1945

In the early 1940s, with the advent of World War II, the amount of funding available to the National Park Service was significantly reduced. As a result, A. E. Demaray, Acting Director of the National Park Service, concluded that the rostrums present in several national cemeteries were no longer serviceable and should be removed, as the money to maintain them could be better used for other purposes. The rostrum at Vicksburg National Cemetery was likely demolished at this time.

In 1942, significant changes were made in the rules governing the right of interment in national cemeteries. Under the new regulations, the wife of either an officer or an enlisted man could be buried prior to the death and interment of her husband, assuming the veteran would also be buried in the cemetery. Additionally, the regulations now stated that the only allowable discrimination between the burial of officers and enlisted men was in national cemeteries where separate sections existed for officers and enlisted men and in national cemeteries where separate sections existed for African Americans and whites.[97]

As of October 1943, only fifty-seven grave sites remained available in the cemetery. Additional burial space was opened along the west wall of the

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94. J. B. Holt, "Reforestation for Vicksburg National Military Park," April 13, 1933, file 688, box 78, Records of the War Department Relating to National Parks, Records of the National Park Service, RG 79, National Archives, College Park, Maryland, cited in Christopher Waldrep, *Vicksburg's Long Shadow: The Civil War Legacy of Race and Remembrance* (Lanham, Maryland: Rowman & Littlefield Publishers, Inc., 2005), 263.
95. Meyers, 192, citing "Superintendent's Annual Report," Fiscal Year 1942, NPS.
96. Ibid., 193, citing "Superintendent's Monthly Report," Aug. 1940, NPS.
97. Ibid., 194.

cemetery following the removal of large amounts of brick debris.

Postwar Adjustments and the Closing of the National Cemetery to New Burials, 1946–1956

Randolph Anderson retired as superintendent of Vicksburg National Cemetery in March 1947. The position of cemetery superintendent was not filled and supervision of the cemetery became the responsibility of the superintendent of Vicksburg National Military Park.

Later in 1947, two terraces were prepared along the west wall of the cemetery for burials of World War II soldiers. The first interments of World War II dead would occur in November 1947.[98]

A portion of the 80 acres of land acquired by the cemetery in 1939 was used for the 1947 burials, while the area acquired in 1939 south of the cemetery, outside of the original wall, was still unused as of 1957. There were no plans to expand the cemetery beyond its original boundaries despite the increased demand for burials after World War II and the Korean War. By January 1960, only 100 unreserved grave sites remained within the cemetery, although unused land remained. Jackson E. Price, Assistant Director of the National Park Service, informed the Chief of the Cemetery Branch, Office of Support Services in March 1961, that all unreserved grave space would be in use by May 1, 1961, and stated, "Therefore, we are designating that date for the closing of the cemetery for future burials except for outstanding grave site reservations."[99] The cemetery was closed to future burials in 1961, with the exception of outstanding reservations. At the time of its closing, Vicksburg National Cemetery housed 17,077 Civil War interments, 12,909 of which were unknown. In addition to the Civil War interments, 1,280 graves were occupied by soldiers who had participated in the Spanish American War, World War I, World War II, and the Korean War.

The final closing of the cemetery was the result of an administrative decision by the Park. Although other national cemeteries were to be expanded at the time to provide additional burial space, unused land remained at Vicksburg National Cemetery. The events surrounding closure of the national cemetery and the intent of the then-superintendent are not clearly understood at this time.[100]

Mission 66, 1956–1966

The Mission 66 program was developed to provide funding to revitalize the national parks over a ten year period between 1956 and 1966, designed to coincide with the agency's fiftieth anniversary. During and following World War II, limited funding and deferred maintenance had contributed to deterioration of the parks' infrastructure. At the same time, park visitation had increased as Americans had more income, leisure time, and access to automobiles for transportation.

Conrad L. Wirth, a landscape architect who had overseen National Park Service recreational planning and state park development during the 1930s, was appointed director of the agency in

98. Ibid., 195.
99. Ibid., 198.
100. It is not known whether the impetus for closure of the national cemetery came from the requirement that burials in military cemeteries no longer be segregated by race, an outcome of President Harry S Truman's signing of Executive Order 9981–Desegregating the Military, on July 26, 1948 (https://www.trumanlibrary.org/9981.htm, accessed April 2019). It has also been suggested that closure was justified by the claim that any further burials would appreciably minimize the historical significance of the Civil War interments (Vicksburg National Military Park, telephone conversation with Albert Banton, Supervisory Historian at Vicksburg from September 1958–October 1965 and familiar with the development of the Vicksburg National Military Park and Cemetery, March 12, 1968).

1951. In January 1956, Wirth proposed the Mission 66 program, supporting the concept with a slide show depicting the poor conditions of the parks that he presented to President Dwight D. Eisenhower and his cabinet. Their support resulted in US Congress funding the multimillion-dollar Mission 66 program that resulted in improvements to roads, expansion of park facilities, and repair of existing infrastructure.[101]

The most significant change to Vicksburg National Military Park during the Mission 66 era was a large adjustment to the park boundaries. On June 4, 1963, an act was passed:

> to consolidate Vicksburg National Military Park and to provide for adjustments necessitated by the installation of a park tour road . . . in order to preserve and protect the essential historical features of Vicksburg National Military Park in the State of Mississippi and to enhance visitor enjoyment and safety by means of a park tour road and through the consolidation of park lands.[102]

The act included quitclaim to the city of approximately 154 acres of land, in exchange for which the city agreed to maintain the roads and abutting land in a park-like character. The quitclaim area included land south of Fort Garrott with the exception of Navy Circle, South Fort, and Louisiana Circle. The park remained responsible for maintenance of the monuments located within the quitclaimed property. In exchange for this land, the city agreed to transfer up to 544 acres to the park's authorized boundary. The new land was primarily located along Union and Confederate Avenues in the northern portions of the park.[103]

USS *Cairo* Restoration and Other National Park Service Activities

In 1956, Edwin C. Bearss, Historian at Vicksburg National Military Park, decided to locate the position of the USS *Cairo*, which had been sunk by an electrically detonated mine in 1862, by studying contemporary documents and maps. (The USS *Cairo* and associated parking are located partially on the northern tract of the national cemetery property that includes the maintenance area. Refer to Figure 3.) Using a pocket compass and iron bar probes, Bearss and two companions—Don Jacks and Warren Grabau— located the USS *Cairo*. Three years later, divers were able to confirm the find. By December 1964, the remains of the vessel had been placed on barges and towed to Vicksburg. In the summer of 1965, they were brought to Ingalls Shipyard on the Gulf Coast in Pascagula, Mississippi, for repair and reassembly.[104] In May 1966, the National Park Service was offered title to the gunboat. The gift was contingent upon the agency restoring, reconstructing, and exhibiting the *Cairo*.[105] In 1972, Congress appropriated funding for the restoration of the gunboat and for development of an exhibition.[106] In 1977, the *Cairo* was brought to the park from Pascagoula for restoration. A site overlooking the Yazoo River Diversion Canal and the national cemetery was chosen for the permanent exhibition of the gunboat. Construction of the USS *Cairo* Museum, which is partially embedded in the side of a hill within the boundaries of the national cemetery, was completed in 1980. The restored gunboat opened to the public in 1985.[107]

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101. Conrad L. Wirth, *Parks, Politics, and the People* (Norman, Oklahoma: University of Oklahoma Press, 1980), 111.
102. Public Law 88-37, June 4, 1963, 77 Stat. 55–56.
103. Ibid. Of the authorized 544-acre limit, the park could still acquire up to 118 acres beyond the present-day property line.
104. National Park Service, "USS *Cairo* Gunboat and Museum," <www.nps.gov/archive/vick/cairo/cairo.htm>, accessed September 17, 2007.
105. National Park Service, *Final General Management Plan: Vicksburg National Military Park and National Cemetery* (Denver, Colorado: National Park Service, Denver Service Center, July 1980), 10–11.
106. Public Law 92-483, October 12, 1972, 86 Stat. 796.
107. National Park Service, Statement for Management, 3–5.

In 1976–1977, the roadway in the Vicksburg National Cemetery was stabilized, including re-grading and installation of curbs and gutters at the hairpin turn near its south end (Figure 49).[108]

Also in the 1970s, a memorial stone in honor of Colonel Lunsford, was places near the former rostrum.

In 1991, a granite monument with a bronze plaque honoring Union Prisoners of War was placed near the site of the former rostrum. During the 1990s, two additional memorial stones were placed nearby, adjacent to the stone honoring Colonel Lunsford.

In August 2010, two unmarked graves were discovered by cemetery workers preparing a grave for a World War II veteran. The park sought public input in attempting to identify the graves; to date, identification has not been made. The veteran for whom the new grave was being prepared was interred elsewhere in the cemetery.

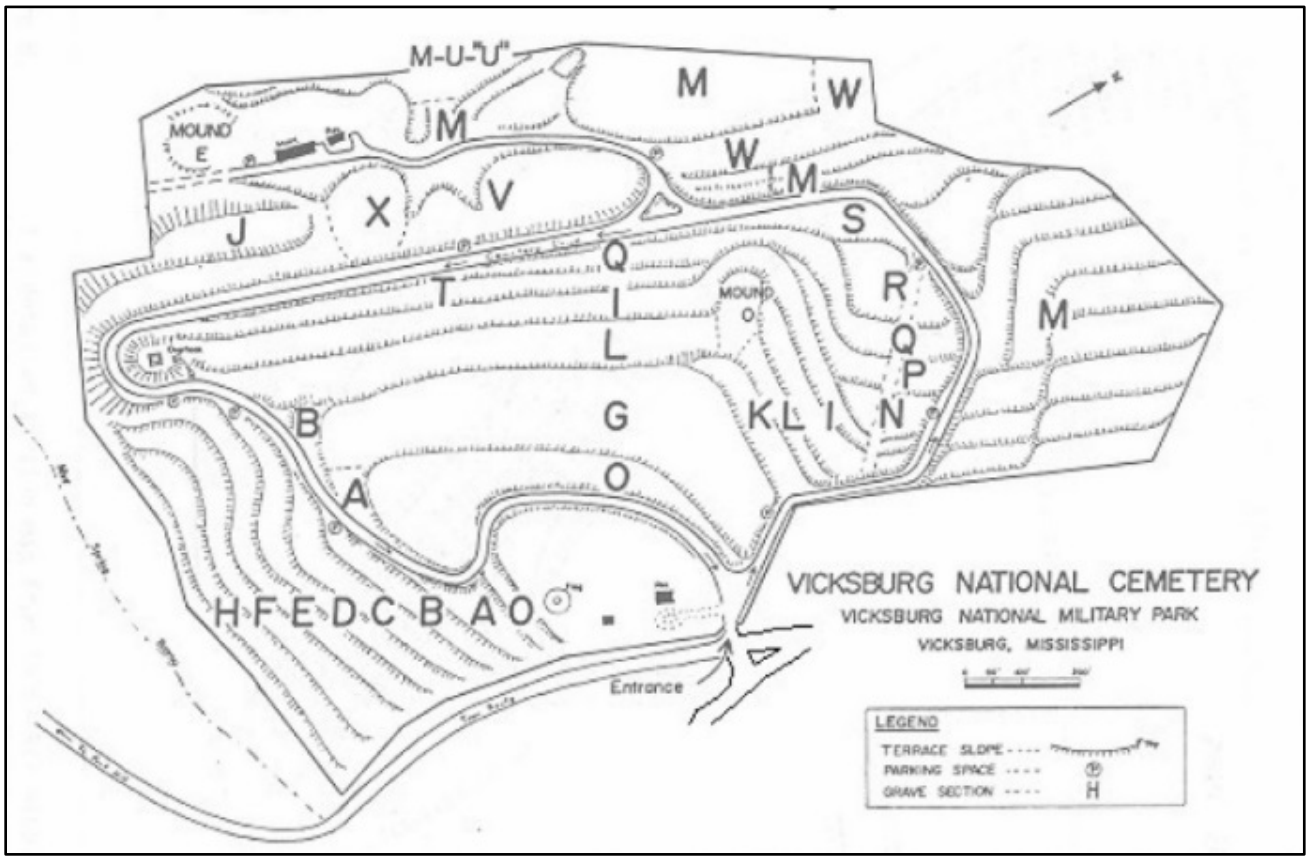


FIGURE 49. Cemetery map with terraces and burial sections (1976). Source: National Park Service.

108. National Park Service, Denver Service Center, "Road Bank Stabilization, National Cemetery." As-constructed drawings, February 1978, 3 sheets.

In 2010–2011, the bluff south of the tour road above Mint Spring Bayou was stabilized (Figure 50). The stabilization was necessary after heavy rains over many years eroded the bluff and threatened the cemetery road. This project was funded through the American Recovery and Reinvestment Act (ARRA) in an attempt to mitigate the severe erosion problem on the bluff above Mint Spring Bayou. The bluff and adjacent terrace were stabilized and reinforced through installation of two soil nail walls with shotcrete facing. In conjunction with the stabilization work, a chain link fence was erected at the top of the bluff for safety purposes. At completion of the work, twenty firethorn (*Pyracantha* sp.) shrubs were planted along the top of the bluff.



FIGURE 50. Stabilization work at the bluff above Mint Spring Bayou was completed in 2011. Additional stabilization work is scheduled for completion in 2019. Source: Vicksburg National Military Park, 2011.

However, following the 2010–2011 repairs, the soil at the base of the existing lower nail wall became unstable and migrated south, causing movement of the Mint Spring Bayou bank in response. In order to stabilize the eroding slope adjacent to the Mint Spring Bayou, the National Park Service proposed in 2015 to install a mechanically stabilized earth retaining wall and a stabilized earthen berm. The wall was designed to stabilize the slopes with the use of precast blocks or panels for the wall face, which would be reinforced with layers of geogrids placed within the material used as backfill for the wall. Agencies and the public reviewed the design in May/June of 2016. Construction of the 2015 proposed design is scheduled to be completed in FY 2019. The wall is 316 feet in length and approximately 20 feet high, although the height varies along its length. Horizontal drains were constructed along the base of the upper two slopes in order to reduce water infiltration into the slope soils and facilitate drainage. To protect Mint Spring Branch and waterfall, a protective vegetative buffer was established and will be maintained, and all work was conducted behind the protective buffer.

In December 2018, a severe storm resulted in extensive tree losses and some damage to cultural resources within the cemetery.

In 2019, repairs were completed to the brick steps at Indian Mound.

Ongoing work involves the cleaning and repointing of the wall that encloses the Vicksburg National Cemetery.

Chronology

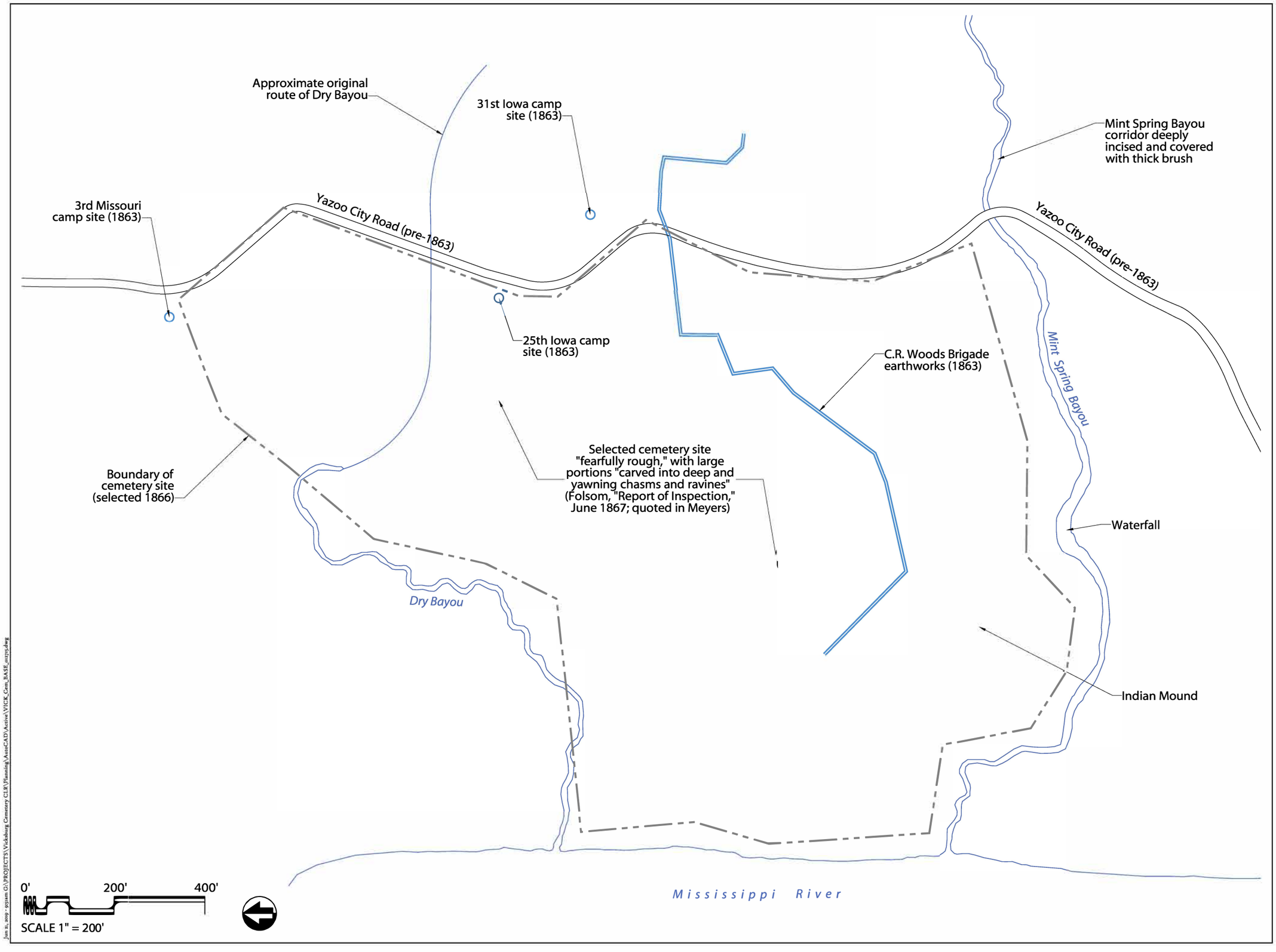
Year	Event
1866	April 12: Vicksburg authorized as a national cemetery by the War Department.
1867–1868	Bodies reinterred at Vicksburg National Cemetery from various locations in and around Vicksburg.
1868	Grant-Pemberton Surrender Interview Monument moved to cemetery and placed at the top of the Indian Mound.
1868	Lodge built in the cemetery to house the Superintendent and his family.
1873	A one-story brick office building constructed north of the superintendent's lodge.
1874	Brick wall enclosing the cemetery built.
1875	Arbor built atop Indian Mound.
1875	Ten upright cannon (gun monuments) placed throughout the cemetery.
1878	Iron tablet with the Gettysburg Address erected.
1879	Brick rostrum with a wooden pergola and new entrance arch built.
1882–1883	Gardener's cottage, stable, and sheds built.
1882	Iron tablets with "Bivouac of the Dead" stanzas, cemetery rules and regulations, and "Act to Establish National Cemetery," erected.
Circa 1888	Concrete fountain built.
1889	Greenhouse built.
1899	Vicksburg National Military Park established.
1905	25th and 31st Iowa Infantry Monument erected.
1906	Two bronze tablets commemorating sharpshooter lines during the siege erected.
Circa 1907	Greenhouse demolished.
1911	New section with 128 gravesites laid out in the northwest corner of the cemetery.
1924	A fifty-nine-foot portion of the exterior brick wall in the northwest corner of the cemetery collapsed.
1924	Collapsed portion of the wall reconstructed.
1928	Superintendent's lodge demolished.
1928	New superintendent's lodge built on the site of the old lodge.

1931	Sheds and stables demolished.
1931	New service building constructed to replace old sheds and stables.
1931	Gardener's cottage remodeled and expanded.
1931	Wood pergola of rostrum repaired.
1931	Arbor atop the Indian Mound demolished.
1931	Brick rest pavilion built at Indian Mound.
1933	The administration of eleven national cemeteries, including Vicksburg, transferred from the War Department to the Department of the Interior.
1939	Eighty acres purchased by the cemetery from private owners.
1939–1941	North Washington Street repaired and realigned.
1939–1941	The cemetery wall along North Washington Street is demolished and reconstructed as a result of the realignment of the highway.
1940	Grant-Pemberton Surrender Interview Monument moved from the Indian Mound to its original location at the site of the surrender interview in Vicksburg National Military Park.
Circa 1940s	Original rostrum demolished.
1947	Two terraces prepared for burials of WWII dead.
1961	May 1: Cemetery closed to future burials except for outstanding reservations.
1991	A memorial commemorating Union prisoners of war erected.
Circa 1990s	Memorial stones placed adjacent Union prisoners of war.
2010	August: Two unmarked graves discovered during preparation of grave for World War II veteran.
2010–2011	Bluff along tour road above Mint Spring Bayou stabilized; chain link fence erected and firethorn planted along top of bluff.
2018	December: Severe storm causes tree loss and damage to cultural resources in the cemetery.
2019	Repairs were completed to the brick steps at Indian Mound.
2019	Repairs are scheduled to be completed at the bluff above Mint Spring Bayou.

Cultural Landscape Report

for

Vicksburg National Cemetery



Legend

- Boundary of cemetery site
- River or stream
- Road
- Earthworks

Sources:

"Plan of the City of Vicksburg," c.1866.

"Sketch of Lands Taken for U.S. Military Cemetery at Vicksburg, Mississippi," Capt. C.W. Folsom, June 29, 1867.

"Vicksburg National Military Park, Map Number 1," Park Commission, under Direction of the Secretary of War, 1903.

"Historic Map Showing Conditions at End of Siege, July4, 1863," Dwg. No. NMP-VIC-2068A, 1938.

Richard Meyers, *Vicksburg National Cemetery Administrative History*, March 31, 1968.

Notes:

1. Vegetation information not available for this period.

Figure 51.
Period Plan 1863–1866

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Cultural Landscape Report

for

Vicksburg National Cemetery

Dam

Fountain catch basin (c.1888, approximate location)

Kitchen

Outbuilding

Cemetery landscape shaped into terraces (1867)

Portion of Dry Bayou culverted (c.1867)

Superintendent's Lodge (1868)

Gun (1875)

Lower carriage road (c.1867; disused and allowed to return to grass 1886–1888)

Large tree and ornamental plantings (1876)

Yazoo City Road

Cemetery Office

Flagstaff (1867; destroyed by lightning 1880)

Gun (1875)

Rostrum (1879)

Yazoo City Road

Mint Spring Bayou

Brick perimeter wall (1874)

"Sylvan Hill"

Gun Monument 3 (1875)

Bivouac of the Dead tablets along carriage road (c.1881–1882)

Guns (1875)

Gun (1875)

Catherine O'Shea marker (1898)

Carriage Road (1867–1888)

Carriage Road (1867–1888)

Trindle Monument (1875)

Gap in wall around Dry Bayou

Gun Monument 1 (1875)

Gettysburg Address panel (c.1881–1882)

Waterfall

Steps (1880)

Wagon Road (c.1882–1884)

Arbor (1875)

Gun (1875)

Grant-Pemberton Surrender Interview Monument (moved to Cemetery 1868)

Dry Bayou

Walkway

Indian Mound

Yazoo & Mississippi Valley Railroad (c.1882–1884)

Gun (1875)

Cemetery Entrance Arch (1879)

Bridge over Mint Spring Bayou

Cemetery Approach Road (1879–1885)

Lake Centennial (created when Mississippi River flooded and rerouted 1876)

Gardener's or Laborer's Cottage (1882–1883)

Stables (1882–1883)

Gun Monument 2 (1875, converted to fountain 1888)

Greenhouse (1889)

0' 200' 400'

SCALE 1" = 200'

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Legend

- Road
- Abandoned road
- Railroad
- Walk
- Building
- Wall
- River or Stream
- Culverted stream
- Tree

Sources:

"National Cemetery, Vicksburg, Miss.," Office of the Quartermaster General, U.S. Army, March 21, 1893.

"Vicksburg National Military Park, Map Number 1," Park Commission, under Direction of the Secretary of War, 1903.

Richard Meyers, *Vicksburg National Cemetery Administrative History*, March 31, 1968.

Notes:

1. Vegetation information outside cemetery wall not available for this period.

Figure 52.

Period Plan 1867–1899

Cultural Landscape Report

for

Vicksburg National Cemetery

Union Avenue (1903)
Kitchen (partially converted to garage 1933)
New Superintendents Lodge (1928)
Gate
Yazoo City Road
Brick perimeter wall
Gun
Old dam
Fountain catch basin
Gas Company building
Bell (moved c.1931 after collapse of belfry in 1927)
New flagstaff (1906)
Lower road and portions of wall collapse into Mint Spring Bayou (1933)
Connecting Avenue
Mint Spring Bayou
Brick steps (1912)
Gun
Gun Monument 3
"Sylvan Hill"
Rostrum
Guns
Brick perimeter wall
Cemetery road
Dry Bayou filled or culverted, area terraced
Gun
Union position marker (early 1900s)
Sharpshooter's Line marker (1906)
Sharpshooter's Line marker (1906)
Thomas & Catherine O'Shea markers
Gun Monument 1
Gettysburg Address panel
Trindle Monument
25th and 31st Iowa Infantry Monument (1905)
Waterfall
Brick Rest Pavilion (1931)
Gun
Union position marker (early 1900s)
Indian Mound
Grant-Pemberton Surrender Interview Monument
Gun
Cemetery Entrance Arch
Lower road and portions of wall collapse into Mint Spring Bayou (1933)
Cemetery Approach Road (paved 1928)
Bridge (1928)
Yazoo & Mississippi Valley Railroad
Gardener's Cottage (remodeled 1931)
Maintenance Shop (1931)
Yazoo Diversion Canal (1903)
Gun Monument 2 (fountain filled in 1925)
Union position marker (early 1900s)

0' 200' 400'
SCALE 1" = 200'

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Legend

- Paved road
- Unpaved road
- Railroad
- Walk
- Building
- Wall
- Fence
- River or Stream
- Culverted stream
- Tree

Sources:

"Existing Conditions Map for the Vicksburg National Cemetery," Dwg. No. NC-VIC-2095S, Sept. 1, 1939.

"Division of Forestry Tree Key Sketch," corresponding with Tree Census of Vicksburg National Military Park, Dec. 17, 1933.

"Tract Map, Properties Surrounding Vicksburg National Cemetery," Dwg. No. NC-VIC-2004A, Nov. 30, 1935.

Richard Meyers, *Vicksburg National Cemetery Administrative History*, March 31, 1968.

Notes:

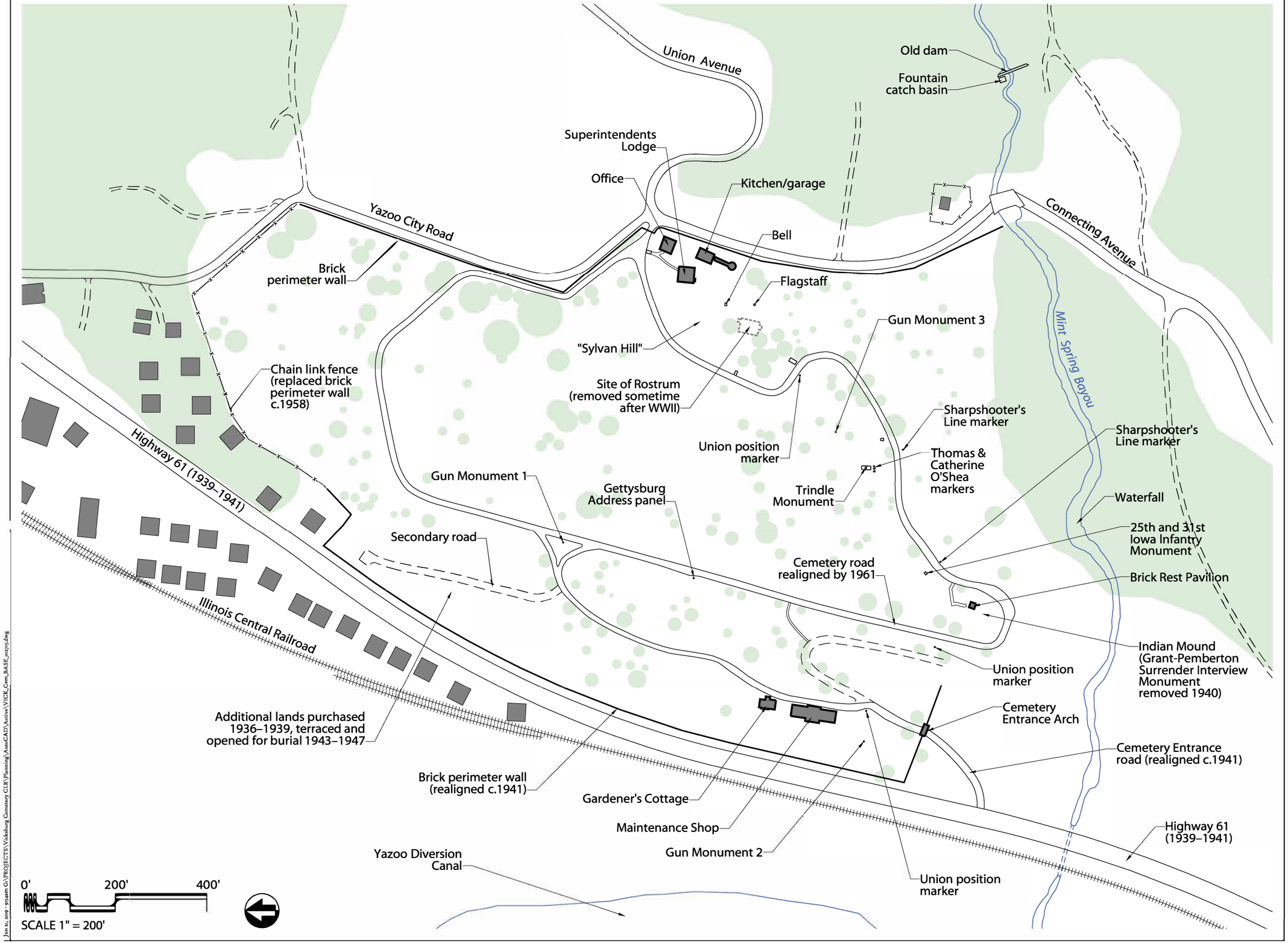
1. Vegetation information outside cemetery not available for this period; reforestation efforts carried out in this vicinity by CCC c.1933.

Figure 53.
Period Plan 1900–1935

Cultural Landscape Report

for

Vicksburg National Cemetery



Legend

- Paved road
- Unpaved road
- Railroad
- Walk
- Building
- Wall
- Fence
- River or Stream
- Culverted stream
- Tree
- Woodland

Sources:

"Existing Conditions Map for the Vicksburg National Cemetery," Dwg. No. NC-VIC-2095S, Sept. 1, 1939.

"Cemetery Development," Dwg. No. NC-VIC-2167, Jan. 28, 1941.

"Boundary Wall and Fence Construction," Dwg. No. NMP-VIC-3007B, Jan. 21, 1958.

"Proposed Road Improvements," Dwg. No. NMP-VIC-3053, Dec. 12, 1960.

1962 USGS quads (redwood & vicksburg east)

Richard Meyers, *Vicksburg National Cemetery Administrative History*, March 31, 1968.

Notes:

1. Vegetation shown within cemetery accounts for trees present in 1933 which were still present during a 1969 pruning effort and does not account for trees or other vegetation planted in the interim.

2. Vegetation information outside cemetery taken from 1962 USGS quadrangles.

Figure 54.
Period Plan 1936–1961

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Existing Conditions Documentation

Introduction

This chapter describes through narrative text, contemporary photographs, and labeled base mapping the current conditions associated with the Vicksburg National Cemetery landscape. The chapter is composed of three sections. The first section—Environmental Context and Setting—sets the cemetery 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 site. The third section—Landscape Description by Characteristic—depicts the extant landscape features located within the cemetery. 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 landscape characteristics categories are used in the documentation of Vicksburg National Cemetery:

- **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 environment.

- **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.

- **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.

- **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.

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

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

- **Small-scale features** are the elements providing detail and diversity for both functional needs and aesthetic concerns in a landscape. [109]

- **Utilities and drainage structures** are the elements and features of the utilities on the cemetery site, most specifically the drainage structures associated with the terraces, roadways, and cemetery wall.

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

Graphic documentation, in the form of maps and photographs, accompanies the narrative description of the landscape. Representative photographs illustrate many of the features described in the text. Primary features are identified on Figure 61, Existing Conditions. Appendix A provides a full inventory of the landscape resources documented in this chapter.

Environmental Context and Setting

Vicksburg National Military Park forms a crescent shape that cradles the city of Vicksburg, Mississippi, to its north and east. The northern portion of the park is also located in close proximity to the Yazoo Diversion Canal that flows into the Mississippi River to the southwest of the park.

The park occupies the elevated terrain east of the Mississippi River produced by glacial deposits of loess, a windblown sediment. The erodibility of the loess has contributed to the highly variable topography of the park landscape. Three main streams flow through the park, which, along with their tributaries, play a large role in the erosion of the loess soils.

The elevated terrain that surrounds the city of Vicksburg was an important consideration in military tactics employed by both the Confederate and Union armies during the Civil War. [110]

During the antebellum era, the land was used for farming, and included agricultural fields, pasture, and woodland. During the war, much of the vegetation associated with the siege was removed by the military forces to establish clear fields of fire and views of potential avenues of attack by Union forces. The removal of vegetation, and its protective cover, exacerbated erosion of the loess soils. [111] This erosion continued after the war, while the landscape continued to recover from the impact of the siege and battle. It was considered a particular challenge and served as the source of much discontent when the land was purchased for Vicksburg National Cemetery, and efforts to reinter bodies began. In a Report of Inspection in June 1867, the cemetery site was described in a comment stating:

> . . . the ground has a commanding view, but that is its only recommendation, as it was fearfully rough before it was worked, and wholly useless for agricultural purposes. . . . the

109. 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; and Linda Flint McClelland, J. Timothy Keller, Genevieve Keller, and Robert Z. Melnick, National Register Bulletin 30: *Guidelines for Evaluating and Documenting Rural Historic Landscapes* (Washington, D.C.: Department of the Interior, 1990), 53.

110. Gary Sundin, Luke Worsham, Nathan P. Nibblelink, Michael T. Mengak, and Gary Grossman, *Natural Resource Condition Assessment for Vicksburg National Military Park* (National Park Service, 2004), xviii.

111. Sundin et al., *Natural Resource Condition Assessment,* 5.

> composition of the soils is such that it is washed very easily by heavy rains which are frequent here; and large parts of the tract of forty acres were carved into deep and yawning chasms and ravines.[112]

Erosion remains a problem today. Additional challenges include increasing colonization by invasive plant species, and environmental pollutants associated with adjacent urban and industrial areas.[113]

Physiography and Geology

The cemetery is located along the west central border of the state of Mississippi on an escarpment overlooking a former channel of the Mississippi River. The escarpment is part of a geological formation associated with the Lower Mississippi Valley known as the Loess Bluffs. The bluffs extend from the confluence of the Ohio and Mississippi Rivers in northwest Kentucky to Baton Rouge, Louisiana.[114] In the vicinity of the cemetery, the bluffs rise more than 300 feet above the Mississippi River, and overlook the city of Vicksburg as well as the plains and bayous of eastern Louisiana. The region is also known as the Loess Hill Physiographic Province, an area characterized by steep hills and bluffs rising abruptly from the river's alluvial plain.

The loess bluffs are generally underlain by fossiliferous limestone, which formed from calcareous shells of marine invertebrates deposited as sediment during the late Mesozoic period. In the vicinity of the cemetery, this limestone is part of the Glendon formation, a hardened marl limestone mixed with small parts of clay and sand. Mint Spring Bayou is one of the few places in the park where the limestone bedrock is exposed; the stream has cut a deep valley through the loess soil, uncovering a large outcrop that forms a waterfall south of the cemetery. The exposed limestone is named Mint Spring marl.[115] It contains a large number of fossils and is considered a significant paleontological resource.[116]

Soils

The loess soils associated with the Vicksburg area originated as glacially pulverized rock dust that was carried by wind and storms and deposited in the Mississippi floodplain during the late Pleistocene epoch. The rock dust was picked up into the air by winds as the ice floes receded and was blown onto the eastern banks of the Mississippi by the prevailing air flow where it built up to form the bluffs. The resultant hills and bluffs are between 10 and 25 miles wide; the Vicksburg region contains the thickest deposits of loess soil in the Tennessee-Mississippi-Louisiana area, reaching more than 200 feet in thickness in some places.[117]

Vicksburg National Cemetery, as well as the adjacent Vicksburg National Military Park are primarily underlain by soils associated with the Memphis-Natchez-Adler series, which is found over approximately 60 percent of lands in Warren

112. Richard Meyers, *The Vicksburg National Cemetery: An Administrative History* (National Park Service, 1968), 23.
113. Sundin et al., *Natural Resource Condition Assessment,* 23.
114. Warren E. Grabau, *Ninety-Eight Days: A Geographer's View of the Vicksburg Campaign* (Knoxville, Tennessee: The University of Tennessee Press, 2000), 14.
115. William Clifford Morse, *Geologic History of the Vicksburg National Military Park Area*, Mississippi Geological Survey, Bulletin 28 (Oxford, Mississippi: University of Mississippi, 1935).
116. Mactec Engineering and Consulting, Inc., Kennesaw, Georgia, *Vicksburg National Military Park: Environmental Assessment for Landscape Rehabilitation* (Vicksburg, Mississippi: National Park Service, May 2009), 3-8, citing Maynard B. Cliff and Johnna L. Buysse, *Archeological and Historical Inventory and Reporting for the Mint Spring Stabilization Project, Warren County, Mississippi* (1999).
117. U.S. Dept. of Agriculture, *Soil Survey of Warren County, Mississippi* (1964).

County. The well-drained soils of this association are typical of hilly loessal uplands and local silty alluvia. Memphis and Natchez soils comprise about 70 percent of the association. Both Memphis and Natchez soils are typically found in areas too steep for cultivation, have moderate natural fertility and low organic content, and although well-drained, have slow water movement. Due to the high impermeability and erodibility of loess soils, streams and gullies are incised deeply and sharply between linear ridges. The dramatic landform and topography of the loess hills played a key role in the 1863 Siege and defense of Vicksburg. In 1866, it proved difficult to find an appropriate site for massive re-interments and burials in this landscape due to the broken and irregular surface of the area, the steep topography, and the susceptibility of the loess soils to erosion (Figure 55).

As a result of the variable terrain and erodibility of the landscape, the park regularly has to repair sinkholes, cave-ins, slumped soils, and surface erosion and gullying.[118]

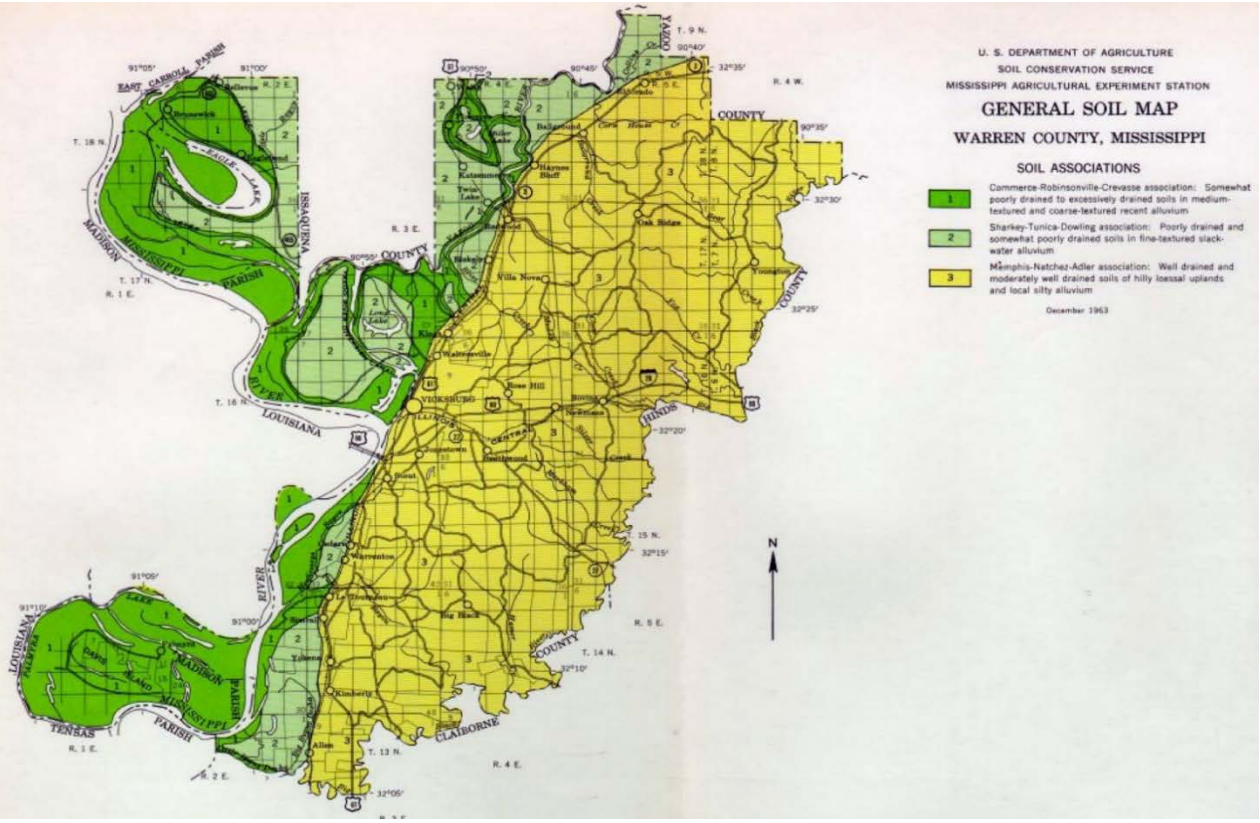


Figure 55. General Soil Map, Warren County, Mississippi Soil Survey, December 1963.

118. Sundin et al., *Natural Resource Condition Assessment,* 10.

Hydrology

Vicksburg National Cemetery falls within the Lower Mississippi River sub-basin and is part of the larger Mississippi River watershed. The city of Vicksburg evolved during the 1800s as a port city due to its location at the confluence of the Mississippi and Yazoo Rivers. It had developed into an important commercial and agricultural center by the Civil War. The city's strategic location was also seen as the key to controlling the Mississippi River during the Civil War. By 1863, due to the challenges posed to attackers by its position, Vicksburg had become one of the last Confederate strongholds along the river, and thus the focus of Grant's Union advance and siege.

Following the war and the establishment of the cemetery, magnificent views of the river were available to the west from the cemetery. In 1876, however, the river changed course after a flood event created a new river channel further west, approximately three miles south of the cemetery site. To regain access to the water for shipping, a diversion canal was created in 1902 from the Yazoo River that followed the former bed of the Mississippi River. The abandoned section was renamed Lake Centennial.

There are three streams within Vicksburg National Military Park. They include Mint Spring Bayou, Durden Creek, and Glass Bayou. Mint Spring Bayou, which is perennial, runs along the southern boundary of the cemetery, and empties into the Yazoo River Diversion Canal just west of the cemetery. The stream falls almost entirely within the boundary of Vicksburg National Military Park. Fed by springs and seeps in northern portions of the park, the stream runs westward. It has worn a deeply etched ravine into the loess bluffs. The ravines played a large role in the battles, providing ideal cover for entrenched troops.

Two waterfalls, formed from rock outcroppings, are associated with Mint Spring Bayou. The larger of these is located just south of the cemetery and has a vertical drop of nearly 25 feet. This feature essentially divides the stream into upper and lower portions and serves as a natural barrier to many fish species. The waterfall was formerly a popular local hiking destination, but in recent years has become inaccessible to the casual visitor.

Water quality data at Vicksburg National Military Park is collected by staff trained in the protocols of and by the Gulf Coast I&M Network. Water sampling, with the assistance of park staff, began in 2007 and will continue for the foreseeable future. Three sampling stations are associated with the streams that flow in the park. These are visited quarterly. During the four years of available data, water quality appeared normal with the exception of elevated turbidity measurements on Durden Creek and Glass Bayou. Overall, samples revealed no major issues at the park, and the streams were assigned a good condition rating.[119]

Plant Communities

Three forest types dominate the region within which Vicksburg National Cemetery and Vicksburg National Military Park fall. These include oak-hickory woodland, oak-gum-cypress woodland, and elm-ash-cottonwood woodland. Oak-hickory forests characterize the loessal uplands. Oak-gum-cypress woodlands are typically found on the alluvial plain of the river and along many streams, while elm-ash-cottonwood woodlands are found in association with other hydric and moist-mesic soils. Within these broader stands, the most common vegetation type represented in the park is the sweetgum-pecan-water oak association, followed by the cherrybark-water oak association.

The cemetery is surrounded on the south, southeast, and partially on the north by dense secondary woodland that has grown throughout the 1900s. Due to their young age, these woodlands exhibit a high degree of diversity. Stands of bottomland forest along Mint Spring Bayou and the Yazoo River Diversion Canal likely predate these revegetation efforts; while most of the battlefield lands were cleared during the Civil

119. Ibid., xx.

War, stream valleys were left partially vegetated to serve as part of the defensive works.

Bermudagrass is commonly planted in the grassland associations that comprise much of the rest of the park, including the cemetery, totaling as much as 30 percent of the land cover.[120] Grassland associations are maintained through mowing.

Species of Special Concern. The most important rare plant at Vicksburg National Military Park is the prairie nymph (*Herbertia lahue)*, which has a state conservation rank of imperiled (S2). Although rare throughout its range, prairie nymph grows abundantly at Vicksburg National Military Park in open grassy areas. Ongoing monitoring is being used to determine the effects of mowing on this species. Other significant plant species at the park include climbing bittersweet *(Celastrus scandens),* Southern thimbleweed *(Anemone berlandieri),* and Southern slender lady's tresses *(Spiranthes lacera* var. *gracilis)*. Bandana of the Everglades *(Canna flaccida)* may also be present, though identification of this species is not certain. Because of the prevalence of prairie nymph at the park, rare plants are assigned a condition status of good. However, the rank does not take other species into consideration due to a lack of data.[121]

Exotic Species. Multiple studies have documented the range of exotic plant species present within Vicksburg National Military Park. The most data available from NPS suggests that over a quarter of the vascular plant species in the park are exotic. Several of these represent a significant threat to native species and/or their habitats. The most serious current and anticipated future threats to native plant communities are posed by kudzu *(Pueraria lobate),* Johnsongrass *(Sorghum halepense),* Chinese privet *(Ligustrum sinense),* Chinese parasol tree *(Firmiana simplex),* and Chinese tallow tree *(Sapium sebiferum)*. Regular treatments by both park staff and the Gulf Coast Exotic Plant Management Team have helped reduce the area infested by kudzu and Johnsongrass, although it is an ongoing battle due in part to how quickly these species spread, and how difficult they can be to treat. Because of the ongoing problem of exotics at the park, the *National Resource Condition Assessment for Vicksburg National Cemetery* assigned a condition status of fair. This was based on previous NPS data and natural resource documents for Vicksburg National Military Park. Because conditions have been improving as a result of treatment efforts, an improving trend has also been assigned to invasive plant species management within the park.[122]

The park employs a variety of methods to control populations of invasive plants. After years of more extensive treatment, kudzu management areas limited to approximately 20 acres are treated annually across the park. None of the kudzu management areas are located near the cemetery.

Wildlife

Wildlife studies and inventories have generally focused on the park as a whole. These have included studies of mammals, birds, fishes, and herpetofauna. A wide range of animal species have been identified as residents or visitors of the park.[123] Although not all of the species found

120. Ibid., 63.
121. Ibid., xxii.
122. Ibid., xxi.
123. For more information, see Jennifer Linehan *Inventory of the Mammalian Species at Vicksburg National Military Park, Vicksburg, Mississippi* (Lubbock, Texas: Museum of Texas Tech University, 2008); S.G. Somershoe, *Density and Abundance of Spring Migrant and Breeding Birds at Vicksburg National Military Park* (Laurel, Maryland: USGS Patuxent Wildlife Research Center, 2004); E.D. Dibble, *A Long-Term (1995-2003) Biological Assessment and Inventory of the Streams in Vicksburg National Military Park* (Starkville, Mississippi: Mississippi State University, 2003); Edmund D. Keiser, *Final Report: Survey of the Amphibians And Reptiles of Vicksburg National Military Park* (Oxford, Mississippi: Ecological Consulting, 2002); and Robert L. Woodman, *Reptile & Amphibian Monitoring at Vicksburg National Military Park* (Fort Collins, Colorado: National Park Service, 2013).

within the park have been observed in the cemetery, it is likely that the cemetery is visited by many of the species observed. A 2004 natural resource study suggested that many indigenous species were likely extirpated as a result of the clear cutting of the forests during the Civil War and subsequent agricultural activities, coupled with soil erosion that prevented forest regeneration. Wildlife populations have slowly returned but may not be consistent with antebellum species compositions.[124]

Mammals. The 2005 mammal inventory identified thirty-seven mammal species known to be present within the park, and an additional nine species with distributions overlapping the area that were not detected during the study. The inventory identified fourteen small mammal species, sixteen meso- or large mammals, and seven bat species. The most common small mammals observed included Eastern chipmunk, fox squirrel, cotton mouse, white-footed mouse, and hispid cotton rat. For meso- and large mammals, raccoons, Virginia opossum, white-tailed deer, and domestic cats were most commonly captured or observed. Gray wolves were also found to be abundant. Common or fairly common species included armadillo, eastern cottontail rabbit, red fox, and gray fox. The skunk population was noted as on the rise at the cemetery. Park staff sees them regularly and has found burrows on cemetery grounds. Uncommon or rare species included swamp rabbit, beaver, nutria, weasel, skunk, coyote, and bobcat. The most common bat species observed in the park were the big brown bat and the evening bat.

Birds. Vicksburg National Military Park is located along the central flyway of the United States, a major habitat corridor for migrating and breeding birds that generally follows the Mississippi River. Documentation of this corridor has led to the park's designation as an Important Bird Area by the National Audubon Society. More than 185 bird species have been observed in the park. Of these, at least thirty-five species are associated with the river corridor that can been seen from the park. Several species with conservation or high conservation priority, such as the white-eyed vireo, worm-eating warbler, hooded warbler, orchard oriole, Swainson's warbler, and Kentucky warbler, have been observed within the park. Common year-round species include a wide variety of songbirds, barred owls, cardinals, pileated woodpeckers, and wild turkeys. Raptors and other birds of prey are frequently observed from Fort Hill in the vicinity of the cemetery, including bald eagles, red-tailed and red-shouldered hawks, and Mississippi kites.[125]

Fish. A long-term fish study performed from 1995 to 2003 documented eighteen species of fish within the park, with the greatest diversity of species in Mint Spring Bayou below the large waterfall. This portion of the stream includes species such as bluntnose darter *(Etheostoma chlorosomum)*, emerald shiner *(Notropis atherinoides)*, Mississippi silvery minnow *(Hybognathus nuchalis)*, swamp darter *(Etheostoma fusiforme)*, and warmouth *(Lepomis gulosus)*, and is thought to act as a nursery for river species due to its proximity to the Yazoo River diversion canal and Mississippi River. Above the waterfall, the stream is dominated by the non-native and invasive fathead minnow *(Pimephales promelas)*. This fish is commonly used for bait and can reproduce quickly. A draft environmental assessment prepared in 2006 evaluated a number of proposed methods for eradicating the fish from the upper portions of Mint Spring Bayou.[126]

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124. Cooper, et al. *Natural Resource Summary for Vicksburg National Military Park (VICK).* Athens, Georgia: University of Georgia, Warnell School of Forest Resources, November 2004, iii.
125. National Park Service, "Nature & Science Overview," Available at http://www.nps.gov/vick/naturescience/birds.htm (accessed September 10, 2014).
126. Jim Long and Kurt Foote, *Mint Springs Creek Invasive Fish Species Eradication DRAFT Environmental Assessment* (August 2006).

Herpetofauna. A 2002 study of amphibians and reptiles in Vicksburg National Military Park identified twenty-seven species of reptile and seventeen species of amphibian. The reptiles included nine species of turtle, four species of lizards, and fourteen species of snake (of which three were venomous). The amphibians included five species of salamander and twelve species of frog and toad.[127]

Several of the turtle species observed in the park were found almost exclusively in the small section of the park on the west side of North Washington Street and the parallel railroad embankment in the floodplain along the Yazoo River Diversion Canal. The study notes that these species could be expected in the lower portions of Mint Spring Bayou during periods of high water. Two of the turtles, the Mississippi or false map turtle *(Graptemys pseudogeographica)* and the alligator snapping turtle *(Macrochelys temminckii)*, are listed as state species of concern in Mississippi. Red-eared sliders (*Trachemys elegans*) were abundant in Mint Spring Bayou, and three-toed box turtles *(Terrapene carolina triunguis)* were found to be common in almost every park land habitat.

Of the lizards observed during the study, both five-lined skink *(Eumeces fasciatus)* and ground or little brown skink *(Scincella lateralis)* were observed in the cemetery vicinity. Several species of water snake were observed along Mint Spring Bayou and woodland-dwelling snakes such as the Eastern rat snake *(Elaphe spiloides)* were also found to be common in the cemetery vicinity. Two of the three venomous snakes found in the park, Southern copperhead *(Agkistrodon contortrix contortrix)* and Western cottonmouth *(Agkistrodon piscivorous leucostoma)*, were observed near the cemetery.

Of the salamander species, both spotted dusky salamander *(Desmognathus conanti)* and the longtail salamander *(Eurycea longicauda)* were observed in Mint Spring Bayou in the vicinity of the cemetery. Both the American toad *(Bufo americanus)* and Fowler's toad *(Bufo fowleri)* were found to be abundant in and near the cemetery. Most of the frog species observed in the park as a whole were also found in Mint Spring Bayou and the vicinity of the cemetery, with Green treefrog *(Hyla cinerea)* found exclusively along lower Mint Spring Bayou and the margins of the cemetery.

Species of Special Concern. Although no federally-listed wildlife species are known to reside within Vicksburg National Military Park, several have been observed within park boundaries. One federally endangered bird species—the interior least tern *(Sternaantillarum athalassos)*—may visit the park on a transitory basis. The bald eagle *(Haliaeetus leucocephalus)*, formerly federally-listed as threatened but delisted in 2007 and now monitored, has been observed near Fort Hill in the vicinity of the cemetery. American alligator *(Alligator mississippiensis)*, a federally threatened species, are known to inhabit the floodplain along the Mississippi and Yazoo Rivers, and have been observed in the area where Mint Spring Bayou empties into the Yazoo River Diversion Canal as well as in Mint Spring Bayou after flooding events. In 2005, an alligator was relocated to the river after being discovered by park staff on the service road just north of the cemetery.[128]

There are two reptiles listed as State Species of Concern that reside in the park. These are the Mississippi map turtle *(Graptemys pseudogeographica)* and the alligator snapping turtle *(Macrochelys temminckii)*. The alligator snapping turtle in particular favors swampy lowland habitats and could possibly be found in Mint Spring Bayou. There is also one mammal listed by the state as a species of special concern known to inhabit Warren County—the oldfield mouse *(Peromyscus polionotus)*; however, a recent

127. Cooper et al., 5.

128. National Park Service, "Reptiles," Available at http://www.nps.gov/vick/naturescience/reptiles.htm (accessed September 10, 2014).

mammal inventory conducted at the park did not indicate the presence of the oldfield mouse.

Feral and Invasive Species. Encroaching development has introduced feral populations of several domesticated animals to the park, including cats, dogs, pigs, and goats. Feral populations of stray cats and dogs may threaten native species; cats in particular can have a serious effect on native populations of birds, herpetofauna, and small mammals. No specific data on the adverse effect of feral cats and dogs in Vicksburg National Military Park has been collected.[129]

In 2008, a small group of feral pigs was sighted in the park in several locations, including the vicinity of the USS *Cairo* Museum adjacent to the cemetery. These animals have a documented adverse impact on the environment; they are a potential disease vector, their rooting for food disrupts native vegetation, and they compete with native animals for food. There were also concerns about visitor safety, as pigs (especially sows with litters) can be aggressive. The group was not sighted again until 2009, when they had multiplied in numbers. A management plan was developed that proposed a variety of methods to eliminate the pigs from the site.[130]

Fish species of concern in Mint Spring Bayou include the invasive fathead minnow and the green sunfish. The green sunfish was introduced to upper portions of the stream in an attempt to control the fathead minnow population.

Red imported fire ants (*Solenopsis invicta*) are a concern throughout the park, including the cemetery. Efforts to control of this species have been met with limited success.[131]

Climate

The Vicksburg area has a humid subtropical climate with year-round rainfall and mild winters. Temperatures in the winter average in the high 40s Fahrenheit to the low 50s Fahrenheit, with occasional cold air intrusions that last a few days at most. During the winter months, cold masses of air may be accompanied by prolonged heavy rains. Summers are typically hot and humid, with average temperatures in the low 90s Fahrenheit and the potential for sudden and severe thunderstorms. Average annual precipitation is about 60 inches.

Cultural Context and Setting

The 120.03-acre Vicksburg National Cemetery, located adjacent to Vicksburg National Military Park, lies approximately one mile north of the downtown center of the city of Vicksburg, Mississippi (Figure 56). The original 40-acre cemetery tract that is the focus of this report is generally bounded by North Washington Street (US 61 Business) to the west, the park tour road and USS *Cairo* Museum to the east, and Mint Spring Bayou to the south (Figure 57).

Vicksburg is the seat of Warren County. It is located 40 miles west of the capital of Jackson and 234 miles northwest of New Orleans, Louisiana. US Highways 80 and 61 and Interstate 20 serve the region, and pass within close proximity to the park.

In 2010, the federal census tallied Vicksburg's population at 23,856, with a density of 723 people per square mile, a nearly 10 percent drop from the 2000 population numbers. The population of Warren County fell about 2 percent between 2000 and 2010; in 2010 the county population was 48,773 residents, with a density of about 83 people per square mile. Approximately 31 percent of the city population lives below the poverty line,

129. Cooper et al., 16.
130. National Park Service, "Management Plan for Removal of Semi-Feral Pigs from Vicksburg National Military Park" (December 2009).
131. Cooper et al., 16.

according to census figures. The racial makeup of Vicksburg as of the 2010 federal census was 66.1 percent African American, 31.3 percent white, 0.9 percent Asian, 0.2 percent American Indian, and 0.8 percent from two or more races. Hispanic or Latino persons of any race were 1.7 percent of the population.[132]

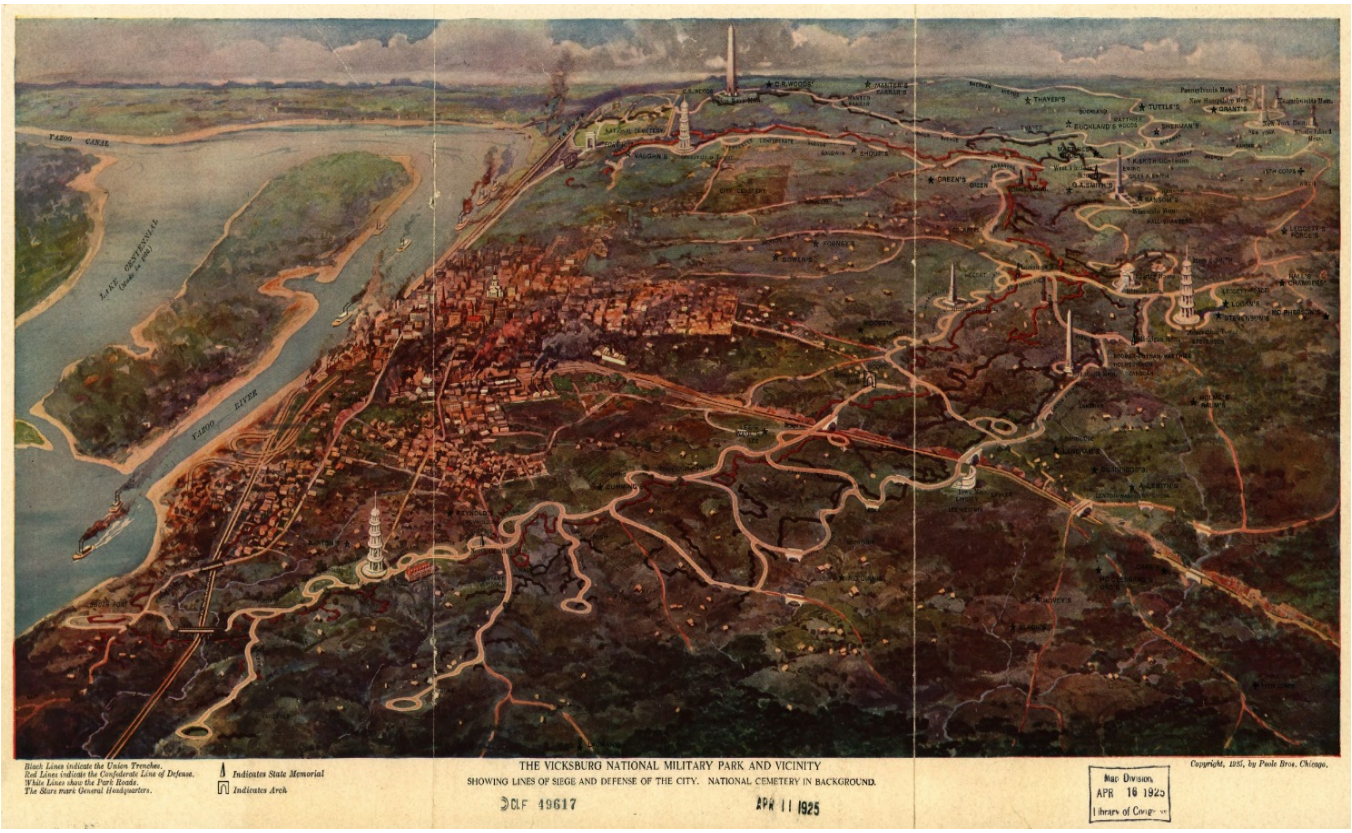


FIGURE 56. 1925 colored engraving gives a clear aerial perspective of the location of Vicksburg National Cemetery within the context of the National Military Park and its location in relationship to the city of Vicksburg. Source: Library of Congress.

132. U.S. Census Bureau, 2010 census data.

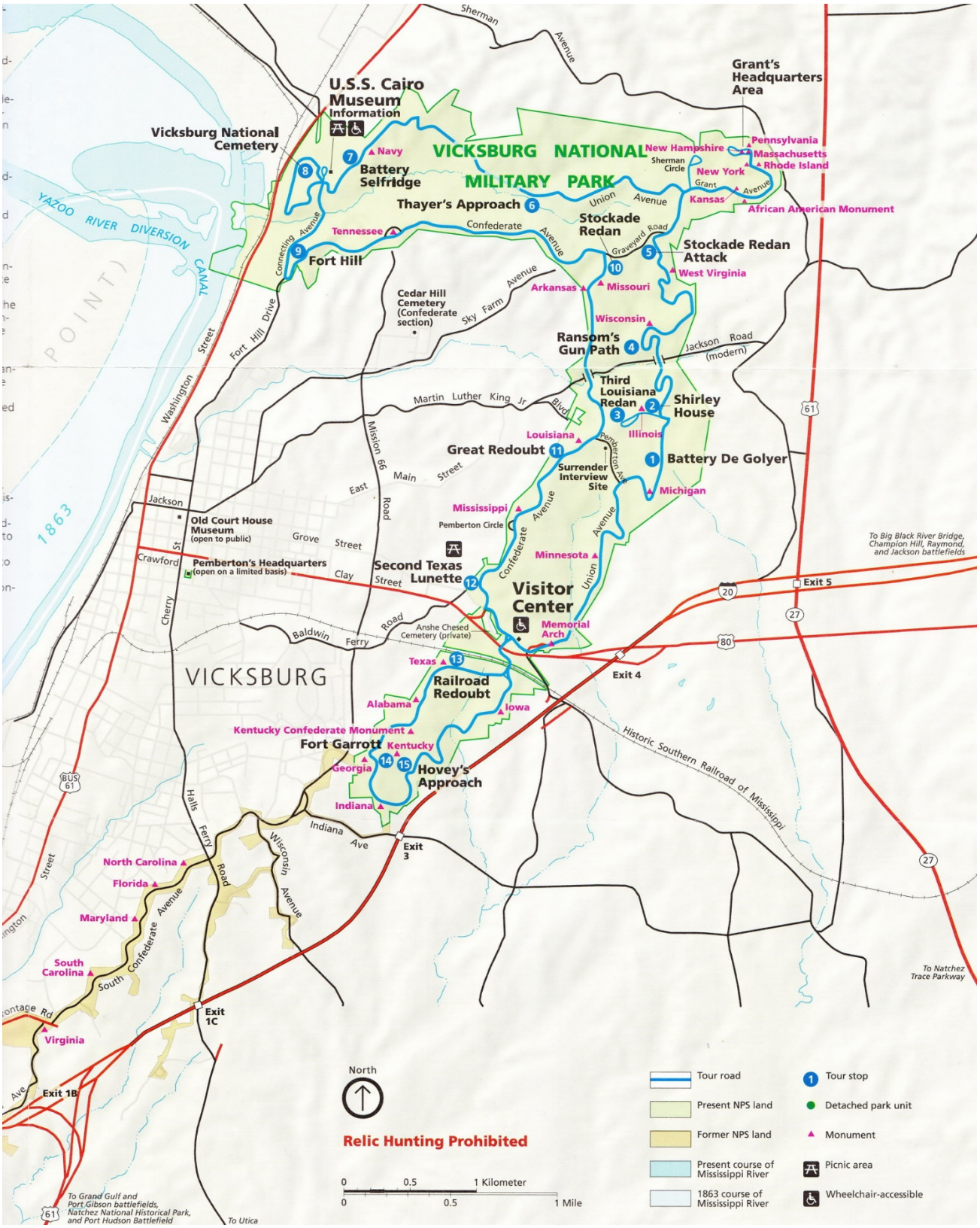


FIGURE 57. The park unigrid map that shows major transportation routes in the environs of Vicksburg National Military Park and the national cemetery. Source: Vicksburg National Military Park.

Vicksburg National Cemetery lies to the north of the city's urban area. The landscape between the city and the cemetery is characterized by commercial, industrial, and institutional development, as well as residential subdivisions, urban neighborhoods, and forested areas. The 80 acres purchased for cemetery expansion in 1939 were never developed for burials and the parcel remains wooded for the most part. Access to the maintenance and repair yard and sheds and the archives building and the USS *Cairo* Museum occurs through this parcel. These structures are all outside the cemetery perimeter wall (Figure 58 through Figure 60).



FIGURE 58. Northern portion of the cemetery indicating the historic brick wall and chain link fencing that mark the boundary. Source: *Unless otherwise noted, all photographs in this chapter are by the authors*.



FIGURE 59. Storage and repair facilities and an office and archival storage building are located on land north of the cemetery wall.

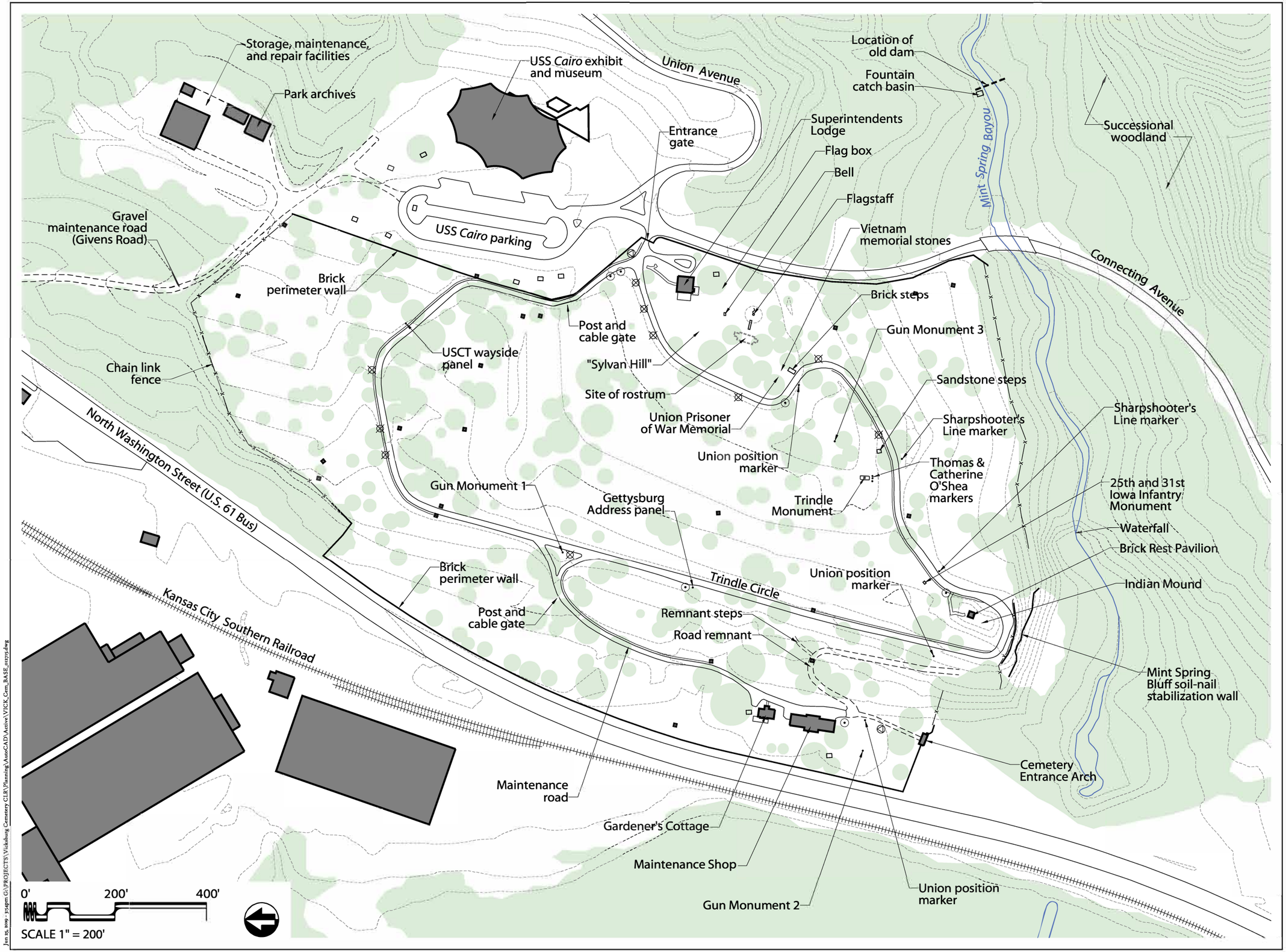


FIGURE 60. The cemetery perimeter wall near the northwest corner.

Cultural Landscape Report

for

Vicksburg National Cemetery



Legend

- Paved road
- Paved road with gutter
- Unpaved road
- Railroad
- Sidewalk
- Building
- Wall
- Chainlink fence
- 10-foot contours
- Stream
- Tree
- Woodland

Small-scale features

- Picnic Table
- Drain or catch basin
- "Bivouac of the Dead" tablet
- "Act" tablet
- Cemetery rules tablet
- Other monument, marker, or sign

Notes:

1. Topography data based on 2005 data provided by NPS.
2. Tree cover shown based on 2014 fieldwork.
3. Dimensions and locations are approximate, based on field observations and NPS-provided GIS data.

Figure 61.
Existing Conditions

Jun 05, 2019 - 3:54pm G:\PROJECTS\Vicksburg Cemetery CLR\Planning\AutoCAD\Active\VICK_Cem_BASE_013715.dwg

Landscape Description by Characteristic

Descriptions of the landscape resources present within the cemetery are conveyed below. These descriptions include condition assessments with ratings of Good, Fair, Poor, and Unknown. These categories are defined as follows:

- *Good*: indicates the feature shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The feature'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 feature 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, if left to continue without appropriate corrective action, will cause the feature to degrade to a poor condition.

- *Poor*: indicates the feature 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 values.

- *Unknown*: indicates that not enough information is available to make an evaluation.[133]

The condition ratings are annotated as possible to include specific condition-related observations made in the field that help to justify the ratings. These are also conveyed in the resource inventory included as an appendix to this report. Resources described below are assessed as in good condition unless otherwise noted.

Natural Systems and Features

The primary natural systems and features of Vicksburg National Cemetery are its underlying limestone geology, loess soils, Mint Spring Bayou and its waterfall, and the surrounding successional woodland.

The unique properties of the loess soils played an integral role in both the 1863 siege and the subsequent search for a suitable cemetery location. While porous, the soil is highly impermeable and erodes easily. To accommodate burials and combat erosion, extensive grading and soil stabilization efforts were required, and continue today. This is most evident along Mint Spring Bluff, which forms the southern border of the burial area. Heavy rains over many years have eroded the bluff and threatened the cemetery road. The bluff was stabilized with a soil nail wall in 2010–2011. This project was funded through the American Recovery and Reinvestment Act (ARRA) in an attempt to mitigate the severe erosion problem on the bluff above Mint Spring Bayou and the threat to the southern portion of the cemetery road. The bluff and adjacent terrace were stabilized and reinforced through installation of two soil nail walls with shotcrete facing. However, at the base of the existing lower nail wall, the soil became unstable and migrated south, causing movement of the Mint Spring Bayou bank in response. In order to stabilize the eroding slope adjacent to the Mint Spring Bayou, the National Park Service proposed in 2015 to install a mechanically stabilized earth retaining wall and a stabilized earthen berm. The wall was designed to stabilize the slopes with the use of precast blocks or panels for the wall face, which would be

133. 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.

reinforced with layers of geogrids placed within the material used as backfill for the wall. Agencies and the public reviewed the design in May/June of 2016.[134] Construction of the 2015 proposed design is scheduled to be completed in FY 2019. The wall is 316 feet in length and approximately 20 feet high, although the height varies along its length. Horizontal drains were constructed along the base of the upper two slopes in order to reduce water infiltration into the slope soils and facilitate drainage. To protect Mint Spring Branch and waterfall, a protective vegetative buffer was established and will be maintained, and all work was conducted behind the protective buffer.

Mint Spring Bayou, originating from springs and seeps in the northern portion of the park, runs the length of the southern boundary of the cemetery burial area before emptying into the Yazoo River Diversion Canal. Mint Spring Bayou and waterfall have both historic and natural significance. During the defense and siege at Vicksburg, both Union and Confederate soldiers relied on the bayou for fresh water and this natural feature served as a boundary between battle lines (Figure 62).

A large outcropping of exposed limestone bedrock along the stream results in the dramatic waterfall just south of the cemetery. With a drop of more than 25 feet, Mint Spring Bayou waterfall is one of the tallest in the state and has been designated a "Mississippi State Natural Feature."[135] Restoration of Mint Spring Bayou has been recommended to aid in re-introduction of native fish species, currently deficient due to invasion of a fathead minnow population, and depletion of streamside vegetation. [136]

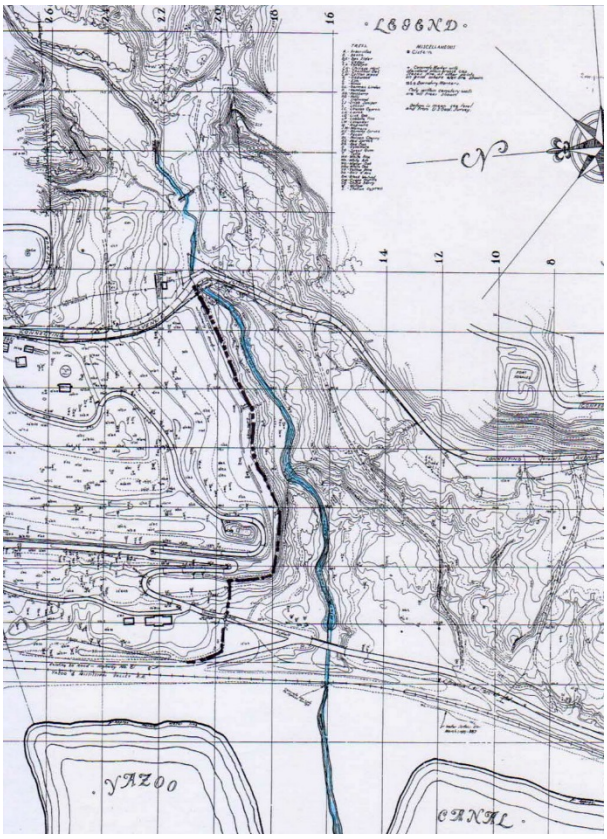


FIGURE 62. A survey map from 1935 depicts Mint Spring Bayou (in blue) as it follows the southern boundary of the cemetery (black boundary line) and empties into the canal. Source: Vicksburg National Military Park archives, annotated by the authors.

Response to Natural Systems and Features

The loess soils in the cemetery influenced not only the early settlement patterns of the region as well as the 1863 siege, but also had a profound impact on the siting and development of Vicksburg National Cemetery. Today, the primary cultural response to natural resources in evidence within the cemetery is the system of graded terraces across the landscape, constructed to accommodate thousands of Civil War burials. Other responses to the loess soils include the Mint Spring Bayou stabilization projects previously described, the placement of the rest pavilion on the Indian

134. The plans for this project are included in Appendix B of this document.
135. National Park Service, *Foundation Document, Vicksburg National Military Park, Vicksburg, Mississippi,* (2014), 11.
136 National Park Service, "Rivers and Streams-Vicksburg National Military Park," Available at https:/www.nps.gov/vick/learn/nature/rivers.htm (accessed April 9, 2018).

Mound, and the use of gutters and culverts to direct storm water (Figure 63 and Figure 64).



FIGURE 63. Concrete gutters that edge the road to convey storm water have been enlarged over the years to address increased flow.



FIGURE 64. Concrete culverts are sited within many of the terraces to drain storm water within the cemetery.

When the site for the cemetery was chosen, it was not considered to be particularly suitable for burials but was selected for the beautiful views of the Mississippi River to the west. The steeply sloped and deeply dissected land was shaped into a series of descending terraces to create space for burials. The terraces were planted with bermudagrass to combat erosion (Figure 65 through Figure 67). Due to erosion and slumping many of the terraces have lost much of their definition.



FIGURE 65. The system of terraces descends from east to west toward the lower lying land associated with the former river channel.



FIGURE 66. View of the terrace system as it descends from the loop road at the higher elevation near the cemetery entrance.



FIGURE 67. Terraces also descend north to south in sections H, F, E, D, C, B, A, and O. These sections are all located south of the loop road between the Indian Mound and the Sylvan Hill plateau.

Mint Spring Bluff has historically eroded and been stabilized many times since 1866 due to weathering and the action of the stream below (Figure 68 and Figure 69). A soil nail stabilization wall was constructed in 2010–2011 along the side of Mint Spring Bluff, which forms the southwestern border of the cemetery. A subsequent project was designed in 2015 in order to stabilize the eroding slope adjacent to Mint Spring Bayou.



FIGURE 68. The Mint Spring Bluff after 2011 stabilization efforts had been initiated.



FIGURE 69. Bluff stabilization (2011) after completion and photographed in 2014.

The rest pavilion is sited at the top of the Indian Mound, the high point of the cemetery. From this location there are commanding views across the cemetery and to the Yazoo River Diversion Canal to the west. This advantageous prospect was formerly the site of a wooden gazebo and the location of the Grant-Pemberton Surrender Interview Monument that now resides at the park visitor center (Figure 70).



FIGURE 70. This photograph from 2011 shows the height of the Indian Mound and the brick pavilion that occupies the summit.

Topographic Modifications

The topography associated with the park and cemetery is varied and marked by dramatic slopes,

deep ravines, and narrow ridges. Within this context, the most distinctive topographic feature of the cemetery is the system of terraces constructed so that the site could accommodate thousands of burials. Each terrace is comprised of a level plateau and a sloped bank (Figure 71).

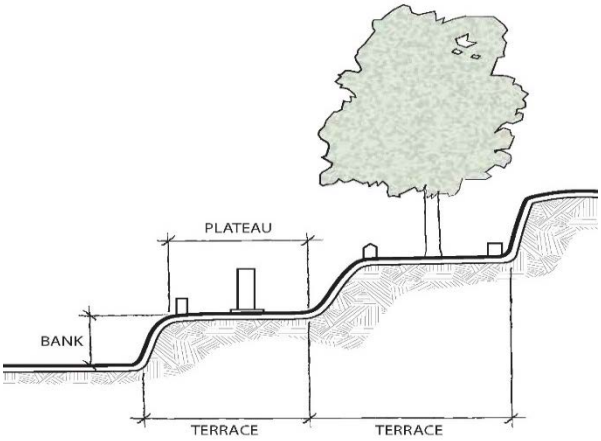


FIGURE 71. A section showing a typical group of terraces at the cemetery.

The terrace plateaus generally range from 50 to 100 feet in width, while the banks range from 5 to 8 feet in height. The plateaus contain the burials marked by grave markers and headstones (Figure 72 and Figure 73). The current cemetery entrance is located at a high point of about 215 feet above mean sea level (AMSL) at the eastern boundary of the cemetery. From the high point, a series of sweeping terraces descend in a generally westward direction toward the Yazoo River Diversion Canal, falling to an elevation of about 100 feet AMSL at the west and southwest boundaries of the cemetery.



FIGURE 72. From the higher elevation at the entrance, the loop road winds through the terraces as they descend east to west.



FIGURE 73. From the lower elevation at the arch marking the original entrance to the cemetery, the terraces are visible ascending in elevation from west to east.

The higher elevation at the cemetery entrance gate affords views over the terraces to the surrounding landscape. Several other features are located on the level plateau at this elevation in addition to the cemetery gate. Features include the superintendent's lodge, cemetery flagpole and bell, and the site of the former rostrum. This area of the cemetery is often called "Sylvan Hill" in historic accounts of the cemetery. The cemetery flagpole sits atop an earthen mound that rises above the surrounding level plateau (Figure 74 and Figure 75).



FIGURE 74. View of the flagstaff on the elevated mound.



FIGURE 75. The area that includes the flagstaff is known as "Sylvan Hill."

The Indian Mound in the southwest area of the cemetery is also a high point with an elevation of approximately 215 to 220 feet AMSL. From the rest pavilion atop the Indian Mound there are expansive views across the cemetery to the north and into the larger landscape, including views toward the Yazoo River Diversion Canal to the west and Fort Hill to the south. Mint Spring Bluff, which supports the Indian mound and the cemetery road, has been stabilized several times due to erosion, most recently in 2011. The top of the bluff is approximately 100 feet above Mint Spring Bayou (Figure 76).



FIGURE 76. View of the 2011 Mint Spring Bluff stabilization project from the top of the Indian Mound.

Patterns of Spatial Organization

The irregularly-shaped Vicksburg National Cemetery takes its form from several exterior limitations that existed at the time of the cemetery's establishment. Of these, only Mint Spring Bayou remains. Today, the cemetery burial area is bounded to the west by North Washington Street (US 61 Business) and the Kansas City Southern Railroad, to the south by Mint Spring Bayou, to the east by the Connecting Avenue, which is part of the park tour road, and the USS *Cairo* Museum, and to the north by successional woodland and a gravel maintenance road (Givens Road), which follows the route of the historic Yazoo City road (Figure 77 and Figure 78).



FIGURE 77. The eastern boundary of the cemetery is edged by Connecting Avenue.



FIGURE 78. The southern boundary of the cemetery includes the forested slopes associated with the Mint Spring Bayou stream valley.

The brick perimeter wall and chain link fence enclosing the burial ground further define the irregularly-shaped cemetery and mark it as a separate, distinct space from the adjacent Vicksburg National Military Park. Passing through the cemetery entrance gate illustrates the transition into a discrete, sacred space. Visible from within the burial ground, the perimeter wall and fence reinforce the sense of enclosure and separation from the adjacent landscape. Forested areas to the north and south of the cemetery also reinforce the sense of interior space (Figure 79 and Figure 80).



FIGURE 79. Spatial definition is created by the perimeter brick wall that separates the cemetery from the USS *Cairo* Museum.



FIGURE 80. The cemetery's perimeter wall reinforces the sense of enclosure and separation from the surrounding forested landscape to the north. Chain link fence has replaced a large section of the north brick perimeter wall.

The major character-defining spatial organization patterns within Vicksburg National Cemetery are the overall topography, with descending terraces that organize the cemetery landscape into distinct spaces, and the geometric rows and patterns of headstones and other markers within the terraces that give spatial quality to each plateau.

The terraces created for burials form distinct spaces as they descend toward the river or Mint Spring Bayou. The terrace banks on the uphill side establish a sense of enclosure for each plateau. The cemetery road forms an irregular loop through the burial ground, winding its way between the terraces (Figure 81 and Figure 82).



FIGURE 81. Slopes and plateaus create a spatial pattern that is repeated throughout the cemetery.



FIGURE 82. The cemetery loop road (Trindle Circle) winds through the spatial pattern of the terraces.

Within each terrace, the headstones are generally placed in a grid pattern, with rows perpendicular to the edge of the plateau. There are also section markers (A through X) located on the terraces. In several of the sections, the headstones are placed in geometric patterns and shapes. In Section G, the stones are organized to form circles, stars, and squares. Mounds O and E, and a portion of Section M are organized in circular patterns. Later burials have sometimes been added to fill the spaces between the geometric shapes, or are located near the margins of the terraces (Figure 83 and Figure 84).

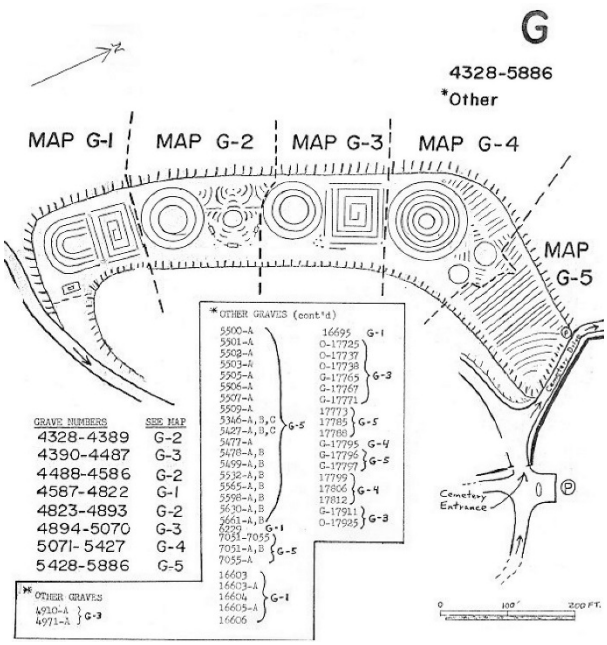


FIGURE 83. Geometric shapes and patterns of headstone markers are characteristic of Section G. Source: Vicksburg National Military Park archives.



FIGURE 84. This photograph depicts the decorative pattern in Section G.

Several large deciduous and evergreen trees are found within the cemetery. Where they are grouped, the trees lend spatial definition to the landscape. When not grouped, the large specimen trees are object-like and convey a picturesque quality to the cemetery (Figure 85). The large trees that edge the loop road create a spatial corridor while also allowing for dynamic views into the broader landscape (Figure 86).



FIGURE 85. Large evergreen and deciduous tree plantings also create spatial definition within the cemetery.



FIGURE 86. Magnolias that edge a segment of the loop road form a linear spatial corridor.

Land Uses and Activities

The primary land uses associated with Vicksburg National Cemetery are cemetery, commemoration, interpretation, maintenance, and housing. The cemetery was established in 1866 and burials began in 1867. It is among the nation's oldest national cemeteries and has the largest number of Civil War interments. Veterans of subsequent wars, the spouses and children of veterans, and cemetery superintendents and their families are also buried in the cemetery. The cemetery has been closed for burials since 1961, although those individuals who have a reserved plot for interment may still be put to rest in the cemetery.

Both commemorative and interpretive land uses are represented by the tablets and markers within the cemetery that identify troop positions and trench locations during the siege of Vicksburg (Figure 87). Features such as the Trindle monument are also commemorative in nature.



FIGURE 87. Marker identifying troop positions and trench locations.

Maintenance uses are associated with the cemetery's maintenance facility, located in the southwest portion of the cemetery (Figure 88 and Figure 89).



FIGURE 88. Cemetery maintenance facility in the southwest portion of the cemetery within the perimeter brick wall.



FIGURE 89. Storage and repair facilities as well as office and archival storage space are located north of the cemetery outside the perimeter brick wall.

Housing land uses are associated with the superintendent's lodge and gardener's cottage. Both serve as private residences for park employees (Figure 90 and Figure 91).



FIGURE 90. The superintendent's lodge continues to serve staff housing needs.



FIGURE 91. The gardener's cottage also serves as park housing.

Other land uses in the cemetery vicinity include education/museum/interpretive functions at the USS *Cairo* exhibit and museum, part of Vicksburg National Military Park. Visitor services, recreation, and commemorative land uses are also associated with the adjacent military park.

Industrial land uses are present west of the cemetery across North Washington Street, along the Yazoo River Diversion Canal. The complex of industrial buildings is visible from many parts of the cemetery (Figure 92 and Figure 93).



FIGURE 92. The industrial complex west of the cemetery is visible from various elevations within the brick perimeter wall.



FIGURE 93. National cemetery in the context of adjacent industrial land use.

Circulation

Circulation within Vicksburg National Cemetery includes the cemetery loop road (Trindle Circle), the maintenance road in the western portion of the site, concrete sidewalks at the superintendent's lodge and rest pavilion, various stairs, and several road traces in the southwestern portion of the site.

The most important circulation feature within Vicksburg National Cemetery is the asphalt-paved loop road that winds through the burial terraces. The one-way, 3/4-mile-long loop road enters and exits the eastern side of the cemetery from Connecting Avenue, which is part of the Vicksburg National Military Park tour road. After entering through the iron cemetery gate near the superintendent's lodge, vehicular traffic travels in a counterclockwise direction through the cemetery, looping around the Indian Mound before returning to exit at the same point (Figure 94 and Figure 95).



FIGURE 94. Trindle Circle just past the main entrance as it descends through the terraces.



FIGURE 95. The north-south alignment of Trindle Circle as it ascends toward the Indian Mound.

The road generally keeps a consistent width along its length, except along the southeast side of the Indian Mound, where it widens to allow for pull-off parking for one or two cars (Figure 96). The road was likely first paved circa 1971 and is in good condition, although in some places the adjacent slope has eroded, undercutting portions of the pavement.



FIGURE 96. Trindle Circle widens in two places near the Indian Mound to allow vehicles to pull over.

Portions of Trindle Circle are lined with concrete gutters, grass swales, and concrete or asphalt curbs (Figure 97 through Figure 99).



FIGURE 97. Combined concrete gutter and curb is also used in some locations along the margin of Trindle Circle.



FIGURE 98. Concrete gutters and grass drainageways are another storm water management strategy used in the cemetery. In this case, a grass strip separates the concrete gutter from the asphalt roadway.



FIGURE 99. The condition of these road features vary. The asphalt curb shown is in poor condition. It is located near the cemetery entrance.

An asphalt-paved maintenance road connects to the west side of Trindle Circle, leading to the gardener's cottage and maintenance shop. Several asphalt spurs extend off the west side of the road near the buildings to allow for parking. A secondary gravel-paved parking area is also located off the east edge of the road opposite the maintenance shop (Figure 100 and Figure 101). Just past the maintenance shop, the asphalt portion of the road ends in a gravel area used as a turnaround.



FIGURE 100. The asphalt-paved maintenance road leads to the gardener's cottage and maintenance shop.



FIGURE 101. There is currently asphalt parking near the buildings and some secondary gravel parking.

Several remnants of earlier cemetery roads remain in the southwest area of the property. These extend from the end of the gravel maintenance turnaround. The original entrance road is visible between the turnaround and the lower cemetery arch (Figure 102).



FIGURE 102. The trace of the original entrance road into the cemetery is evident near the lower arch. The road bed is surfaced with grass and gravel.

An unpaved road remnant is visible in the same vicinity, extending from the maintenance turnaround and curving up the slope toward Trindle Circle, dividing Section J and Section X. The grass-covered road bed was formerly part of the original cemetery drive that connected to the loop road just west of the Indian Mound (Figure 103).



FIGURE 103. The trace of the original road as it passes the maintenance area.

A concrete sidewalk formerly connected a portion of the road with the loop road; although most of this sidewalk is no longer present, brick piers associated with a former set of steps and a length of broken concrete remain (Figure 104 and Figure 105).



FIGURE 104. Part of a broken concrete sidewalk that once led to the loop road remains visible in the landscape.



FIGURE 105. The remnant brick piers and steps adjacent to the road trace.

Both the road trace and lower cemetery arch were used as construction egress for the Mint Spring Bayou stabilization project in 2010–2011. After completion of the work, the road trace was revegetated with grass (Figure 106 and Figure 107).



FIGURE 106. The grass-covered road trace associated with the original cemetery drive.



FIGURE 107. The road trace after its use as a construction egress route for the Mint Spring Bayou stabilization project.

There are very few formal pedestrian paths within the cemetery. Visitors are permitted to walk among the graves and along Trindle Circle. The only sidewalks within the cemetery are located at the superintendent's lodge and the gardener's cottage. These extend between the road and the front porch of each building. The sidewalks are in fair to poor condition. The sidewalk at the superintendent's lodge is severely cracked in many places. This sidewalk formerly had a short set of concrete steps to navigate the grade change between the road and lodge precinct. Piers associated with these steps are still present, and the steps themselves may be present beneath the surface (Figure 108).



FIGURE 108. The sidewalk and piers in front of the superintendent's lodge.

Several other sets of landscape steps are located in other parts of the cemetery to help pedestrians navigate the slopes between cemetery sections. A short flight of brick steps is set in the slope between Section O and Sylvan Hill. The steps are flanked with brick cheek walls and low brick piers, and are in fair condition; the piers have a good deal of material loss, and there is a significant amount of biological growth over the whole feature (Figure 109).



FIGURE 109. Brick steps between Section O and Sylvan Hill.

A set of sandstone steps with cut stone cheek walls and piers is located between sections A and B near the Trindle monument. The steps are in fair condition, with some loss of mortar material and some minimal damage from string trimmers. Adjacent erosion has exposed the base of the steps and threatens their stability (Figure 110).



FIGURE 110. Sandstone steps are located between sections A and B. The Trindle monument is visible in the background.

A longer set of steps, first constructed in 1880, carries pedestrians from Trindle Circle to the top of the Indian Mound. A curved section of concrete sidewalk edged in brick leads from the concrete gutter along the road to the steps. The steps themselves are constructed of brick, with brick cheek walls and concrete-capped brick piers. Level sections between the steps are paved in concrete and edged with brick (Figure 111).



FIGURE 111. View of the pedestrian steps from Trindle Circle to the top of the Indian Mound.

According to park staff, the Indian Mound steps and brickwork were stabilized and repaired in 2005. Additional repairs to the Indian Mound steps were completed in 2019. The steps are currently in good condition due to the implementation of the most recent repairs (Figure 112 and Figure 113).



FIGURE 112. The current condition of the steps is good due to the recent repairs.



FIGURE 113. The brick and concrete steps have been repaired in the recent rehabilitation project.

In addition to the primary vehicular and pedestrian circular routes, several level grass areas that do not contain graves are used as access routes for small maintenance vehicles. Two such routes are denoted by small metal posts, while others are unmarked. A short driveway loop is also located adjacent to the superintendent's lodge (Figure 114 and Figure 115).



FIGURE 114. Grass access route for maintenance vehicles with small metal posts.



FIGURE 115. The concrete driveway loop adjacent to the superintendent's lodge.

Adjacent Circulation Features

Vicksburg National Cemetery is bordered by several adjacent circulation features. A portion of US 61 Business (North Washington Street), borders the west side of the cemetery. The four-lane road is paralleled to the west by the Kansas City Southern Railroad. The railroad line was constructed circa 1882–1884 and was formerly operated by the Yazoo & Mississippi Valley Railroad line, part of the larger Illinois Central Railroad system (Figure 116).



FIGURE 116. US 61 Business parallels the west boundary of the cemetery.

The cemetery is bordered to the east by Connecting Avenue, part of the park tour road system, and the parking area serving the USS *Cairo* Museum. The half-mile-long, two-lane road is one of the only parts of the tour route that is not one-way. From its intersection with Union Avenue at the cemetery entrance, Connecting Avenue runs slightly southwest, crossing Mint Spring Bayou via a modern bridge, and terminating at a three-way intersection with Confederate Avenue and Fort Hill Drive. The park tour route was originally established in 1903–1905 and extends for approximately 16 miles through the park, allowing visitors to experience both the Union and Confederate siege lines. The route includes fifteen designated interpretive stops that highlight pivotal events of the siege; the cemetery is stop number eight. Connecting Avenue approximately follows a portion of the old Yazoo City Road, which was present prior to and at the time of the siege (Figure 117 and Figure 118).



FIGURE 117. Connecting Avenue winding south and parallel to the cemetery perimeter wall.



FIGURE 118. Connecting Avenue winding north toward the entrance of the national cemetery.

Extending from the north portion of the USS *Cairo* Museum parking lot is a short gravel maintenance drive, which provides access to the storage and repair facilities and the archives building. The gravel drive, marked on modern maps as Given Hill Road (also Givens or Givins Road), runs northwest along a portion of the cemetery boundary before turning north and eventually intersecting with North Washington Street. Like Connecting Avenue, portions of this road follow the route of the old Yazoo City Road.

Cultural Vegetation

Plantings are an integral component of Vicksburg National Cemetery. Turf grass is the primary milieu of the planting palette. The turf carpet that characterizes the majority of the cemetery is punctuated by groupings of mature deciduous and evergreen trees, large specimen trees, and rows of trees that line portions of the loop road. The dense woodland that surrounds the cemetery to the north and south provides a framework and spatial container for the designed plantings located within the perimeter wall and fence system. There are also ornamental plantings associated with some of the buildings within the cemetery. They include privet *(Ligustrum vulgare);* boxwood *(Buxus sempervirens);* trumpet vine *(Campsis redicans);* and cosmos *(Cosmos sulfureus).* There is a large crapemyrtle tree, *Lagerstroemia indica)* in front of the Superintendent's Lodge and a small crapemyrtle shrub east of the lodge, near the driveway.

The cemetery is bordered to the south, southeast, and partially on the north by dense woodland that has grown since the mid-twentieth century (Figure 119 and Figure 120). Much of the vegetation that existed prior to the Civil War was cleared to establish the field of fire associated with Union and Confederate military operations in 1862–1863. While some secondary succession followed the end of the Civil War, trees are known to have been planted by the CCC in the 1930s to protect against erosion of the loess soils; this woodland may partially have resulted from the CCC activities.



FIGURE 119. Woodland edges the cemetery to the south and forms a spatial framework for the landscape within the wall.



FIGURE 120. Dense woodland closely edges the brick wall and chain link fence along the southern boundary of the cemetery.

Within the cemetery itself, mature deciduous and evergreen trees have been planted in informal groupings over most of the site and include a variety of oaks (*Quercus alba*, *Q. nigra*, *Q. falcata, Q. virginiana*), hickory (*Carya* sp.), loblolly pine (*Pinus tæda*), Eastern red cedar (*Juniperus*

virginiana), American holly (*Ilex opaca*), Southern magnolia (*Magnolia grandiflora),* and arborvitae (*Thuja occidentalis*). Individual specimens of ginkgo (*Ginkgo biloba*) trees have been recorded as having trunk diameters of 5 feet or greater. Other outstanding specimens include a large Southern red oak (*Quercus falcata*), several flowering dogwood (*Cornus florida*), and a striking saucer magnolia (*Magnolia soulangiana*).

Many of these large trees appear to survive from planting efforts conducted in the early 1900s, or possibly even earlier (Figure 121 through Figure 125). Historic maps of the tree plantings and associated lists of species planted are included in Appendix B.



FIGURE 121. Large white oak located in Section H of the cemetery.



FIGURE 122. Beautiful and extremely large ginkgo located in Section O.



FIGURE 123. Large sweet gum located in Section I of the cemetery.

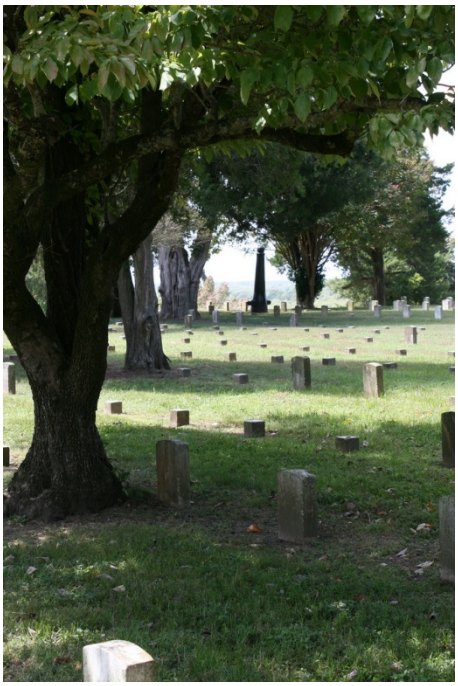


FIGURE 124. View of the impact that mature deciduous and evergreen trees have on the character and feeling of the cemetery landscape.



FIGURE 125. 2004 diagram showing the trees that survived at that time from 1933. Some of the trees that survived in 2004 have since been lost, including losses during a severe storm in December 2018. Source: Vicksburg National Military Park, annotated by the authors.

Dead trees remain standing in some sections of the cemetery; these may present a safety hazard for visitors. Stumps are also present in the landscape in varying degrees of decay (Figure 126 and Figure 127).



FIGURE 126. A dead tree in Section V of the cemetery.



FIGURE 127. A dead pine tree in Section D of the cemetery.

A number of large Southern magnolia trees edge Trindle Circle. Some trees survive from plantings installed during the late 1800s and early 1900s that originally lined the road. While some of the original trees have been lost over time, others are large and appear to survive from the early to mid-1900s. A number of trees were lost or damaged during a wind event in December of 2018. Overall, the surviving trees appear to be in good condition; however, they are vulnerable due to exposure of their roots due to erosion on steep banks. (Figure 128 through Figure 130).



FIGURE 128. Southern magnolia trees line the loop road near the cemetery entrance.



FIGURE 129. Magnolias located on slopes adjacent to the loop road are subject to erosion, which has led to exposure of tree roots on the terrace banks.



FIGURE 130. Root exposure is extensive for many of the trees lining the loop road.

A small grove of large Southern magnolias graces the plateau near the cemetery entrance. There are also two additional groves of magnolias located to either side of the cemetery arch at the original lower entrance (Figure 131 and Figure 132). These appear to have been planted to heighten the drama associated with entering the cemetery through the arches.



FIGURE 131. Grove of Southern magnolia trees near the cemetery entrance. Also associated with the grove are deciduous trees, including a crapemyrtle. These trees provide shade and the crapemyrtle color near the flagstaff. This was also the site of the rostrum, which is no longer present.



FIGURE 132. Large Southern magnolias frame the arch at the original lower entrance to the cemetery

The large specimen trees with root systems that match their extended age pose a threat to the cemetery markers and stones. Existing conditions reveal examples of absorption of the stones into the expanding root systems. (Figure 133 and Figure 134).



FIGURE 133. Specimen red cedars with large trunks, are engulfing one of the stone markers of unidentified soldiers.



FIGURE 134. The expanding root and trunk growth of a large gingko tree in Section 0-2 threatens to engulf nearby cemetery markers.

The turf lawn that covers much of the cemetery is predominantly composed of bermudagrass *(Cynodon dactylon)*, a non-native grass species also used throughout Vicksburg National Military Park (Figure 135 and Figure 136).



FIGURE 135. The use of turf grass as a groundcover has characterized the cemetery since its establishment in the late 1860s.



FIGURE 136. The grass is meticulously maintained for aesthetics. The turf also helps to stabilize the slope faces of the terraces by covering and protecting the soil from overland storm water flow.

Bermudagrass is generally thought to provide a high level of protection against soil erosion. The turf is mowed regularly; string trimmers are used around grave markers where the mowers are too large to cut the grass near the stones. This also protects the grave markers from being damaged by the mowers (Figure 137). Areas with dense tree cover tend to have sparse grass cover due to shade conditions and competition (Figure 138).



FIGURE 137. Grounds staff use string trimmers to mow the grass around individual markers. Mowing equipment is sometimes lowered by rope to maintain the slope faces.



FIGURE 138. The dense shade associated with large tree canopies leads to sparse grass cover in some areas, which contributes to erosion.

There are currently very few ornamental plants in the cemetery. In the late 1800s and early 1900s, ornamental plantings were more prevalent. Existing ornamental plantings are located at the superintendent's lodge and gardener's cottage. Species included in these plantings are crapemyrtle, English boxwood (*Buxus sempervirens*), and roses (*Rosa* spp.) (Figure 139).



FIGURE 139. Ornamental shrub near the gardener's cottage.

Additionally, there is a row of firethorn (*Pyracantha coccinea*) between Trindle Circle and the chain link fence above Mint Spring Bluff (Figure 140). The firethorn was planted in association with the completion of the 2011 bluff stabilization project.



FIGURE 140. A row of firethorn shrubs lines the black chain link fence above Mint Spring Bluff.

Buildings and Structures

Perimeter wall. The brick perimeter wall that edges the east and west sides of the cemetery and encloses two terraces that were not part of the original cemetery, was built in 1874 in response to post-Civil War legislation that mandated fencing of national cemeteries.[137] The walls as constructed were 4 feet high and 2 feet thick. The original design of the masonry wall featured a coping composed of the top course of bricks, and pyramidal caps on the piers. While some sections of the wall have been reconstructed to match the original design and are in the original location, other sections have been rebuilt with a different method, or in a different location.

Most of the surviving segments of the wall have lost their pyramidal pier caps (Figure 141 through Figure 144). The only remaining section of wall that is representative of the original 1874 design, and is built on the original alignment, is a small section along the southern boundary. Construction dates for most other sections range from the late 1930s to the 1950s.[138] Plans for wall rehabilitation that date to 1957 are included in Appendix B.

137. *An Act to Establish and to Protect National Cemeteries*, approved February 22, 1867.

138. Ibid.



FIGURE 141. Existing perimeter wall with brick coping at the east boundary of the cemetery.



FIGURE 142. Existing perimeter wall with brick coping at the west boundary of the cemetery.



FIGURE 143. Existing perimeter wall with brick coping at the west boundary of the cemetery.

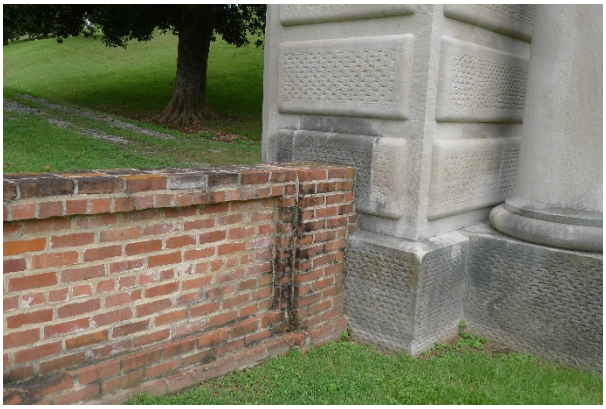


FIGURE 144. Existing perimeter wall with brick coping at the south boundary of the cemetery, adjacent to the entrance arch.

Superintendent's lodge. The existing superintendent's lodge was constructed in 1928, and replaced an earlier lodge built in 1868 on the same site. The current lodge is in the Shingle-style. Rectangular in plan, the lodge features a gambrel roof clad with asphalt shingles, a concrete foundation, weatherboard wood siding on the main block and weathered wood shingles in the gable ends and dormers. There is a porch at the northeast corner. Two square brick piers support the second level at the porch. The roof has a painted wood fascia and drains to hanging half-round gutters leading to downspouts that discharge at grade. The wood windows have divided light upper sash and single light lower sash; most openings are protected by triple track storm units. The building has two concrete chimneys penetrating the roof. In 2011, the superintendent's lodge was painted, reroofed, and repaired (Figure 145).



FIGURE 145. The superintendent's lodge was constructed in 1928 to replace an earlier lodge built in 1868.

Gardener's cottage. The gardener's cottage was constructed in 1882–1883. The building was significantly renovated in 1931, including the construction of a new second floor under a gambrel roof. The building is rectangular in plan and symmetrically arranged around a central hall. The exterior walls at the first floor and gable ends of the second floor are constructed of red brick masonry set in a common bond. The brick foundation wall is one wythe (a continuous vertical section of masonry one unit in thickness) thicker than the first floor walls, and a course of chamfered rowlock bricks demarcates the top of the foundation. The gambrel roof is covered with asphalt shingles, has a painted wood fascia, and drains to semicircular hanging gutters connected to downspouts that discharge at grade. There are two brick chimneys that project from the roof and correspond with each side of the entrance hall. The front of the building has a covered porch at the front door with a concrete stoop, wood columns, and a shed roof covered with standing seam sheet metal (Figure 146).



FIGURE 146. The gardener's cottage was constructed in 1882-1883, and significantly renovated in 1931.

Maintenance shop building. The maintenance shop building was constructed in 1931. It is rectangular in form with a two-story central block flanked by single-story wings. The raised painted concrete foundation supports brick exterior walls set in an English bond with headers located every sixth course. The central portion has a front-gable roof while side gable roofs cover the flanking wings. All roofs are covered with asphalt shingles and drain to half-round gutters attached to painted wood fascia and downspouts discharging at grade. Openings have painted wood lintels and sills. Windows include wood multi-light pivot windows and wood multi-light double-hung windows, typically six-over-six lights. There are several pairs of sliding wood doors located inboard of the exterior wall, as well as paired and single swinging doors (Figure 147).



FIGURE 147. The maintenance shop building was constructed in 1931.

Rest pavilion. The rest pavilion was constructed in 1931, replacing an 1880s arbor on the same site. The pavilion is constructed of red brick set in a Flemish bond pattern with a single arched entrance opening with a limestone keystone on the north and south elevations and paired arched window openings with limestone sills and keystones on the east and west elevations. The pyramidal roof is covered with composite asbestos shingles with copper ridge caps. At the base of the roof there is a white painted wood fascia supporting a gutter that drains into two copper downspouts located on the north elevation (Figure 148).



FIGURE 148. The rest pavilion atop the Indian Mound was constructed in 1931, replacing an 1880s arbor.

Entrance arch. The entrance arch at the original vehicular entrance to the cemetery from North Washington Street is a limestone structure built in 1879. The arch is approximately 35 feet tall with a 20-foot-tall opening. The semicircular arch entrance portal is surrounded by rusticated ashlar masonry supporting an entablature. In front of the portal and wall on both faces of the arch is a pair of freestanding Doric columns supporting a projecting portion of the entablature. An inverted-arch iron swinging gate is present at the roadway (FIGURE 149).



FIGURE 149. The entrance arch was constructed in 1879. It was originally designed for carriages and later used by automobiles and other vehicles.

Entrance gate. The current entrance used by visitors and park staff to enter the cemetery is located at the east side of the property. It is approached from the park tour road near the visitor parking lot for the USS *Cairo* Museum. The gate is an ornate structure composed of black painted cast iron posts topped with gold painted urns and decorated with select gold painted reliefs. The posts, located on either side of the roadway, each support an arched-topped black painted iron swinging gate at the roadside and a smaller swinging pedestrian gate at the opposing side of the post. Pedestrian gates terminate at cast concrete posts abutted by low brick walls (Figure 150).



FIGURE 150. Entrance gate at the east side of the cemetery.

Flagstaff. The Vicksburg National Cemetery flagstaff is located south of the superintendent's lodge, on a constructed earthen mound that rises above the surrounding Sylvan Hill plateau. The flagstaff is located at the highest elevation in the cemetery and is clearly visible from Trindle Circle and various vantage points within the cemetery (Figure 151).



FIGURE 151. The flagstaff is set on a low mound and is visible from many parts of the cemetery property.

Adjacent Buildings and Structures

Several buildings are located adjacent to the cemetery. The USS *Cairo* Exhibit and Museum are located east of the cemetery perimeter wall (Figure 152). The brick museum structure with a tensile fabric structure covering the *Cairo* were

opened in 1980. The current tensile fabric canopy was installed in 2002 and 2003. North of the cemetery perimeter wall is a storage and maintenance facility, which includes a shop specializing in creating and repairing cannon carriages, as well as a climate-controlled building which houses the park archives (Figure 153). The entire complex is surrounded by a chain link fence.



FIGURE 152. USS *Cairo* Museum is located immediately adjacent to the cemetery entrance.



FIGURE 153. Storage and maintenance facility north of the perimeter wall.

Views and Vistas

There are many notable views within, from, and into the cemetery. One of the spectacular views of the cemetery is available from the Vicksburg National Military Park tour road. From this vantage point, the public entrance to the cemetery at the eastern boundary is visible, along with the brick perimeter wall, the superintendent's lodge, and the flagstaff (Figure 154).



FIGURE 154. View into the cemetery from the park tour road.

The cemetery is also visible from Fort Hill. The Indian Mound and rest pavilion, and southern burial terraces are visible, as are the Mint Spring Bayou riparian corridor and the soil nail wall installed in 2011 to stabilize Mint Spring Bluff (Figure 155).



FIGURE 155. View from Fort Hill toward the national cemetery.

From North Washington Street, west of the cemetery, there are views of the western part of the cemetery, the cemetery wall, and the original entrance arch (Figure 156 and Figure 157).

There are expansive views in every direction from the pavilion atop the Indian Mound. Views include the cemetery within the perimeter wall and the larger landscapes beyond the wall (Figure 158).



FIGURE 156. The cemetery wall visible along North Washington Street.



FIGURE 157. View of the cemetery wall and arch at the original entrance from the lower elevations.



FIGURE 158. View to the west from the Indian Mound.

The stepped terraces of the cemetery, which descend to the west, direct expansive views toward the Yazoo River Diversion Canal and the lower burial terraces. From the higher elevations of the cemetery, views are afforded to the surrounding landscape that are often framed by large specimen trees or groups of trees. In some areas, the views from upper terraces are framed by the canopies of the large trees. In other areas, potential views are blocked by groups of trees (Figure 159 and Figure 160).



FIGURE 159. Framed vista looking toward the Officer's Mound between large tree groupings.



FIGURE 160. A potential view from the higher elevations is blocked by a grouping of trees.

Interior views include the terraces, headstones, and markers that define the cemetery landscape. Within each terrace, the enclosing slope and rhythmic pattern of headstones directs linear views along the length of the terrace (Figure 161).



FIGURE 161. Headstones direct linear views along the terraces.

There are also numerous views within the cemetery and along Trindle Circle of the Indian Mound and rest pavilion. This distinctive landscape element is a dominant visual feature of the cemetery (Figure 162 and Figure 163).



FIGURE 162. View to the Indian Mound and rest pavilion from Trindle Circle.



FIGURE 163. View of the rest pavilion atop the Indian Mound in the landscape context of the cemetery.

Views of the cemetery from the top of the Indian Mound reveal the geometric patterns of the headstones and the park-like setting of the sculptured terraces. Linear views are created along Trindle Circle by the large magnolia and other species of trees that line various segments of the cemetery loop road (Figure 164 and Figure 165).



FIGURE 164. View from the elevated height of the Indian Mound.



FIGURE 165. Views along Trindle Circle are framed by large trees.

Several views are available from within the cemetery toward adjacent structures associated with land uses beyond the cemetery boundary. From the lower terraces of the cemetery, North Washington Street and industrial warehouses are visible (Figure 166). At the current entrance to the cemetery and in association with the upper terraces, the USS *Cairo* Museum and protective tensile structure are visually prominent.



FIGURE 166. Warehouses are visible west of the cemetery from the lower elevations. There are no trees in this area to screen these views.

Small-scale Features

Small-scale features in Vicksburg National Cemetery include the thousands of grave markers, various monuments, memorials, wayside tablets and other signs, fencing, and site furnishings.

Grave markers and headstones. A prominent feature of the cemetery is the dramatic system of carefully aligned rows of white marble grave markers and headstones. The graves of identified Union soldiers and sailors, totaling approximately 4,000, are marked with upright, rounded marble tablet stones. The graves of the nearly 13,000 unidentified interments are marked with small, square, granite blocks, engraved with a number (Figure 167 and Figure 168).



FIGURE 167. View of carefully-arranged rows of grave markers in the cemetery landscape.



FIGURE 168. The graves of identified soldiers and sailors are marked with taller white marble headstones while unidentified remains are marked by low granite blocks.

The granite block markers were placed at the graves of unknown soldiers in 1875. The majority of these markers are in fair condition, with some deterioration of the edges, and weathering of the engraved numbers. A few of the granite markers are in poor condition. Some have deteriorated and numbers are no longer legible. Others are missing large pieces of stone, or have become engulfed by tree roots (Figure 169 through Figure 171).



FIGURE 169. The small square stones of the unidentified soldiers are visible throughout the cemetery and far outnumber the headstones that mark interments of identified soldiers and sailors.



FIGURE 170. This marker of an unidentified interment has deteriorated and the numbers are no longer legible.



FIGURE 171. This small square marker has been engulfed by tree roots.

Many of the marble headstones that mark the graves of identified Union soldiers and sailors are associated with Civil War-era burials. These are incised with a shield emblem with raised letters depicting the soldier's first name or initial and surname, the grave number, and the state where he enrolled. Officers' headstones are also marked with their rank, while headstones of soldiers who served in the US Colored Troops are marked with "U.S.C.T." rather than their state (Figure 172 and Figure 173).



FIGURE 172. Civil War-era marble headstone.



FIGURE 173. The headstone of an identified soldier of the US Colored Troops.

The headstones of identified soldiers are consistent in style with those found in other Civil War-era national cemeteries. The Civil War-era headstones are generally in fair condition. Adverse conditions include deterioration of edges, biological growth, weathering of the raised letters, and damage from mowers and trimmers (Figure 174 and Figure 175).



FIGURE 174. Civil War-era stone in fair condition, with some deterioration of edge and biological growth.



FIGURE 175. Civil War-era stones displaying wearing of raised letters, biological growth and some damage from trimmers.

Like the granite markers, some of the headstones have been partially engulfed by tree roots. There is evidence that damaged markers have been repaired with epoxy or stabilized and protected with plastic or metal piping (Figure 176 and Figure 177).



FIGURE 176. Repair executed with epoxy or mortar.



FIGURE 177. This marker has been stabilized and protected from further damage by mowers using plastic piping.

Where a spouse is buried in the same grave as a soldier or sailor, their name is often engraved on the back of the headstone (Figure 178 and Figure 179).



FIGURE 178. The name of a soldier's spouse (buried in the same grave as her husband) is often incised on the back of the headstone.



FIGURE 179. Another view of a spouse's name engraved on the back of her husband's headstone. This marble headstone is in poor condition due to the pronounced horizontal crack.

Burials of veterans and casualties of wars following the Civil War, as well as replacement headstones for Civil War-era burials, are generally upright marble tablets with rounded tops. These tend to be slightly larger than the Civil War-era stones and include additional information in the engraving, including the name, rank, state, corps or division, branch of service, dates of birth and death, war or wars in which the individual served, and an emblem of belief (Figure 180 and Figure 181). Each of headstone also displays an incised grave number, typically located on the back of the stone (Figure 182). There are also individually unique headstones scattered around the cemetery, such as that of an Australian World War II airman (Figure 183).



FIGURE 180. Markers of burials from subsequent wars shown in front of Civil War-era markers behind.



FIGURE 181. This is a headstone for a soldier who served in World War II. It contains more information about the individual than the Civil War-era headstones.



FIGURE 182. Grave numbers are typically inscribed on the back of the headstones, as shown above.



FIGURE 183. These two adjacent headstones mark the grave of an Australian World War II veteran. The headstone on the left was furnished by the Australian government after 2000.

Post-Civil War spousal burials are marked with a second gravestone placed in back of that of the serviceman. These headstones are generally in fair condition. Some exhibit chipped or degraded edges, illegible text, and biological growth (Figure 184 and Figure 185).



FIGURE 184. Post-Civil War spousal burials are marked with headstones placed back-to-back with the veteran's stone.



FIGURE 185. Several post-Civil War headstones have chipped edges and demonstrate biological growth.

There are currently very few stones that are leaning, fallen, or out of alignment, due to a recently-completed resetting and realignment project. However, there are many stones that have sunk into the ground or have been pushed below the grade to facilitate mowing. According to park staff, there are more than 700 of these fully or partially buried grave stones.

In addition to Union burials, there are two Confederate soldiers and one unknown soldier buried in Vicksburg National Cemetery. Two of these burials are designated by marble headstones with a gabled top, engraved with the soldier's name, rank, company and battalion, state, and date of death. The stones are also engraved with the outline of the Southern Cross of Honor, a commonly used symbol on the graves of Confederate soldiers who served honorably.

In several locations, larger monuments marking the graves of veterans were erected by families who chose not to use the government's standardized headstones. These are scattered throughout the cemetery and take a variety of forms, including large headstones on bases, extra-large tablets, and obelisks (Figure 186 through Figure 188).



FIGURE 186. This private marker is CPT Ridgely Lilly's gravestone. Lilly, who died in 1930, was a veteran of World War I.



FIGURE 187. An example of a privately erected obelisk-style grave marker.



FIGURE 188. This privately-erected marker is larger than the government-issued standard headstone.

A large pedestal monument marks the graves of former cemetery superintendent, John Trindle, and his family. The monument is constructed of a dark grey granite, topped with a white marble statue of a woman. The family plot is delineated by a granite curb engraved with the names of the superintendent, his wife, Charlotte, and their children, several of whom died during a yellow fever epidemic in 1878. The monument itself is in good condition apart from some biological growth on the statue. The curb is generally in good condition but exhibits some chipping at the corners. There is also grass growing between the curb joints. (Figure 189 and Figure 190).



FIGURE 189. The Trindle family plot and monument.



FIGURE 190. The Trindle monument is in good condition.

Adjacent to the Trindle monument are grave markers for Thomas O'Shea (also Thomas Shea), another former cemetery superintendent, and his infant daughter Catherine. Thomas O'Shea's grave marker is the standard headstone for veterans of wars subsequent to the Civil War. Catherine's grave marker is more decorative. The marble headstone sits on a stone base, and has a carved lamb at the top, a motif common to children's graves. The headstone itself is in fair condition; however, one corner of the stone base has broken off, probably due to contact from a mower. Additionally, the decorative lamb sculpture on top of the headstone is severely deteriorated. Next to the Catherine O'Shea marker is a scroll-top headstone marking the grave of William Vick McCray (Figure 191 through Figure 194).

Also buried in the cemetery is Capt. William Titus Rigby, a member of the original Vicksburg National Military Park Commission and second chairman of Vicksburg National Park. He is buried next to his wife, Eva, in section L near the 25th and 31st Iowa Monument. Low slant-faced stone markers indicate their burial sites. Both died in the late 1920s (Figure 195).



FIGURE 191. Three markers adjacent to the Trindle monument indicate the graves of Thomas O'Shea, Catherine O'Shea, and William Vick McCray.



FIGURE 192. The William Vick McCray headstone.



FIGURE 193. The headstone for Catherine O'Shea features a carved lamb on top, which was a common practice for children's graves in the 1800s.

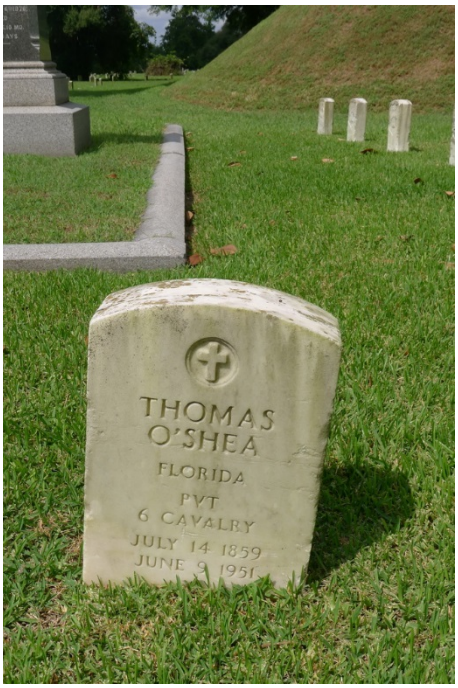


FIGURE 194. The Thomas O'Shea marker is representative of the standard headstone of veterans of wars subsequent to the Civil War.



FIGURE 195. These stones mark the graves of for Capt. William Titus Rigby and his wife, Eva.

Section markers. Each of the twenty-four burial sections (excluding the two mounds) is marked with at least one marble marker etched with an associated letter. These free-standing markers are typically located near the loop road and placed parallel to the direction of travel. Each marker measures 16 inches across and 9 inches wide and has a triangular cross-section. The markers are generally in fair condition; however some have been damaged along the edges (Figure 196 through Figure 198).



FIGURE 196. Section marker G has been damaged along the edge. It is also sliding down the slope face.



FIGURE 197. Section marker I has been damaged along the top edge.



FIGURE 198. Section marker M exhibits damage to the stone and has been displaced from its original location.

Monuments and memorials. Several monuments and memorials are located in Vicksburg National Cemetery. The largest of these is the 25th and 31st Iowa Infantry Monument, located in Section L near the steps to the Indian Mound. The monument is similar in style to other Iowa Infantry Monuments located within Vicksburg National Military Park. The monument was erected in 1905 and designates the positions of the two units during the siege. Two bronze tablets mounted on the monument face indicate the casualties of each unit (Figure 199 through Figure 201).



FIGURE 199. The Iowa Monument located in Section L of the national cemetery.



FIGURE 200. The rear face of the Iowa Monument.



FIGURE 201. The monument as it relates to other features of the cemetery.

Three upright cannon, also called gun monuments, are located at various places within the cemetery. Ten cannon were placed throughout the cemetery in 1874–1875 as decorative monuments; these three are the only ones remaining. All three cannon are set with the breech end buried in the ground and the muzzle pointed skyward. Each is painted black and is in good condition.

Gun monument 1 is located on the triangular turf island where Trindle Circle intersects the maintenance spur road. The barrel is etched with an eagle holding an olive branch in its right talon and a bundle of three arrows in its left talon (the official version of the seal has thirteen arrows). Below the eagle is a raised inscription that reads "This Gun Monument Erected on the 13th April 1874." Both the outline of the seal and the raised letters are painted white. A plaque is affixed between the two trunnions at the base of the cannon. The plaque is inscribed with a more official version of the Great Seal, the name of the cemetery, its date of establishment, and the numbers of known and unknown interments at the time the monument was installed. Portions of the plaque are painted white (Figure 202).



FIGURE 202. Gun monument 1 located on the triangular turf island where Trindle Circle intersects the maintenance spur road.

Gun monument 2 is located in the center of Mound E in the southwest corner of the cemetery. The 10-inch columbiad cannon was modified in 1888 to serve as a fountain by forcing a jet of water through the bore and a nozzle drilled into a cannonball placed on the muzzle. The fountain has not been in use since 1923 and the concrete basin was filled in 1925. The nozzle and cannonball remain present (Figure 203).



FIGURE 203. Gun monument 2, once used as a fountain, is located in the center of Mound E.

Gun monument 3 is located in the southwest portion of Section O, between two rows of headstones (Figure 204). Like gun monument 2,

the cannon has a cannonball set on the flared muzzle. This monument is leaning significantly to one side and exhibits some rust at the base below the trunnions where the paint has worn away.



FIGURE 204. Gun monument 3 located in the southwest portion of Section O.

A grouping of smaller monuments stands near the flagstaff mound. One is a monument to Union soldiers who died in Vicksburg as prisoners of war after being captured at the Battle of Chicksaw Bayou in 1862 and are buried in the Confederate section of Cedar Hill cemetery (Figure 205). The slant-faced granite block is mounted on a concrete base and fixed with a metal plaque. The plaque is engraved with the names of the 44 soldiers known by name and dedicated to the others who remain unidentified. The memorial is in good condition with the exception of some staining on the sides.



FIGURE 205. Union soldiers honored by this monument were captured at the Battle of Chickasaw Bayou in 1862 and died at Vicksburg as prisoners of war.

The other three monuments in the grouping are low, flat marble slabs, each commemorating the death of a soldier who fought in the Vietnam War. Colonel Lunsford, still listed as missing in action, is honored here, as well as two other soldiers who were cremated with their ashes scattered (Figure 206). Each of the blocks is set in concrete and engraved with the soldier's name, rank, service, and dates of birth and death. The memorials are in fair condition. Each has some biological growth and the concrete base of at least one is cracked in several places. One of the stones is chipped along the corners.



FIGURE 206. Three monuments within the cemetery commemorate veterans of the Vietnam War.

Tablets, position markers, and plaques. Several bronze tablets are set within the cemetery to indicate the positions of troops during the siege. Two bronze tablets indicate the positions of the 25th and 31st Iowa Infantry sharpshooters, part of the units commemorated by the large monument in Section L. Both tablets have raised lettering and are mounted at an angle on granite posts. The tablet to the 31st is located in Section E, while the tablet to the 25th is located in Section B (Figure 207 and Figure 208). The tablets were installed circa 1905. Both measure 2 by 3 feet in size, and are in good condition.



FIGURE 207. Bronze troop position tablet located in Section E.



FIGURE 208. Bronze troop position tablet located in Section B.

Related to these tablets are three position markers, which indicate the trench locations of Union troops under the command of C.R. Woods. This type of upright cast iron marker is also found throughout Vicksburg National Military Park to indicate troop positions during the siege and battle. Of those located within the cemetery, one is found at the edge of Mound E, the second edges the loop road west of the Indian Mound, and the third is along the margin of the loop road in Section O (Figure 209). Each has raised white-painted letters that read "U S / Union Trench / C R Woods' Brigade." The markers and the posts that support them are painted blue to indicate that this was a Union position.[139]The position markers are in good condition apart from some general wear to the paint. The park follows a preventative maintenance program that entails cleaning the tablets with high pressure water spray and, as needed, sandblasting and repainting.[140]



FIGURE 209. Two examples of position markers in the national cemetery.

A number of cast iron plaques are placed along the loop drive throughout the cemetery. These plaques are painted black with raised white lettering and display cemetery rules, the text of the national cemetery establishment act, and the lines of the poem "Bivouac of the Dead." The plaques are mounted at an angle on black-painted wood posts set in concrete bases. Similar tablets are found in national cemeteries throughout the United States. The plaques are generally in good condition apart from some general wear to the paint. They are cared for and periodically repainted under the same maintenance program as the position markers. The wood posts are in fair condition. The bases of most of the posts have been damaged by string trimmers (Figure 210).

139. Confederate troop position markers, located in Vicksburg National Military Park, are painted red.

140. Wiss, Janney, Elstner Associates, Inc., *Vicksburg National Military Park Cultural Landscape Report* (National Park Service, 2009), 134.



FIGURE 210. The wood posts that support plaques along the loop road in the cemetery are in fair condition due to deterioration of the wood at the base caused by string trimmers.

Ten of the cast iron plaques contain lines from Theodore O'Hara's elegiac poem "Bivouac of the Dead." Each tablet contains a half stanza (four lines) of the poem. O'Hara, a former newspaper editor, served in the Confederate Army during the Civil War. He is not usually credited for the poem where it appears in national cemeteries. The plaques were manufactured by the War Department's Rock Island Arsenal in 1881–1882 and supplied to the national cemeteries for installation. Only a few cemeteries still have the signs on display. In Vicksburg National Cemetery, the stanzas do not appear in order, and a few are repeated. Several of the signs also appear to be recently-installed cast aluminum replacements (Figure 211).



FIGURE 211. Cast iron plaque with lines from the poem "Bivouac of the Dead."

Six cast iron plaques contain a portion of the text of the "Act to Establish and to Protect National Cemeteries." Section 3 of the act is displayed on all six tablets. It outlines the punishment for willfully damaging any gravestone or plant within the cemetery, as originally enacted in 1867. These plaques are located at the edge of Mound E near the cemetery arch; near the steps that lead to the top of the Indian Mound; along the loop road in Section V; and in Section O. One of the three plaques located in Section O is opposite the Prisoner of War and Vietnam memorials, while the other two are near the grave markers (Figure 212).



FIGURE 212. Portion of the text of the "Act to Establish and to Protect National Cemeteries."

Two cast iron plaques, one located near the current cemetery entrance and the other near the historic lower entrance, convey the rules associated with visitor conduct while in the cemetery. These were set forth by the War Department in 1875. The four rules posted on the signs indicate there is to be no picnicking or vending of food, the hours of cemetery use (sunrise to sunset), the speed of horse-drawn carriages to be limited to a walk, and the requirement that the rules be posted at the main entrance to the cemetery (Figure 213).



FIGURE 213. Cast iron plaque outlining rules associated with visitor use of and conduct within the cemetery.

Another cast iron plaque displays the full text of President Abraham Lincoln's Gettysburg Address, given at the dedication of Soldier's National Cemetery at Gettysburg in 1863. Like the other plaques, this one is painted black with raised lettering painted white. The plaque is mounted within a black metal frame on two support posts, each set in a concrete base. The plaque is located at the edge of Section V, near the intersection of the cemetery loop road and the maintenance spur road (Figure 214).



FIGURE 214. The upright cast iron plaque that displays the text of the Gettysburg Address.

A low concrete block inset with a bronze medallion etched with a cross, of unknown origin, is located in the northern part of Section M. One arm of the cross is marked with the number 36, and another is marked with an N, but does not point north. Both the block and the medallion show signs of damage from mowers. The purpose of this block is unknown; however, it is similar to (but not entirely consistent with) USGS benchmarks and boundary markers found within other parts of Vicksburg National Military Park (Figure 215).



FIGURE 215. Concrete block with a bronze medallion of unknown origin in Section M.

Signs. A number of additional signs are located throughout the cemetery. A low profile wayside exhibit, installed in 2012, is located in Section M, adjacent to Trindle Circle. This wayside is a standard NPS wayside frame, mounted in a concrete base. The wayside panel interprets the role that African Americans played in the Civil War as part of the US Colored Troops. A QR (quick response) code on the side of the sign links to a short video with more information about the US Colored Troops and their service in the Civil War (Figure 216).



FIGURE 216. Low profile wayside exhibit located along the loop road in Section M.

A metal tour stop sign is located just outside the current entrance gate. The rectangular sign was installed between 2010 and 2014, replacing an earlier metal sign mounted on a post (Figure 217).



FIGURE 217. The metal tour stop sign outside the current entrance gate.

Several trees in the cemetery feature small signs identifying the species by their common and botanical names. These signs were installed as a volunteer project by a group of botanists with the US Corps of Engineers in 2015 or 2016. The vinyl signs have white letters and were likely originally painted brown (Figure 218). A few trees have small round metal tags with a tree number. These survive from a 1933 tree survey.



FIGURE 218. Some tree species are identified with vinyl sign with white letters nailed to the trunk like this Southern magnolia.

Two small metal National Park Service identification signs are located in front of the superintendent's lodge and the gardener's cottage, to mark the fact that these are used as private residences. There are also several standard directional and speed limit signs located along the loop road.

Fences. A chain link fence has replaced the brick perimeter wall along portions of the north and south boundary of the cemetery. The galvanized steel chain link fence is 6 feet tall and is generally in fair condition, with some areas beginning to lean. The north fence has a vehicular gate near its northeast corner (Figure 219 and Figure 220).



FIGURE 219. Chain link fencing lines portions of the north boundary of the cemetery.



FIGURE 220. Chain link fencing is also found along the south boundary of the cemetery.

A 4-foot-tall black chain link fence lined with plantings of firethorn shrubs was installed along the top of Mint Spring Bluff following stabilization work conducted in 2011. A gate in the fence allows maintenance access to the space between the two soil nail walls. The top edge of the lower soil nail wall is lined with a metal post and cable fence for worker safety (Figure 221).



FIGURE 221. The black chain link fence that edges Mint Spring Bluff and the metal post and cable fence located on the top edge of the lower soil nail wall.

A low pipe metal fence, painted black, is located along a collapsed portion of the perimeter wall east of the entrance arch. The fence is composed of metal posts set in concrete bases, with a single pipe metal rail between the posts (Figure 222).



FIGURE 222. Black metal fencing located east of the entrance arch.

Access to grass roads used by park staff and maintenance personnel is controlled via low gates. The gates are composed of two metal posts connected by a metal cable. Both the posts and cable are severely rusted. One gate is missing the connecting cable (Figure 223).



FIGURE 223. Metal post used to control access to a grass service road in the cemetery.

Both the superintendent's lodge and the gardener's cottage feature small private areas contained by vertical board fences. These were erected in the 1990s. They are painted ivory to match the trim of the buildings (Figure 224 and Figure 225).



FIGURE 224. Board privacy fence adjacent to the superintendent's lodge.



FIGURE 225. Board privacy fence adjacent to the gardener's cottage.

Site Furnishings. Very few site furnishings are located within Vicksburg National Cemetery. They include three wood and metal picnic tables for the exclusive use of cemetery staff and residents. These are located near the southwest corner of the maintenance shop, on the north side of the gardener's cottage, and south of the superintendent's lodge. The tables are in fair condition, with some rusting on the metal supports, and warped wood boards. Visitors can use picnic tables located near the USS *Cairo* Museum, located in the turf area between the cemetery perimeter wall and the museum parking area (Figure 226 through Figure 228).



FIGURE 226. Picnic table located on the north side of the gardener's cottage.



FIGURE 227. Picnic table located near the superintendent's lodge.



FIGURE 228. Picnic table in the turf area near the USS *Cairo* Museum.

Located near the flagstaff mound behind the superintendent's lodge are a cast bronze bell mounted on metal supports and a metal box for storing flags. The metal flag box is mounted on a metal post and set within a wisteria (*Wisteria sinensis*) hedge to be hidden from view. The box contains a prisoner of war/missing in action

(POW/MIA) flag and other materials for flagpole maintenance (Figure 229).



FIGURE 229. Metal flag box within a wisteria hedge located north of the flagstaff and mound.

The bell is located just north of the flagstaff mound and is mounted on a yoke set between two metal supports anchored in a concrete base. A crank is mounted to the clapper bolt at the center point of the yoke. The bell, yoke, and crank date to the early years of the cemetery, when the bell was rung to signal the end of the work day for cemetery laborers. An inscription band just below the shoulder of the bell reads "Cast by G. L. Hanks. Cincinnati, Ohio." The bell is in fair condition; the bell itself is rusted and stained, and the yoke and supports are rusted and have lichen growth (Figure 230).



FIGURE 230. The bell is located north of the flagstaff mound.

There is also a cast-iron and wood bench located along the east wall of the maintenance shop (Figure 231). Additional similar benches were formerly located throughout the cemetery, including for the former rostrum. All except one have been relocated to different locations within Vicksburg National Military Park.



FIGURE 231. Existing cast-iron and wood bench is located in the maintenance shop.

Associated Small-scale Features. There are a number of small-scale features located in the 80 acres of the cemetery site outside the original 40-acre tract. The majority are associated with the USS *Cairo* Museum, and include picnic tables, outdoor lighting, interpretive and regulatory signs,

a flagpole, refuse and recycling receptacles, decorative fencing, and an interpretive kiosk (Figure 232).



FIGURE 232. Picnic tables and a wayside sign are part of the USS *Cairo* gunboat and museum grounds.

Utilities and Drainage Infrastructure

Drainage at Vicksburg National Cemetery has remained a concern since initial establishment of the burial ground in 1866–1867. Several systems of underground drainage have been installed since the 1860s, the most recent in the 1930s. Drainage systems have included tile pipes placed at the foot of each terrace, drop inlets, catch basins, gutters, and swales. There are drop inlet grates present in most of the terraces that likely tie into the tile pipe system (Figure 233 and Figure 234).



FIGURE 233. Surface drainage is accomplished using drop inlets with metal grates set within the cemetery terraces.



FIGURE 234. Some of the grates are set within brick edging.

Portions of this system, as well as earlier drainage systems, are likely present beneath the surface of the terraces. Several terrace slopes exhibit slumping, a typical characteristic of less soil. Additional erosion may be caused by drainage structures and lines that have not been cleared of grass, leaf debris, and silt (Figure 236).



FIGURE 235. Slumping is evident on several terrace slopes.



FIGURE 236. Drains can become clogged by grass and silt.

Surface drainage is also collected in large concrete gutters that line much of the loop road. The gutters are about 4 feet wide. They are replaced as needed (Figure 237). Tree roots have displaced some portions of the gutter, causing ponding. The gutters may also tie into a subsurface drainage system in several places (Figure 238).



FIGURE 237. Concrete gutters line much of the loop road.



FIGURE 238. Gutters sometimes tie into the subsurface drainage system.

Several sections of Trindle Circle are fitted with curbing to prevent water from damaging the adjacent terraces. The section of the road north of the entrance that runs parallel to the perimeter wall has a high curb on its west edge used to protect the steep road bed lined with large magnolias (Figure 239). Both the curb and the landscape below the roadbed in this area are highly eroded. The eroded slope threatens the condition of the trees, burials on the terrace below, and the ground plane.



FIGURE 239. Portions of the curb along the loop road are eroded and edged by a steep drop-off to the grade below.

At the lower elevations within the cemetery, the concrete gutters are narrower. These follow the loop road and the maintenance drive (Figure 240). There are also concrete and brick culverts and grass swales that carry storm water away from the road toward the margins of the cemetery in the lower areas. Drains and brick channels at the base of the perimeter wall facilitate the movement of surface and subsurface water out of the cemetery. However, water often collects in the brick channel at the base of the perimeter wall on the southwest boundary of the cemetery where it is unable to drain properly; this problem is common at lower elevations of the cemetery (Figure 241 and Figure 242).



FIGURE 240. Narrow concrete gutter and grass swales are prevalent in the lower parts of the cemetery. These carry storm water away from the roadway.



FIGURE 241. Example of a drain at the base of the perimeter wall that allows water to pass out of the cemetery.



FIGURE 242. Standing water at the base of the perimeter wall at the southwest boundary.

Archeological Resources

Knowledge of archeological resources within Vicksburg National Cemetery is limited due to the lack of any systematic archeological investigations. A comprehensive archeological survey needs to be conducted to address this deficiency.[141]

Prior archeological investigations have been associated with the mitigation of construction activities, including road improvement, wall repair, and the Mint Spring Bluff stabilization project, and to locate unmarked burials in certain sections.

In 1975, archaeological investigations were conducted by Wayne Prokopetz of the Southeast Archeological Center (SEAC) at the Indian Mound. Prokopetz excavated a portion of the "Cemetery Temple Ground," thought to be a potential aboriginal site. The investigations were conducted prior to the proposed relocation of the visitor access road that closely circumnavigates the mound at its base. The test excavations were placed between the road and the mound where the road was to be moved. The investigation did not reveal the presence of prehistoric artifact remains or indications of mound construction.[142] The conclusions of the report have since been called

141. Jessica McNeil and Melissa D. Hardy, *Archeological Investigations at Vicksburg National Cemetery* (Tallahassee, Florida: National Park Service, Southeast Archeological Center, 2012), 11.

142. Memorandum to Chief, Southeast Archeological Center from the Park Technician, *Test Excavations at the Vicksburg National Military Park Cemetery Temple Mound,* dated May 9, 1975.

into question due to sparse project documentation.[143]

In 1999, the US Army Corps of Engineers and others conducted a series of surveys of the Mint Spring Bluff and Bayou area abutting the south end of the cemetery, in advance of the bluff stabilization project.[144] The inventory, encompassing an area of about 6 acres of land, identified two archeological sites with artifacts from the late 1800s to mid-1900s, but neither site was recommended as eligible for listing in the National Register of Historic Places.[145]

In 2010, park staff discovered two unmarked burial sites within Section W of the cemetery during a routine burial. The US Army Corps of Engineers and SEAC performed a series of archeological investigations in 2010 and 2011 to determine the presence or absence of other unmarked burials. The study included ground penetrating radar surveys of Sections M, W, M-U-U, V, and X, followed by probe testing and trench excavations. Overall, the investigations identified eleven additional unmarked burials, for a total of thirteen (nine in Section M, and four in Section W). In addition to the two discovered and confirmed by park staff in 2010, ten were confirmed by the presence of a grave shaft encountered during the trench excavations. One has since been represented by a marker with identifying numbers. The last one was not confirmed but was recommended to be treated as an unmarked burial.[146]

143. McNeil and Hardy, 12.
144. Ibid.
145. Ibid., 13.
146. Ibid., 39.

Analysis and Evaluation

Introduction

This chapter is comprised of four sections: an evaluation of the significance of the Vicksburg National Cemetery landscape in accordance with the guidance provided by the National Register of Historic Places, a comparative analysis of historic and existing landscape conditions, an identification of contributing and non-contributing resources, and an integrity assessment.

The significance evaluation identifies the cemetery's important historical associations over time, as well as its architectural, archeological, and social value. The property's significance is tied to discrete period(s) of time in which its important contributions were made and the historic contexts within which the activities that occurred on the property may be placed.

Based on this identification and discussion of the park's significance, and the period during which historical associations occurred, the CLR team prepared a comparative analysis of historic and existing conditions. The analysis conveys an understanding of change over time and suggests which resources today reflect their character and appearance during the period(s) when historical contributions were made, including features associated with the siege and battle during the Civil War, establishment and development of the cemetery, and commemorative efforts that followed the war.

One of the byproducts of the comparative analysis is an inventory of resources that survive from the identified period(s) of significance. These are referred to as contributing features. Resources that originated after the period(s) of significance, or that have lost integrity, are assessed as non-contributing. The CLR also identifies features that existed during the period(s) of significance but no longer survive, except perhaps in the archeological record. These are categorized as missing resources.

The final section of the chapter is comprised of an integrity assessment that summarizes to what degree the property retains its ability to convey its historic associations with the identified period of significance.

Current National Register Status of Vicksburg National Cemetery

Vicksburg National Military Park, including Vicksburg National Cemetery, was administratively listed in the National Register of Historic Places as part of the passage of the National Historic Preservation Act on October 15, 1966. Documentation of the park in the form of a National Register nomination was accepted by the Keeper of the National Register in 1977. The National Register documentation for Vicksburg National Military Park lists two resources that relate directly to this study—the cemetery and the cemetery arch—as contributing features. They are described as follows:

> HS-36 Cemetery: Situated on a high bluff, the cemetery overlooks the Yazoo [River Diversion] Canal which follows the former channel of the Mississippi River. Due to the rugged nature of the terrain, extensive landscaping was necessary to prepare the grave sites; terraces were constructed, and a great variety of trees planted. The cemetery was closed for future burials except for outstanding

> grave site reservations in 1961. At that time the Civil War interments totaled 17,077, of which 12,909 were unknown. An additional 1,280 graves were occupied by soldiers who had participated in the Indian and Spanish American Wars, World War I, II, and the Korean Conflict. A government headstone marks every grave, the known having the number of the grave, name of the soldier, and the state from which he came inscribed. The unknown have simply the grave number.
>
> HS-37 Cemetery Arch (old main gate entrance, built in 1880): Built of Alatawa (fossiliferous) limestone at a cost of $7,000. 36 feet 6 inches high. Two solid stone columns 17 feet in height, 2 feet 8 inches in diameter on each side of the arch. Inscription: "Here Rest In Peace 16,600 Citizens Who Died For Their Country in the Years 1861–1865."[147]

At the time the current National Register nomination for Vicksburg National Military Park was prepared, the information collected differed in several ways from that which is recorded today. For example, indicating how the property meets specific evaluation criteria and criteria considerations was not required. In addition, the period during which a property is determined significant was selected from a menu of century-long time frames, rather than indicated by a year, or years, that relate specifically to the history of the property. As such, Vicksburg National Military Park is indicated as significant during the period 1800–1899.

The nomination also focuses primarily on the significance of the park as a whole, and emphasizes the Civil War period, with little attention paid to the significance of Vicksburg National Cemetery. The only areas of significance indicated in the nomination are Military and Sculpture. Little attention is paid to the contribution of the cultural landscape of the cemetery, including the characteristics that both tie it to the larger context of national cemeteries and render it a unique example by the specific ways that the environment shaped form, layout, and design. The way that the landscape contributes to integrity of setting, feeling, and association is also not articulated.

Evaluation of Significance

Based on review of the 1976 documentation, the significance of Vicksburg National Cemetery is not adequately evaluated based on the current understanding of the importance of the national cemetery system, and the documentation that has been assembled about Vicksburg National Cemetery in particular as part of this CLR. In order to consider the National Register eligibility and significance of Vicksburg National Cemetery in more detail, the sections that follow expand on the information afforded in the 1977 nomination in the form of a cemetery-specific evaluation of significance. This significance evaluation takes into consideration the information presented in the existing National Register nomination, as well as the guidance afforded in the National Register Bulletin *How to Apply the National Register Criteria for Evaluation*, and the findings of this CLR, particularly the comprehensive investigation into the history of the landscape. Vicksburg National Cemetery is also considered within the broader context of federal national cemetery system development, in addition to the contexts considered in the 1977 nomination: the Civil War, commemoration, and national military park development.

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:

147. National Register of Historic Places Nomination form, Vicksburg National Military Park, Vicksburg, Warren County, Mississippi, 1976, entered into the National Register December 9, 1977.

> 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.[148]

In addition, the Criteria for Evaluation identify the following criteria considerations:

> **Criteria Considerations**
>
> Ordinarily cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties *will qualify* if they are integral parts of districts that do meet the criteria or if they fall within the following categories:
>
> a. A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
>
> b. A building or structure removed from its original location but which is primarily significant for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
>
> c. A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life; or
>
> d. A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
>
> e. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or
>
> f. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
>
> g. A property achieving significance within the past 50 years if it is of exceptional importance.[149]

National Register Significance of Vicksburg National Cemetery. Vicksburg National Cemetery was established in 1866, one year before US Congress passed the National Cemetery Act of February 22, 1867. It was one of several early national cemeteries established in response to a series of Congressional acts that helped to define and refine the role of the federal government in establishing burial grounds of honor for members of the armed forces that began with General Orders No. 33 on April 3, 1862. As part of Section 11 of this General Order, commanding generals were assigned the responsibility of laying out lots of ground in a suitable locale near every battlefield, as soon as feasible, and of directing the

148. *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (Washington, D.C.: Department of the Interior, 1997).

149. *Code of Federal Regulations, Title 36, Part 60,* "The National Register Criteria for Evaluation."

reinterment of their fallen soldiers. Over time, the Congressional acts provided for the acquisition of land to accommodate military burials, and defined the standard features to be incorporated into the design of each national cemetery.

The cemetery is a separate and unique unit of the National Park Service and is managed by Vicksburg National Military Park, which was the site of the 1863 siege of Vicksburg that was the culmination of the Vicksburg campaign during the Civil War. Covering 120.03 acres, of which only 40 contain burials, the cemetery at Vicksburg was constructed on land that was occupied by Union forces during the siege. It is one of the country's early national cemeteries, established in 1866 with interments beginning in January 1867, and has the largest number of Civil War interments of any national cemetery in the United States.

Vicksburg National Cemetery appears significant at the national level under Criteria A, C, and D, as a designed historic landscape in the areas of Archeology (Historic, Non-aboriginal), Commemoration, Landscape Architecture, Military History, Politics/Government, and Sculpture for its association with the context of federal national military cemetery development between circa 1861 and 1933. Vicksburg National Cemetery also meets the eligibility requirements of Criteria Consideration D and F, as a cemetery and commemorative property, due to its age and association with important trends in American history. The cemetery is significant during the period 1866–1961, with 1866 representing the year the cemetery was established, and 1961 the year the cemetery was closed to new burials. The cemetery also retains many contributing features as well as sufficient integrity to convey its historic associations. The national cemetery does not appear to be specifically associated with the lives of individuals significant in our past; as a result it does not meet Criterion B.

Per Criterion A, Vicksburg National Cemetery is significant in the areas of Commemoration, Military History, and Politics/Government for its association with events that have made a significant contribution to the broad patterns of our history. Under this criterion the site is significant both for its association with the siege of Vicksburg (May 18–July 4, 1863) that was the culmination of the Vicksburg campaign (March 29–July 4, 1863), and for the establishment of a cemetery on the battlefield for the reinterment of the Union dead.[150] The siege of Vicksburg and the Vicksburg campaign played a significant role in the Civil War, as the outcome was an important victory for the Union which, combined with the defeat of Confederate defenders at Port Hudson, Louisiana, on July 9, 1863, gave the Union uncontested control of the Mississippi River. Vicksburg National Cemetery was subsequently established to allow for the proper burial of Union soldiers and sailors who died during the Vicksburg campaign.

Per Criterion C, Vicksburg National Cemetery is significant in the areas of Landscape Architecture and Sculpture, and embodies the distinctive characteristics of a type, period, or method of construction. The cemetery, originally surrounded by a wood fence and later by a brick perimeter wall (portions of the latter remain), is defined by a series of terraces constructed to receive the original interments. In combination with the designed terraces, which organize the cemetery landscape into distinct spaces, the geometric rows, patterns, and rhythms of the headstones and markers define the spatial quality of each terrace. Tree plantings were an essential part of the development of the cemetery landscape. The design intent was to create a park-like setting for the cemetery with a peaceful and tranquil character conducive to strolling and carriage rides. Features of Vicksburg National Cemetery, including large portions of its perimeter wall, tree-lined drives and walks, and the designed terraces reflect formal design principles intended

150. Further research is needed to understand the effects of the 1963 centennial of the siege on the national cemetery.

to honor the important contributions of United States soldiers and sailors that were practiced at many national cemeteries within the system.

Further research is needed to confirm whether Vicksburg National Cemetery meets Criterion D, likely to yield information important in prehistory or history.[151]

Vicksburg National Cemetery also meets the eligibility requirements of Criteria Consideration D as a cemetery property that derives its primary significance from age, distinctive design features, and association with historic events. Since all cemeteries and human burial sites can be considered to be commemorative in nature and possessing of archeological potential, this criteria consideration is intended to clarify that cemeteries must possess historical or architectural significance in order to be eligible for listing in the National Register. As discussed above for Criteria A and C, Vicksburg National Cemetery is a highly significant and integral part of the historic events that occurred at the site during the Civil War era as well as later commemorative efforts. Also, the nineteenth century landscape design of the cemetery retains integrity and is an important aspect of the significance of the site. The National Register Bulletin *How to Apply the National Register Criteria for Evaluation* gives specific guidance that national cemeteries are typically eligible for listing "because they have been designated by Congress as primary memorials to the military history of the United States." The bulletin also notes that because national cemeteries draw their significance from the presence of the remains of military personnel who have served the country throughout its history, the age of the cemetery and the dates of the burials therein are not a factor in judging its eligibility. (A national cemetery or a portion of a national cemetery that has only been set aside for use in the future is not eligible.)

In addition, the cemetery meets the eligibility requirements under Criteria Consideration F as a commemorative property due to the fact that its design, age, and symbolic value has invested the cemetery with its own exceptional significance. For a commemorative property to be considered eligible for listing in the National Register, it must generally be more than fifty years old and must possess significance based on its own value, not the importance or value of the event or person being commemorated. Due to the long history of commemoration at the site, which began during the Civil War, Vicksburg National Cemetery clearly exhibits significance as a commemorative property due to its design, age, and symbolic value.

Period of Significance

The 1976 National Register nomination lists the period of significance as 1800–1899. A specific date of 1863 is also indicated. This date is associated with the events of the siege and defense of Vicksburg, as the nomination primarily focuses on the battlefield. As noted above, the nomination was prepared using an older form that does not provide for the identification of a specific period of significance as required by current National Register guidelines. Thus, a revised period of significance is recommended.

Based on the research and studies performed for this CLR, historic resources within the cemetery landscape represent a period of significance covering the years 1863–1961. The period of significance begins with events of the campaign

151. While no extensive archeological investigations have been performed at the national cemetery, investigations of specific areas (such as the Indian Mound) were performed in 1975. In 1999, the US Army Corps of Engineers undertook a literature and records search, and conducted a survey of the Mint Spring Bluff and Bayou area abutting the south end of the cemetery. Prehistoric or archeological resources were not identified during these investigations; it is likely that the national cemetery could yield information important in prehistory or history. Activities related to historic burials and grading of the cemetery landscape have likely disturbed archeological resources and may limit the information potential of the cemetery site in this regard.

(March 29 to July 4, 1863) and siege (May 19 to July 4, 1863) of Vicksburg. It is further represented by the presence of the Union position markers that indicate the events of 1863; establishment of Vicksburg National Cemetery in 1866; and the development of the cemetery including the construction of the arbor on the Indian Mound in 1875, the rostrum in 1879, the Cemetery Arch in 1880, the gardener's cottage in 1883, the second superintendent's lodge in 1928 and the brick rest pavilion and maintenance building in 1931. A closing date of 1961 corresponds to the closing of the cemetery to future burials.[152]

Potential Changes to the 1976 National Register Nomination. Potential changes to the National Register nomination for Vicksburg National Cemetery, should it be updated in the future, would be undertaken as a combined nomination for Vicksburg National Cemetery and Vicksburg National Military Park.[153] For the national cemetery, the updated nomination could include more comprehensive documentation as well as evaluation of the cemetery as a cultural landscape and assessment in terms of National Register criteria and criteria considerations, as discussed above. The 1976 nomination addresses the cemetery in a limited way as part of the overall Vicksburg National Military Park, citing Vicksburg National Cemetery and the Cemetery Arch as contributing resources. The existing nomination does not address the cultural landscape of the cemetery, including the characteristics that both tie it to the larger context of national cemeteries and render it a unique example by the specific ways that the environment shaped form, layout, and design. The way that the landscape contributes to integrity of setting, feeling, and association is also not articulated.

The existing nomination does not discuss specific criteria and criteria considerations, and lists only Military and Sculpture as areas of significance. An updated nomination would provide the opportunity to assess the cemetery in terms of National Register criteria, examine additional areas of significance, and indicate relevant historic contexts, particularly the establishment and evolution of national cemeteries and their design. Based on this study, Vicksburg National Cemetery appears significant at the national level under Criteria A, C, and D, as a designed historic landscape in the areas of Archeology (Historic, Non-aboriginal), Commemoration, Landscape Architecture, Military History, Politics/Government, and Sculpture for its association with the context of federal national military cemetery development between circa 1861 and 1933. The cemetery also meets the eligibility requirements of Criteria Consideration D and F, as a cemetery and commemorative property, due to its age and association with important trends in American history.

An updated nomination could also include a comprehensive list of resources that contribute to the significance of the cemetery, and an integrity assessment of those resources. It could also comment on the degree to which non-contributing resources diminish the integrity of the cemetery as a whole. Other potential changes to the National Register nomination would include more specific consideration of the period of significance for the national cemetery. As noted above, this study indicates a period of significance of 1861–1961 for the cemetery, beginning with the events of the Vicksburg Campaign and Siege, and ending with closing of the cemetery to further burials. Consideration could also be given to extending the end date of the period of significance to 1963, should future research into the effects of the siege's centennial in 1963 on the cemetery support this extension.

152. Further research is needed to understand the effects of the 1963 centennial of the siege on the national cemetery.

153. Correspondence with the National Park Service Southeast Region and Vicksburg National Military Park, April 2019.

Comparative Analysis of Existing and Historic Conditions

A key goal of this Cultural Landscape Report (CLR) is to evaluate the ability of the existing landscape to reflect the period of significance, as articulated in the previous section of this chapter. To better understand the relationship between the contemporary cemetery landscape as documented in Chapter Three, and the landscape that existed during the period of significance, the section that follows presents a comparative analysis of historic and existing conditions.

For the purposes of this study, a single period of significance, 1863–1961, has been utilized to compare historic and existing landscape conditions within the Vicksburg National Cemetery CLR project area. The narrative discussion begins with a summary overview of historic conditions and then progresses into the comparative analysis of each landscape characteristic used to document existing site conditions in Chapter Three, including:

- Natural Systems and Features
- Responses to Natural Systems and Features
- Topographic Modifications
- Patterns of Spatial Organization
- Land Uses and Activities
- Circulation
- Cultural Vegetation
- Buildings and Structures
- Views and Vistas
- Small-Scale Features
- Utilities and Drainage Infrastructure
- Contributing archeological sites

For each landscape characteristic, major events associated with the period of significance are summarized, and the dates of origin of primary features are identified. A summary discussion of the evolution of features associated with each landscape characteristic identifies features established during the period of significance (contributing resources), and those that postdate the period of significance, (non-contributing resources). Features that existed during the periods of significance but are no longer extant are described as missing from the historic landscape. Post-1961 alterations that have affected the integrity of the landscape to convey its character during the period of significance are also noted in the summaries. The information conveyed in each summary analysis is collected in a list of contributing, non-contributing, and missing resources at the end of the analysis section. Appendix A provides this information in a tabular form.

Supporting the comparative analysis are pairs of historic and contemporary photographs taken from the same or a similar location that illustrate changes to the landscape over time. Photographic pairs are referenced to illustrate points made in the narrative.

Comparative Analysis by Landscape Characteristics

Overview

When comparing the landscape of the Vicksburg National Cemetery during the period of significance to present day conditions, the majority of the landscape survives with a high degree of integrity. Although some features of the historic cemetery have been lost, the landscape survives and has been managed to help convey the physical composition and organization of the site. Natural features such as Mint Spring Bayou and the ambient landform and topography continue to exist in their historic form and configuration. These features help to convey an understanding of the cemetery's physical context, and the historical context of the siege of Vicksburg during the Civil War. Natural features also help convey the reasons for the location of the cemetery and the physical necessity to construct the terraced landform in order to accommodate large numbers of burials.

The location, form, and character of the cemetery survive from the period of significance. Despite ongoing use and accommodation of visitors as part of Vicksburg National Military Park, the cemetery retains patterns of spatial organization and historic landscape features first developed during the 1860s. The integrity of the site is supported by the presence and relatively good condition of much of the brick perimeter wall of the cemetery, the loop road descending from east to west, the location and condition of historic trees, the topography of the terrace slopes and plateaus for burials, and the location and condition of the monuments and grave markers. Within the cemetery, the general pattern and extent of the man-made terrace system remains essentially as it appeared in 1867 and this landform survives today in good condition (Figure 243). In combination with the designed terraces, which organize the cemetery landscape into distinct spaces, the geometric rows, patterns, and rhythms of the headstones and markers create a spatial quality unique to each terrace. These designed patterns of spatial organization and the burial markers for the most part remain in their historic locations (Figure 244).



FIGURE 243. The terraced landform of Vicksburg National Cemetery, with the winding loop road and mature vegetation. Source: All figures in this chapter by the authors, unless noted otherwise.



FIGURE 244. Spatial organization at the cemetery is created by terraced landform and plantings, and designed patterns of burial markers.

Despite an overall assessment suggesting that the historic landscape possesses sufficient integrity to convey its historic associations, there have been several physical changes to the landscape that serve to diminish this integrity.

While the extant alignment of the cemetery loop road remains relatively consistent with its original alignment from the late 1800s and early 1900s, several changes have been made to the road. Changes include the replacement of gravel with asphalt paving (Figure 245) and brick gutters with concrete. This results in a significant expansion in the width of the road in some places (Figure 246). The original entrance to the cemetery and the associated arch structure remain; however, the entrance was closed to vehicular traffic by 1963, and visitors rerouted to a new entrance. The closing of this entrance altered the experience of arriving at the cemetery, and accessing the loop road as originally intended, although it did not affect the physical alignment of the road. In some locations, visitors have been rerouted to avoid abandoned segments of the original road. An example is the lower road around the Indian Mound, which was undercut and collapsed several times between 1886 and 1933 due to heavy rainfall and instability of the loess soils on the bluff. Another abandoned segment is the small connector road that originally ran from the entrance arch to the lower road around the Indian Mound. It is now a trace covered with grass.



FIGURE 245. Road repaving has resulted in some areas where asphalt has built up to form a thick pavement over top of the historic road surface treatment.



FIGURE 246. Wider concrete gutters have replaced original brick gutters in many locations.

Buildings remaining from the period of significance include the superintendent's lodge, the gardener's cottage, and the maintenance shop. All have undergone alterations to some degree since original construction. Although these modifications occurred within the period of significance, the alterations are not in themselves considered to be significant. At the same time, the diminished integrity associated with alterations to the individual buildings does not detract from the integrity of the site as a whole. The overall form and massing of the buildings remain essentially unchanged, and the buildings retain sufficient integrity to continue to convey their historic associations with early cemetery design and construction. There are also missing structures that have not been replaced, such as the rostrum.

Other landscape changes that postdate the period of significance include the construction of the USS *Cairo* exhibit and museum located east of the cemetery perimeter wall (Figure 247). The large white sail-like covering that protects the exhibit, installed in the 1970s, impacts the historic viewshed of the cemetery. In 1978, the maintenance yard was developed north of the perimeter wall, followed by the archive building within the yard in 1998 (Figure 248).



FIGURE 247. USS *Cairo* exhibit and museum adjacent to the cemetery with picnic tables next to the perimeter brick wall.



FIGURE 248. Archive building located in the maintenance yard north of the cemetery.

In 1991, a granite monument honoring Union Prisoners of War was erected near the site of the former rostrum, followed by three memorial stones commemorating veterans of the Vietnam War. These additions altered the character of the formal terraced area near the superintendent's lodge that includes the flagpole and bell.

Natural Systems and Features

Summary Analysis. Primary among the natural systems and features that are character-defining for Vicksburg National Cemetery are limestone geology, loess soil bluffs, Mint Spring Bayou, natural springs and seeps, the confluence of the Yazoo and Mississippi Rivers, and successional woodland. Most of these natural features are consistent with those present during the period of significance and help convey important historic associations. The successional woodland was not present when the cemetery was constructed in 1867. The woodlands grew south and north of the cemetery throughout the 1900s.

In addition to Mint Spring Bayou, which borders the cemetery to the south, Dry Bayou once bisected the northern section of the cemetery from east to west. Dry Bayou was eventually filled in completely, most likely during the 1930s and early 1940s when CCC labor was available to work on erosion control projects at Vicksburg. Segments of the culverted and filled bayou bed later became a grassed service road. Terracing and headstones were re-arranged to give that area the look of uniformity with the rest of the cemetery. Folsom's plan for the bayou is visible in many of the historic maps of the cemetery and the grass service road is visible today. Dry Bayou is considered a missing natural system feature.

The difficulty faced by Union forces in taking the city of Vicksburg during the Civil War was due in great part to the unique topography of the region. The high loess bluffs, floodplain and swamplands along the river, and steeply-incised bayous proved to be significant obstacles for Maj. Gen. Ulysses S. Grant's troops to overcome. Despite alterations of natural systems over time—including water courses west of the cemetery due to the construction of the Yazoo River Diversion Canal in a portion of the former Mississippi River channel; alignment and character of Mint Spring Bluff affected by erosion and collapse; filling of Dry Bayou; and the increase in woodland growth—the natural systems and features of the site survive and are character-defining features of the national cemetery. There are no natural systems or features that postdate the period of significance.

Feature Discussion.

Soils. Local soils are character-defining features of the cemetery site. The unique properties of the loess bluff soils have played an integral role in shaping the terrain of the cemetery and suggested the need to grade the steep slopes into descending terraces to provide adequate locations for burials. The loess soil is porous but highly impermeable. Water does not percolate through loess soil but will quickly erode the particles when it runs across an exposed surface.[154] This was a problem for development of the cemetery site from the beginning of construction. The officers in charge of construction expressed concerns about the soil composition and erosion, and the amount of work it would take to adequately accommodate burial sites. Capt. James Scully, appointed to supervise the cemetery construction in 1866, wrote to Capt. Charles W. Folsom that ". . . the composition of the soil is such that it is washed very easily by heavy rains which are frequent here; and large parts of the tract of forty acres were carved into

154. Christopher R. Gabel, *Staff Ride Handbook for the Vicksburg Campaign; December 1862–July 1863* (Fort Leavenworth, Kansas: Combat Studies Institute, U.S. Army Command and General Staff College, 2001), 49.

deep and yawning chasms and ravines" (Figure 249).[155]

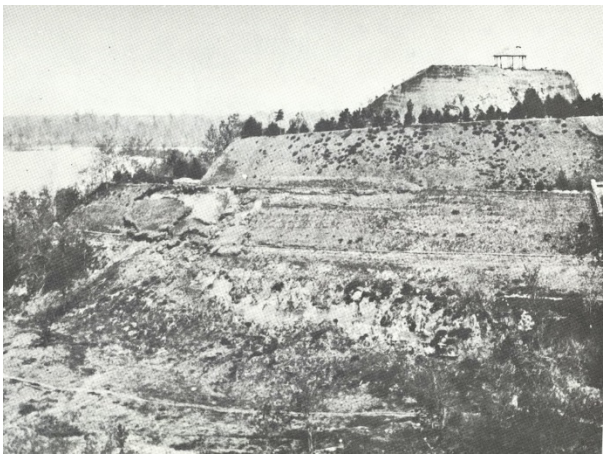


FIGURE 249. A circa 1875–1876 photograph showing historic loess soil erosion at Mint Spring Bluff which caused sloughing off of designed roadbeds. Source: Vicksburg National Military Park Archives.

Mint Spring Bayou and Mint Spring Bluff. Mint Spring Bluff, which forms the southwestern edge of the cemetery and abuts Mint Spring Bayou, has been continuously threatened by erosion, slumping, and collapse since work began on the cemetery in 1867. Efforts to stabilize the bluff have been numerous, the latest one conducted in 2016. During annual flooding of the Mississippi River, water backs up within Mint Spring Bayou below the waterfall and saturates the toe of the bluff. When the water finally drains, the destabilized bluff can slough off. Heavy rains over many years also served to erode the bluff, threatening to undercut the cemetery road near the Indian Mound. A segment of the lower road eventually sloughed toward Mint Spring Bayou. Along with the road, the slumping led to severe damage to the original cemetery wall and collapse of some sections into the waterway. Two recent stabilization projects include the Mint Spring Bluff Stabilization Project, completed in early 2011 (Figure 250) and the Mechanically Stabilized Earth retaining wall and a stabilized earthen berm completed in 2016. Mint Spring Bayou survives in the same location today, south of the cemetery, contributing to the overall integrity of the cemetery property.



FIGURE 250. Completed Mint Spring Bluff stabilization project (2011) as seen in September 2014.

Successional Woodland. The cemetery is surrounded to the south and partially to the north by dense woodland that grew up during the 1900s and continued in recent decades during the twentieth century. This landscape context and the cemetery site are part of the terrain cleared for the military efforts during the Siege of Vicksburg. During the antebellum period, the land was maintained with open cover, supporting agricultural cultivation and foraging livestock. Following the Civil War, various non-native species were introduced to the region that are able to outcompete many native species within disturbed environments, resulting in some displacement of native vegetation. The much larger extent of woodland cover present today as compared with the period of significance is apparent when historic photographs taken in the latter part of the 1800s are compared to recent photographs. The successional woodlands are

155. Captain James W. Scully to Captain Charles W. Folsom, June 17, 1867, cited in Meyer, 23.

thus considered non-contributing natural features (Figure 251 and Figure 252).



FIGURE 251. Historic photograph of the south end of the cemetery and surrounding landscape context, devoid of woodland vegetation. Source: Vicksburg National Military Park Archives.



FIGURE 252. Successional woodlands have taken over the landscape south of the cemetery.

Mississippi and Yazoo Rivers. As seen on early maps of the proposed layout of the cemetery, the west boundary is immediately adjacent to the Mississippi River floodplain. Mint Spring Bayou bordered the cemetery to the south (Figure 253).

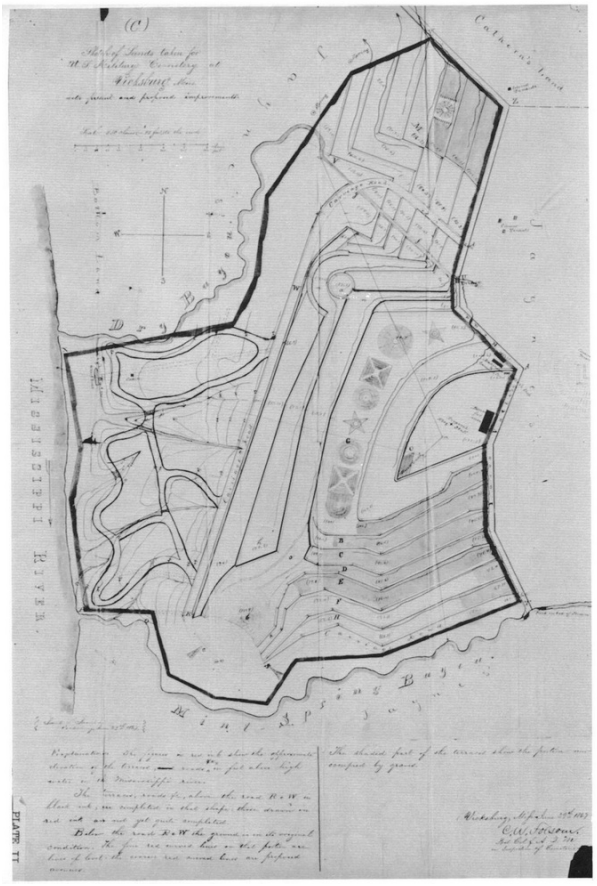


FIGURE 253. Early drawing (1867) of the cemetery layout and design shows the proximity of the Mississippi River and the western boundary of the cemetery and Mint Spring Bayou to the south. The culvert of Dry Bayou is also visible on this map. (Also refer to Appendix B). Source: Vicksburg National Military Park Archives.

From the cemetery, expansive views of the Mississippi River were afforded due to the elevated terrain that overlooked the waterway (Figure 254).

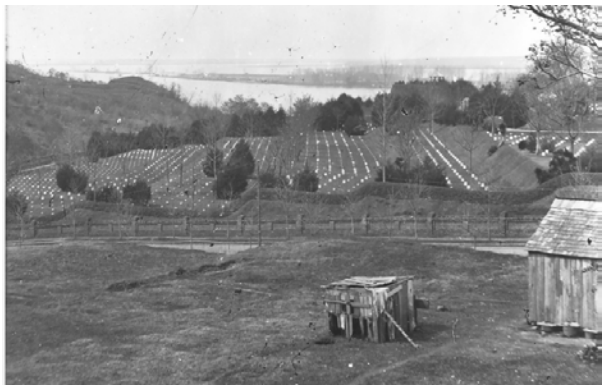


FIGURE 254. A circa 1875–1880 archival photograph shows the dramatic views to the Mississippi River from the cemetery. Source: Vicksburg National Military Park Archives.

In 1876, the river changed course during a flood event, creating a new river channel west of the city, approximately three miles south of the cemetery. A diversion canal was completed in 1903 to connect the city of Vicksburg to the waterway and reestablish Vicksburg as a port. The canal ran from the Yazoo River along the former bed of the Mississippi River. The project took more than twenty-five years to complete. This event, along with the advance of successional woodland growth and changes in land use west of the cemetery, have altered the physical and visual relationship of the river to the cemetery (Figure 255 and Figure 256). The river (and subsequent man-made diversion canal in the river bed) retain the historic landscape character of the cemetery context and is a character-defining feature. It remains significant in the history and interpretation of the national cemetery.



FIGURE 255. A 2014 photograph from the Indian Mound shows how views of the Mississippi River have been diminished by increased tree cover.



FIGURE 256. A 2014 view from a higher elevation in the park shows vegetation and industrial land use that today diminish historic views of the river from the cemetery.

Contributing Natural Systems and Features

- Limestone geology and travertine formations
- Loess bluffs characterized by highly erodible soils (including Mint Spring Bluff)
- Mint Spring Bayou and associated ravine and bottomlands
- Mint Spring Bluff
- Mint Spring Bayou waterfalls
- Mississippi and Yazoo Rivers

Non-contributing Natural Systems and Features

- Successional forest

Adjacent Natural Systems and Features

- Mississippi River
- Yazoo River
- Diversion Canal (1902)

Missing Natural Systems and Features

- Dry Bayou

Responses to Natural Systems and Features

Summary Analysis. Responses to natural systems and features survive from the period of significance and contribute to the significance of the national cemetery landscape. Examples include: the construction of terraces to stabilize the loess soils and provide flat plateaus for burials; construction of elaborate drainage systems over the site in order to collect water and keep it from undermining the stability of the steep slopes of the terraces; siting of the loop road to follow gentle slopes; construction of brick drainage gutters along the road edges to manage storm water; and use of the high elevation of the Indian Mound to site structures affording views to the surrounding landscape.

The terraced landscape remains the dominant landform of the cemetery created as a response to the soils of the site. The terraces are extant character-defining features. The loop road alignment retains integrity and remains a clear response to the change in elevation at the cemetery from east to west. The replacement of the original gravel with asphaltic paving diminishes integrity of the road, which otherwise retains its historic alignment. The existing concrete drainage ditches continue to address storm water management, as introduced historically through the use of brick gutters, but possess diminished integrity due to the change in material and expanded profile of the structures. The high elevation of the Indian Mound continues to be occupied by a viewing structure accessed via landscape steps. Similar opportunities to climb to the top of the Indian Mound and experience the dramatic views from the landform have been present since the early period of cemetery development and represent a significant character-defining feature of the cemetery landscape that survives from the period of significance.

Responses to natural systems and features that postdate the period of significance include concrete drainage culverts, spillways, structures, and bluff restoration infrastructure. Missing responses include the brick gutters associated with the loop road and silt basins recorded as being built from 1870–1871.

Feature Discussion.

Cemetery Terraces. The construction of the terraces over the entire site was an essential response to soil conditions and landscape topography. The development of the terraces, and the addition of associated sod and trees, stabilized the easily erodible loess soils and provided stable plateaus for burials. The terraced landform is a character-defining feature of the national cemetery and contributes to the significance of the historic site (Figure 257 and Figure 258).



FIGURE 257. This photograph taken in the late 1800s shows the extensive terracing that was undertaken to stabilize the soils in the cemetery and establish suitable burial areas. Source: Vicksburg National Military Park Archives.



FIGURE 258. The constructed terraces established during the early period of cemetery development survive today and are character-defining features of the national cemetery.

Since construction in 1867, the national cemetery was susceptible to damage from heavy rains and river flood waters. Erosion control and drainage systems and structures have historically been a part of the cemetery infrastructure established in response to the need to remove water efficiently from the site (Figure 259). Early erosion control efforts, conducted in 1868, were described by Capt. Lewis C. Forsyth:

> ….we planted heavy posts five feet below the line of the smooth soapstone surface, eight feet apart and bearing backward toward the mound above at an angle of approximately 30 degrees. Behind these posts, timbers were placed, extending from one to the next, to support the bank above. Behind the timber supports were constructed reservoirs, into which all of the surface water was conducted. The water was then led by drains to meet the surface of the next terrace immediately below.[156]

It is doubtful that any features survive from this early effort, although it is likely that drainage structures from later periods remain present within the cemetery. Tile pipes installed in the 1870s were placed underground, usually to a depth of 4 feet based on a design prepared by engineer James Gall. Additional underground drainage systems were installed in 1933 by the US Army Corps of Engineers as part of a Public Works Program. This system is the best documented drainage infrastructure project associated with the terraces. It is likely that some of this infrastructure continues to function today.

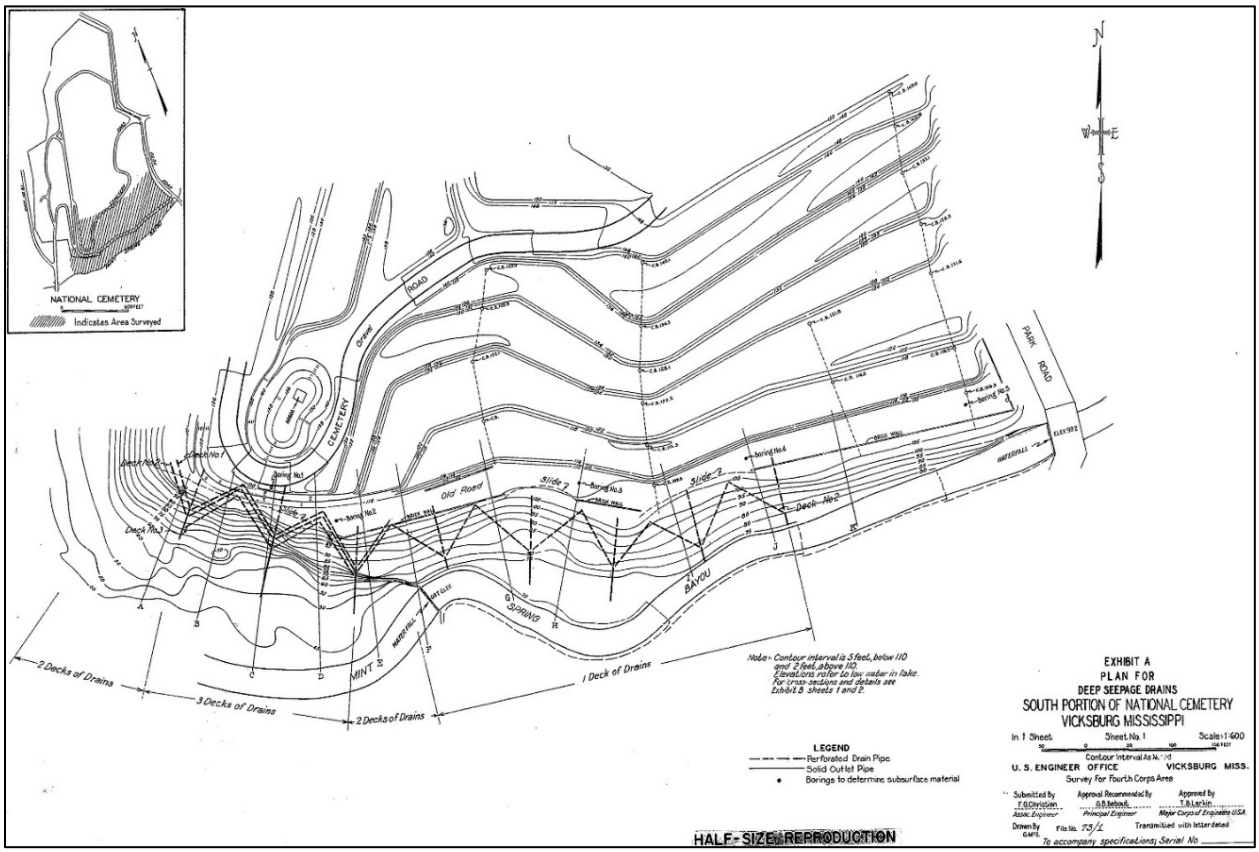


FIGURE 259. Plan for Cemetery Bluff Deep Seepage Drains 1933. Source: NPS Drawing No. 1180.

156. Meyer, 42-43.

Due to the age of these systems and the difficulty of rigorous and routine maintenance, current slumping and washout of the terraces occurring and accelerating today may be the result of failing formerly successful infrastructure (Figure 260 and Figure 261).



FIGURE 260. Extensive slumping has occurred along the edges of many of the existing terraces. This is likely due to water seepage and non-functioning drainage infrastructure.



FIGURE 261. Slumping occurs along the length of the terrace adjacent to the loop road as it winds toward the entrance arch.

Cemetery Wall. The cemetery location in 1867 subjected the site to river currents that bore heavily on the western shore. Trees were planted 10 feet apart along the shore soon after cemetery construction. They were soon washed away by high water.

In 1874, in conformance with new standards established by Congress for national cemeteries, an enclosing wall was built around the perimeter of the cemetery. Where the wall followed the western boundary of the cemetery near the river, Engineer James Gall in 1873 specified the grading, culverts, drainage outlets, basins, and more substantial foundation systems for this section of the wall to prevent wash-outs. The results were mixed, however, especially at the southern end of the cemetery, where sections of the perimeter brick wall washed out several times. Most of the wall that survives today (Figure 262 and Figure 263) is not the original structure. Many sections of the wall have been replaced to address collapse, especially on the south boundary. The Civilian Conservation Corps (CCC) undertook extensive removal and replacement of wall sections while engaged in projects at the cemetery during the 1930s. The extant wall is a contributing feature, but its integrity is diminished due to poor repair work, replacement that is not always consistent with the original design, and replacement of brick wall with chain link fencing at the north boundary and along most of the south boundary of the cemetery.



FIGURE 262. Existing perimeter brick wall at the western boundary of the cemetery (2014).



FIGURE 263. Drainage is not always positive at the base of the perimeter wall. Ponding occurs where there is no drainage infrastructure, or where existing systems appear to be failing.

Cemetery Roads. In 1867, the cemetery site was divided into two parts by a carriage road, which traversed the cemetery at its greatest length from north to south. Needing very little grading, the road was laid out to follow the natural curves of the banks and ridges in the cemetery. In 1869 the work of engineer James Gall included rebuilding the road and providing gutters and silt basins to carry off rainwater. The road was sited to gradually ascend from the original entrance as it passed through the arch at the southwest corner of the cemetery to the higher elevation of the cemetery to the east. The road design and later expansion to its existing alignment followed the natural contours of the site and utilized switchbacks to maintain gentle grades as it transitioned to higher elevations. Although a few segments of the original loop system have been abandoned, the alignment of the road remains a character-defining feature of the national cemetery and survives today with integrity from the period of significance. The silt basins associated with the loop road have been replaced with new drainage structures (Figure 264 and Figure 265).

Bridges. A bridge over Mint Spring Bayou associated with the Yazoo City Road east of the cemetery can be seen in a historical photograph circa 1890–1900. The road and bridge have since been improved to the current alignment and bridge structure. The wooden pedestrian bridge is no longer extant (Figure 266 and Figure 267).



FIGURE 264. Late-nineteenth-century photograph of the ascending loop road and transition to higher elevations. Drainage gutters can be seen along the margins of the loop road. Source: Vicksburg National Military Park Archives.



FIGURE 265. Similar view in 2014 illustrating the loop road, which survives in a similar alignment, edged by a replacement drainage system.

There was also a bridge built across Mint Spring Bayou where the new approach road crossed on its way to the cemetery entrance arch. The bridge was removed in the 1930s or 1940s but the abutments are still extant in the woods between Highway 61 and the waterfall.



FIGURE 266. The Mint Spring Bayou Bridge associated with Yazoo City Road is seen here east of the cemetery wall. There is also a pedestrian bridge adjacent to the road bridge.



FIGURE 267. Bridge over Mint Spring Bayou associated with Connecting Avenue and Yazoo City Road in 2014. The pedestrian bridge does not survive from the period of significance. The extant bridge is a non-contributing structure.

Topographic Elevations. In response to the high elevation of the Indian Mound, structures were historically placed atop the mound to provide shelter, a place to sit, and an opportunity to take in the beautiful views to the surrounding landscape. In 1876 a wooden arbor was constructed on top of the Indian Mound. The arbor afforded a resting spot and views. A brick rest pavilion replaced the arbor in 1931. The development of the prominent knoll of the Indian Mound to include a rest and viewing pavilion remains a character-defining feature of the national cemetery and survives today with integrity (Figure 268 and Figure 269).

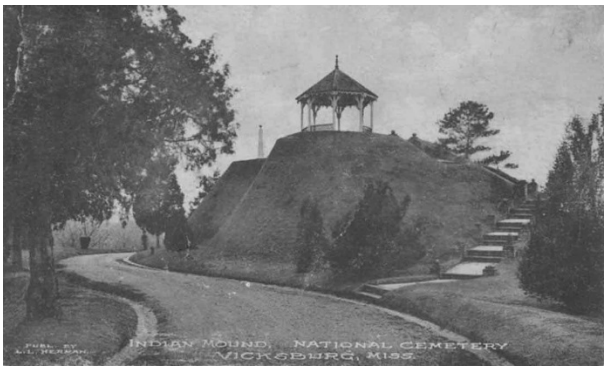


FIGURE 268. A wooden arbor was constructed atop the Indian Mound in 1876. Source: Vicksburg National Military Park Archives.



FIGURE 269. The brick rest pavilion constructed in 1931 survives in the same location today.

Contributing Responses to Natural Systems and Features

- Cemetery terraces (1867–1912)
- Extensive drainage infrastructure (1868–1961)
- Cemetery perimeter wall (1874)
- Siting of the loop road (1860s–1870s)
- Siting of structures on the Indian Mound (1876–1931)

Non-contributing Responses to Natural Systems and Features

- Concrete culverts and drainage structures
- Concrete drainage gutters
- Asphaltic paving on the loop road

Missing Responses to Natural Systems and Features

- Brick gutters (1870s)

- Wooden gazebo/arbor (1876)
- Silt basins
- Wooden pedestrian bridge of Mint Spring Bayou, east of the cemetery
- Drainage infrastructure

Topographic Modifications

Summary Analysis. The original topography of the site prior to its development as a cemetery was steeply sloped and marked by etched drainageways and ravines resulting from erosion of the loess soil, which was easily washed away by overland flow of storm water from the region's heavy and frequent rains. Although the topography of the area was not ideal for development of a cemetery, the site was chosen for its availability at a time when it was considered critical to quickly honor Union soldiers with respectful burial as near as possible to the battlefield where they fell. Capt. E. B. Whitman, in charge of national cemeteries, reported in June 1866 that the "broken and irregular surface of the country around Vicksburg, rendered it very difficult to find a suitable site. . . ."[157]

Once the site was selected and purchased, it took several months for re-interments to begin. By June 1867, interments were underway. However, the majority of the cemetery laborers were employed in grading and sodding slopes to prepare the ground for burials. Captain Folsom commented that it seemed they had purchased "a tract which would require as much work as possible to make it fit for its intended purpose. . . ."[158] The construction of the terraces was essential to make the cemetery fit for the large number of interments that it was to receive.

Captain Folsom described the terraces in his 1867 inspection report:

> The terraces were originally constructed on the east side of the original carriage road that traversed the cemetery at its greatest length from north to south. The terraces were generally 50 to 100 feet wide, with banks from five to eight feet high positioned at 45 degree angles to one another.[159]

Construction of the terraces resulted in the comprehensive modification of the topography of the cemetery landscape. The manner in which the topography was manipulated to establish the cemetery is a character-defining feature that survives with integrity from the period of significance. Other character-defining features include modification of the topography through grading and earthwork for the construction of the perimeter wall, the loop road, and the drainage infrastructure imposed on the cemetery landscape over time. From 1933–1941, the CCC undertook efforts to stabilize soil, regrade roads, install new plantings, restore monuments and construct bridges within and around Vicksburg National Cemetery—all a part of sitewide topographic modifications

Feature Discussion.

Terraces. The topography as modified to accommodate burials at Vicksburg National Cemetery is a prominent feature of the historic landscape and survives intact today. The sweeping terraces that descend from the present-day main entrance gate are essential features that establish the distinctive landscape character of the cemetery. The level terrace plateaus contain the cemetery burials, grave markers, and headstones (Figure 270 and Figure 271). Diminished integrity of the terraces has resulted due to weathering, slumping, and erosion of the steeply-sloped banks between the plateaus. Nonetheless, the terraced landscape retains integrity, conveys its historic associations and is a character-defining feature of the cemetery.

157. Letter Whitman to Donaldson, June 20, 1866; cited in Meyer, 7.
158 Captain Charles Folsom, "Report of Inspection," June 1867; cited in Meyer, 24.
159. Folsom, "Report of Inspection," June 1867, cited in Meyer, 22.



FIGURE 270. Historic view of the expansive terraces that have defined the landscape at Vicksburg National Cemetery since 1867. Source: Library of Congress, photo 4a23900.



FIGURE 271. Existing view of the terraces constructed on the cemetery site. The photograph illustrates the diminished steepness and angle of some of the slopes due to the slumping characteristic of loess soil.

Topographic Elevations. The main gate, superintendent's lodge, and flagpole are located on a high spot of level ground at the eastern boundary of the cemetery from which the topography descends to the west, northwest, and south toward Mint Spring Bayou. The elevated position of the present-day entrance into the cemetery affords views across the descending terraces toward the Yazoo River Diversion Canal. The Indian Mound in the southern portion of the cemetery is also a high point that affords expansive views across the cemetery to the north and to the Yazoo River Diversion Canal to the west (Figure 272 and Figure 273). The Indian Mound is a prominent landform that survives from the period of significance with high integrity and is a contributing feature of the cemetery site.

The raised plateau known as "Sylvan Hill" is associated with the flagstaff and serves as a terraced landscape base. The man-made landform is depicted on maps dated as early as 1893 but mentioned in an inspection tour by James Gall in 1878. The mounded base survives from the period of significance. The flagstaff structure has changed over time but its current location atop Sylvan Hill retains integrity from the period of significance.



FIGURE 272. Historic topography of the Indian Mound, circa 1890–1910, with the original wooden gazebo/arbor, built in 1875. Source: Vicksburg National Military Park Archives.



FIGURE 273. Comparison photo from 2014 showing the same topography and the obvious loss of height and slope associated with the embankment at the Indian Mound. The gazebo/arbor has been replaced by the brick rest pavilion.

Mint Spring Bluff. The southern bluff that supports the Indian Mound has historically been

undercut and destabilized by Mint Spring Bayou. The bluff has been stabilized numerous times since 1867 with resulting topographic modifications. Since management of the cemetery was given to the National Park Service more efforts were made to stabilize the south bluff, most recently modifications to topography occurred due to the 2015-2019 stabilization project (Figure 274 and Figure 275). These topographic modifications constitute non-contributing features of the historic landscape.



FIGURE 274. Topographic modifications (in progress 2011) of the bluff south of Indian Mound was necessary for slope stabilization.



FIGURE 275. Completed modifications to the topography of the bluff for slope stabilization (2011).

Contributing Topographic Modifications

- Constructed terraces (1867–1912)
- "Sylvan Hill" plateau (1867)
- Indian Mound (pre-dates period of significance)
- Grading and earth work for construction of the perimeter wall (1874)
- Drainage and stabilization efforts on Mint Spring Bluff

Non-contributing Topographic Modifications

- Topographic modification and structures associated with projects that postdate the period of significance

Missing Topographic Modifications

- Original landform before cemetery construction

Patterns of Spatial Organization

Summary Analysis. Existing patterns of spatial organization survive from the period of significance and contribute to the significance of the cemetery. The national cemetery landscape is composed of constructed terraces that create a unique and definitive spatial pattern and organization throughout the entire cemetery. The terrace plateaus contain a variety of distinctive headstone patterns that convey a unique sense of space and character to each plateau. The terraces and the gravestone arrangements, and their relationships to one another, form a unique pattern of spatial organization that survives today and contributes to the significance of the landscape (Figure 276).

Other patterns of spatial organization present within the cemetery include the definition of space and sense of enclosure created by the perimeter brick wall and by clusters of large specimen trees within the cemetery landscape and linear spatial corridors created by allées of large trees lining segments of the loop road (Trindle Circle).These features and patterns survive today and are character-defining features of the cemetery landscape.

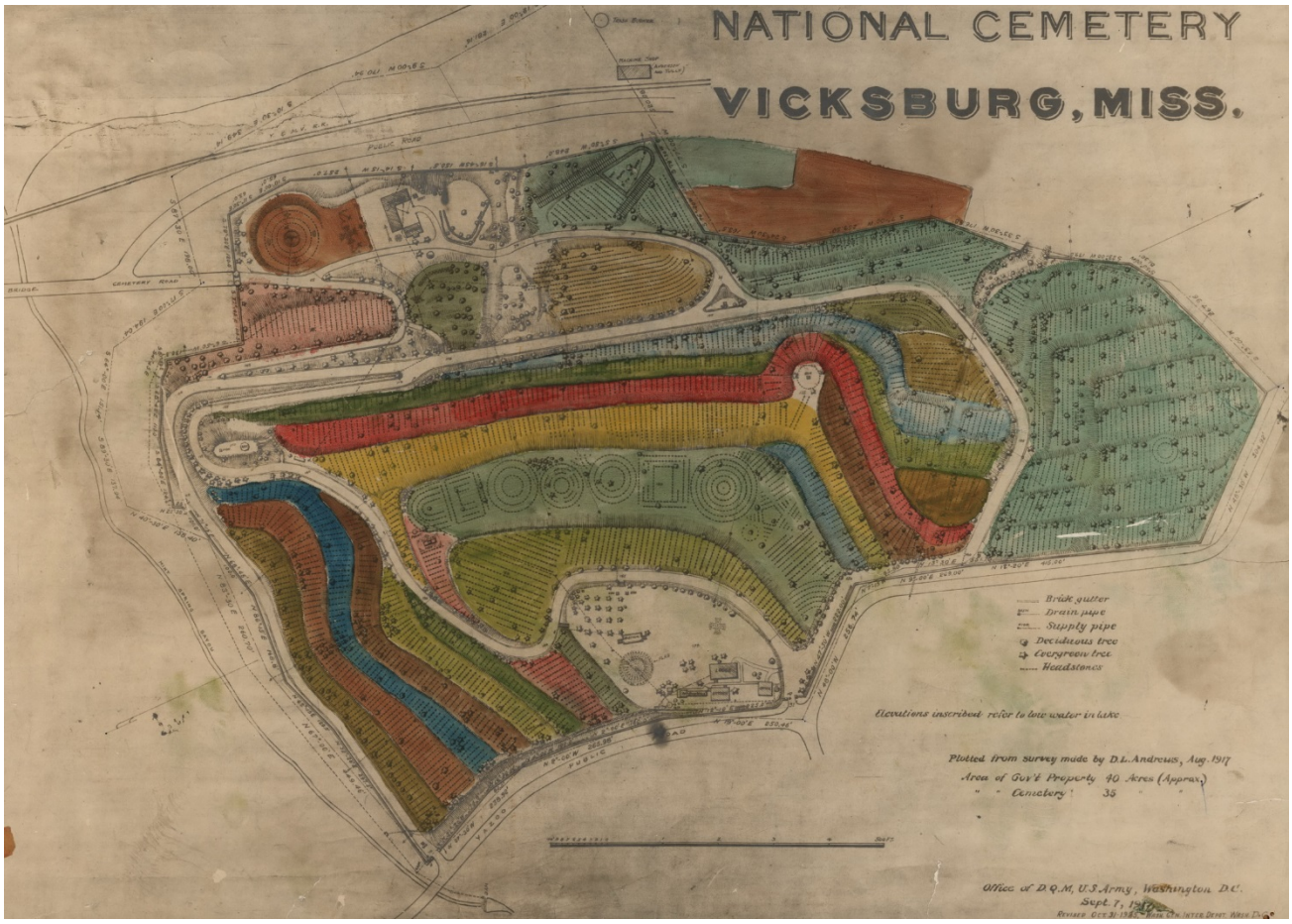


FIGURE 276. Patterns of spatial organization formed by terraces and headstones are evident in 1917 plan of the cemetery. Source: Vicksburg National Military Park Archives.

Feature Discussion.

Pattern of Topography. The dominant spatial patterns within the cemetery include the overall topography, characterized by a series of descending terraces that organize the cemetery landscape into several distinct spaces, and the geometric rows and patterns of the headstones and markers that give spatial quality and distinction to each terrace. As the terraces descend, distinct spaces are formed by the sloped bank on the uphill side. Tree plantings that edge the plateaus also complement the spatial quality. This pattern of spatial organization has been present since the construction of the cemetery in 1867 (Figure 277 and Figure 278).

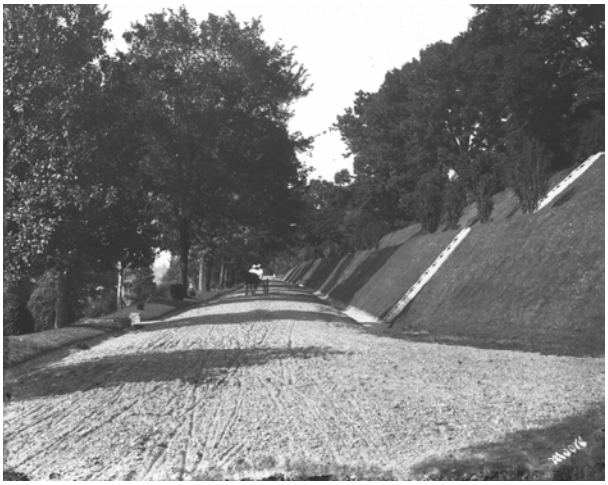


FIGURE 277. Historic photograph of the spatial pattern formed by terrace slopes and plateaus, and tree plantings. Note the wooden staircases providing access up the steep terrace banks to the plateaus circa 1890–1910. Source: Vicksburg National Military Park Archives.



FIGURE 278. Existing terraces and tree plantings (2014) retain the historic spatial patterns characteristic of the original cemetery design.

Burials occupy most of the plateaus, indicated by rows and other geometric arrangements of grave markers. There are areas where the headstones form distinct circular, star, and square patterns. Headstones at Mounds O, M, and E (Officers' circle) are organized in a circular pattern. These patterns have existed since the construction of the cemetery in 1867, as seen in comparative photographs, and are character-defining features that survive today (Figure 279 and Figure 280).



FIGURE 279. Historical photograph of Officers' circle illustrating the circular arrangement of headstones around the gun monument fountain, circa 1880–1890. Source: Vicksburg National Military Park Archives.



FIGURE 280. View of Officers' circle in 2014 indicating that the circular arrangement of the headstones survives today. The fountain, however, no longer operates and the base has been filled in and covered with grass.

Wall Enclosure. The brick wall built in 1874 defines Vicksburg National Cemetery and separates it from Vicksburg National Military Park located to the east. The brick wall no longer encloses the cemetery entirely; chain link fencing now marks the north and south boundaries. The current perimeter wall also encloses terraces M and W at the northwest corner of the site, which were not part of the original cemetery. Passage through gates in the brick wall signals entry into a unique and special place, a sacred and honored burial ground.

Following its construction in 1874, several changes were made within a few years to the original wall to address stability problems resulting from the loess soil and drainage conditions that caused sections of the wall to collapse. The perimeter wall present today reflects changes made over time that have diminished the integrity of the structure. The wall, however, continues to convey the historic sense of enclosure and boundary that marks the cemetery interior as a separate and special experience. The sense of enclosure survives from the period of significance. This landscape characteristic is contributing to the overall historic integrity of the cemetery (Figure 281 and Figure 282).



FIGURE 281. Historic photograph, circa 1880–1881, showing the wall and entrance arch that defined the sacred space of the cemetery. Source: Vicksburg National Military Park Archives, photo 597.



FIGURE 282. The same view in 2014 illustrates how the spatial definition provided by the wall and celebratory sense of entry into a sacred space associated with the arch survives from the period of significance.

Vegetation Patterns. The large trees in the cemetery lend a picturesque quality to the landscape, while also providing spatial definition. The canopies of the large deciduous trees help to define spaces within several plateau areas, while tree plantings that edge Trindle Circle create a spatial corridor within the cemetery landscape. The spatial patterns defined by tree plantings both within the terraces and along the road survive from the period of significance and contribute to the overall historic integrity of the site. The integrity of these spatial patterns is diminished to a degree by the loss of trees with no replacements in kind. Where large trees remain and flourish along the tour road and on the terrace plateaus, the integrity remains. (Figure 283 through Figure 285). Spatial patterns defined by vegetation are character-defining features of the cemetery and contribute to its significance.



FIGURE 283. This archival photograph, circa 1910–1920, depicts the spatial quality produced by the large trees in the cemetery. Source: Vicksburg National Military Park Archives.



FIGURE 284. Mature trees, some surviving from the period of significance, continue to provide a picturesque character and distinctive spatial quality within the cemetery in 2014.



FIGURE 285. Large trees continue to form linear spatial corridors along Trindle Circle.

Contributing Patterns of Spatial Organization

- Landscape terraces (1867–1912)
- Geometric patterns of gravemarkers (1875–present)
- Cemetery perimeter wall (1874)
- Roadside tree plantings (1876–present)
- Terrace tree planting (1876-present)

Non-contributing Patterns of Spatial Organization

Successional woodland

Missing Patterns of Spatial Organization

None

Land Uses and Activities

Summary Analysis. Land uses that are character-defining for the site include cemetery (burials), commemorative, residential, and recreational. These land uses survive from the period of significance and contribute to the significance of the cemetery landscape. Land uses added to the landscape since the end of the period of significance include maintenance, museum, archives and interpretation.

Prior to the Civil War, the larger landscape of the Vicksburg area, including the land that eventually became Vicksburg National Cemetery, was used primarily for agricultural purposes, although it is not known to what degree the land associated with the cemetery was farmed. Captain Folsom, in his June 1867 inspection of the cemetery, commented that the ground "was fearfully rough before it was worked [into terraces], and wholly useless for agricultural purposes." [160]

Following military use of the land during the Civil War, Vicksburg National Cemetery was established in 1866. Burial of Union soldiers began in 1867. By October of 1943, only 57 vacant grave sites remained but Superintendent Anderson stated that by moving several thousand old brick-bats, additional burial space could be prepared along the west side of the cemetery, within the wall.[161] This area was subsequently opened and was used for burials. In August 1947, preliminary plans were formulated relative to the burial of returned World War II dead in the National Cemetery. As a part of these plans, two additional terraces were prepared along the wall on the west side of the cemetery to take care of all bodies which might be shipped to the cemetery from overseas. [162]

The primary land use of the site has since been cemetery and commemorative. The national cemetery continues to fulfill its purpose as a final resting place for United States soldiers, sailors, airmen, and marines.

Feature Discussion.

Burial and Commemoration. The cemetery and associated burials remain the predominant and most significant contributing land use features of the site (Figure 286 and Figure 287).

Commemorative efforts were established with the opening of the cemetery in 1867–1868 and remain an important land use today, contributing to the overall historic integrity of the cemetery.

Passive Recreation. Since the early period of cemetery development (1867–1899) that resulted in construction of the loop road and terraces, Vicksburg National Cemetery has provided passive recreational opportunities for visitors, similar to the function of a public park. This practice began during the Rural Cemetery Movement of the mid-nineteenth century when the public was welcome to sit on benches, stroll, ride horses, or ride in carriages along the winding loop roads through the cemeteries (Figure 288).

160. Folsom, "Report of Inspection," June 1867, C.F.; quoted in Meyer, 23.
161. "Superintendent's Monthly Report," October, 1943, NPS, as cited in Meyer 195-196.
162. "Superintendent's Monthly Report," August 1947, NPS, as cited in Meyer, 195.



FIGURE 286. Stones marking burials of unidentified soldiers from 1867–1899. Source: Vicksburg National Military Park Archives.



FIGURE 287. The same view, 2014, illustrates the continued primary land use of Vicksburg National Cemetery.



FIGURE 288. Visitors on horseback or in carriages enjoyed the cemetery as a form of recreational activity, circa 1890–1920. Source: Vicksburg National Military Park Archives.

Visitors enjoyed the shade of the large tree plantings and the aesthetics of the ornamental plantings, as well as the artistic qualities of commemorative monuments. More importantly, visitors were afforded an opportunity to experience the contemplative character of the cemetery landscape and its powerful association with the great loss of human life in the Civil War (Figure 289).



FIGURE 289. A circa 1890–1920, showing that the cemetery was planted with a variety of large shade trees and other ornamental plantings designed to create a park-like character and enhance the contemplative experience of the cemetery. Source: Vicksburg National Military Park Archives.

Passive recreation remains a land use associated with the cemetery today. Visitors enjoy walking and driving through the cemetery, similar to the historic experience of driving a carriage along Trindle Circle. Visitors also walk through the cemetery, following the historic winding tour road. Many visitors today park at the USS *Cairo* Museum to begin their stroll through the cemetery (Figure 290). Recreational land use survives from the period of significance and is a contributing feature of the historic landscape.



FIGURE 290. Visitors walking through the cemetery today have access to an interpretive wayside, commemorative signs and features, as well as the marked burial areas on the terrace plateaus.

Maintenance. Maintenance land uses are associated with the built complex in the southwestern corner of the cemetery. This land use survives in the original location within the cemetery. The location and the maintenance building remain from the period of significance and are contributing land use features. (Figure 291).



FIGURE 291. Maintenance facility within the southwestern corner of the cemetery.

Residential. There are two residences within the cemetery, the superintendent's lodge and the gardener's cottage. They continue to provide housing for park staff. Both buildings survive from the period of significance. Both residential land use and the associated buildings are contributing features of the cemetery landscape.

Adjacent Land Use. Land uses associated with the landscape that surrounds the cemetery includes education/museum/interpretive activities associated with the USS *Cairo*, which is part of Vicksburg National Military Park. The adjacent park also features such land uses as visitor services, recreation, and commemoration. Industrial land uses are present west of the cemetery and North Washington Street.

Contributing Land Uses and Activities

- Cemetery/Burial (1867–1961)
- Commemoration (1867)
- Residential (1868)
- Recreation (circa 1870s)
- Maintenance

Non-contributing Land Uses and Activities

- Education/museum/interpretation/archives (1977–1985)
- Visitor services (1977–1985)

Missing Land Uses and Activities

- None

Circulation

Summary Analysis. There are several circulation features located within the cemetery that were established during the period of significance and survive with integrity today. These features include: the loop road (Trindle Circle); traces of abandoned road segments; and landscape steps. The primary circulation feature within the cemetery is the loop road. Although some minor modifications have been made to the system, it generally survives as originally completed in 1876. The majority of the road alignment survives with integrity and continues to serve vehicular and pedestrian access within the cemetery. Alterations include the replacement of the original gravel paving with asphalt, and the original brick gutters with concrete structures. In addition, two sections of the original road system have been altered or abandoned. The traces of these former roadbeds survive and are character-defining features of the cemetery.

Access to the cemetery has changed from the original lower arch along the western boundary of the property to the entrance located at the eastern boundary of the cemetery. Prior to 1875, there were three carriage entrances to the cemetery, all located along the eastern boundary of the cemetery from Yazoo Valley road. In 1875, only the central entrance from the Yazoo Valley road was open. In 1878, a new approach road was constructed into the cemetery from the southwest corner that included the existing arch. This entrance was completed in 1879. Construction of the approach road was not completed until 1885. It was not until that time that this became the main entrance into the cemetery. After the east entrance was designated as the main entrance to the cemetery, the approach road was abandoned. Remnants of the former approach roadbed survive to either side of the arch, along with remnants of the brick gutters that lined the roadway. With diminished integrity, these features remain character-defining and contribute to the significance of the cemetery.

Other contributing circulation features that survive include steps associated with an abandoned road bed, others that provide access to the terrace plateaus, and the staircase to the top of the Indian Mound. All are character-defining features of the cemetery landscape. Several steps are also present within the cemetery for which a date of origin has yet to be determined. These include concrete and wooden steps.

Features considered non-contributing include maintenance roads and access areas and the concrete sidewalks, steps, and driveway at the superintendent's lodge and gardener's cottage.

Feature Discussion.

Cemetery Loop Road (Trindle Circle). The major circulation feature within the cemetery is the asphalt-paved Trindle Circle. Construction of the road began in 1867 with the major north–south segment traversing the cemetery at its greatest length. By 1876, the interior loop road was complete. Its alignment was consistently indicated on historic maps until well into the 1900s. In 1888, use of the lower road around the Indian Mound, which followed the southern boundary of the cemetery and exited the cemetery its southeastern corner, was discontinued due to erosion below the Indian Mound. This road continued to appear on maps, however, including those dated 1893 (Figure 292) and 1917. It was not recorded or shown on the 1939 Existing Conditions Map (Figure 293). A trace of this road remains visible today at the southeastern end of the cemetery (Figure 294).



FIGURE 292. Map dated 1893 that shows the road that led around the Indian Mound to the south and exited the cemetery through a gate in the perimeter in the southeast corner of the site, indicated as removed in 1888. The road is indicated in red with a black dashed line. North is toward the upper left of the image. Source: Vicksburg National Military Park Archives.

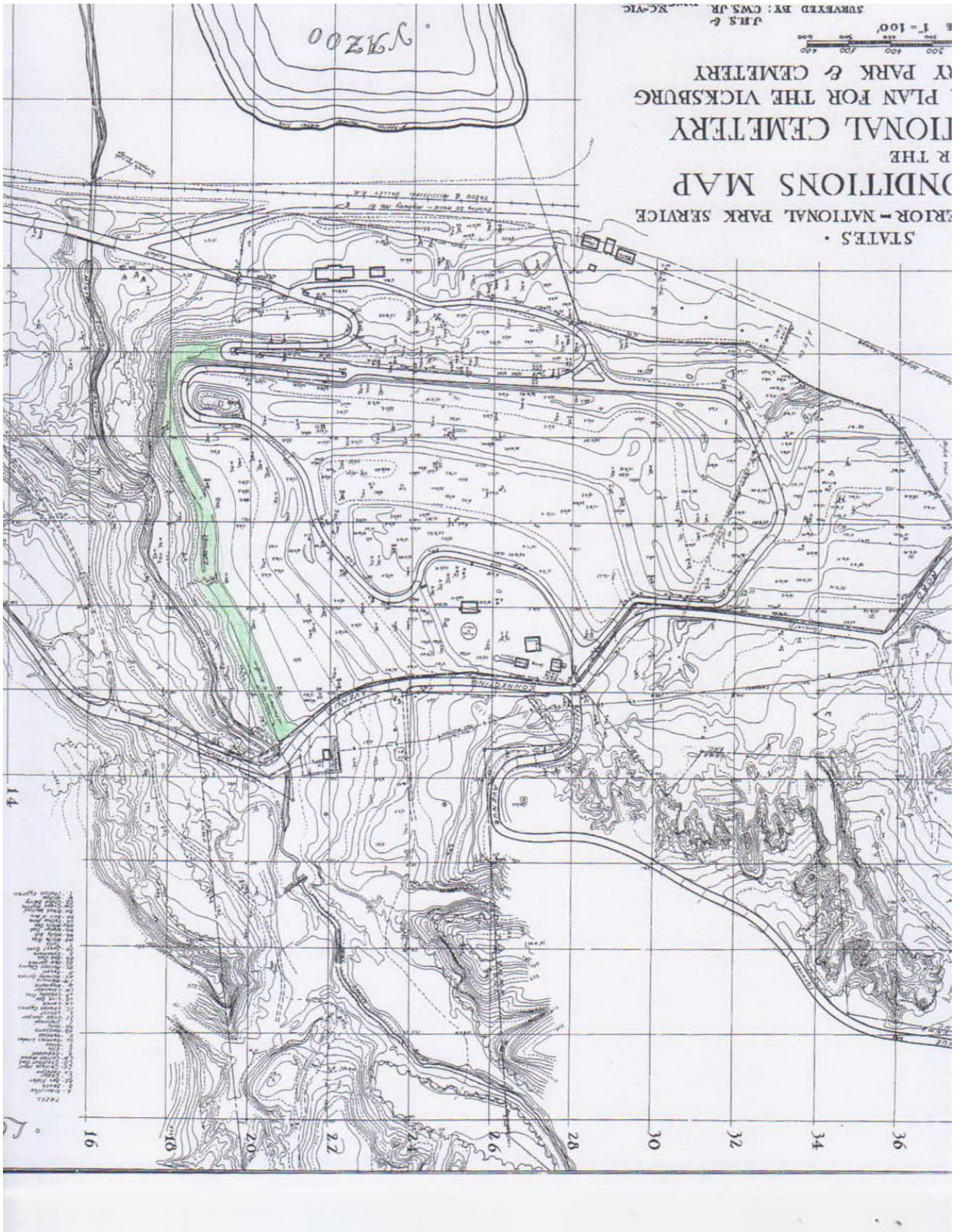


FIGURE 293. Detail of the 1939 existing conditions map that indicates the south road is no longer extant. The green area is labeled "formerly a road." Shown upside down so that north is generally to the right side of this image. Source: NPS Drawing No. 2095SZ1 [321492], annotated by the authors.



FIGURE 294. The road trace of the former road south of the Indian Mound as evident today from the southeastern corner of the cemetery.

Another segment of the loop road was abandoned after 1941 (Figure 295) and the entrance sequence adjusted when the lower approach road and arch were abandoned. The abandoned segment remains visible as a trace in the landscape today. It begins at the lower arch and winds up the to the loop road. It is presently grass surfaced. Both the loop road and trace road are character-defining features of the cemetery and contribute to the significance of the site (Figure 296 and Figure 297).

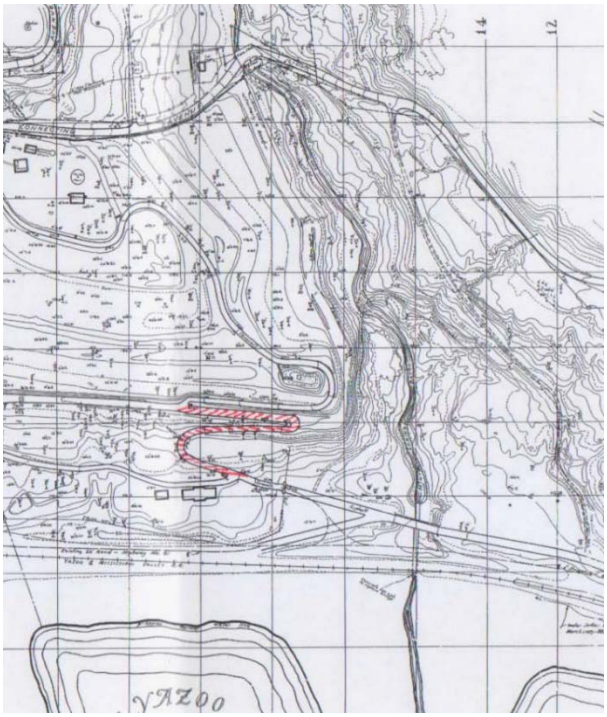


FIGURE 295. The road segment identified in red was abandoned after 1941. (This image is a detail area of the 1939 existing conditions map shown above.) Source: NPS Drawing No. 2095SZ1 [321492], annotated by the authors.



FIGURE 296. The two roadways that appear in the left of this historic photograph are part of the segment marked in red as abandoned in the previous figure. The upper road in the right of the photograph survives today with different surfacing and a slightly different alignment. Source: Vicksburg National Military Park Archives.



FIGURE 297. The grass road trace of the abandoned segment is evident in the landscape today.

Sidewalks and Steps. A concrete sidewalk formerly connected a portion of this road segment with the cemetery loop road; much of this sidewalk is no longer present. The brick piers associated with a set of landscape steps and a length of broken concrete also remain. The location of the former walkway and steps is shown on the 1939 Existing Conditions Map.

A trace of the road and associated gutter remnants also survive near the entrance arch. Comparative photographs show the road and gutter in 1879 and the roadbed and remnant brick gutter that survive today. Both are character-defining features of the

cemetery and contribute to the significance of the landscape (Figure 298 through Figure 300).



FIGURE 298. The lower approach road and entrance arch and gutters at the arch as photographed in 1879. Source: Vicksburg National Military Park Archives, photo 442.



FIGURE 299. The historic roadbed survives today with remnants of the brick gutter on the east side.



FIGURE 300. Detail of the segment of the brick gutter that survives on the east edge of the entrance roadbed.

Landscape steps were originally placed on the terrace banks in 1867 after the terraces were constructed and stabilized. At that time, there was no access from one terrace to another. The ladder-like wooden stairways were necessary in order to scale the steep banks of the terraces (Figure 301). None of the original wooden steps survive in the landscape today.



FIGURE 301. This circa 1880–1910 postcard shows the terraces and the wooden steps that provided access to the terrace slope leading to the burial plateaus. Source: Vicksburg National Military Park Archives.

Landscape steps were constructed in the 1880s for ascending the terrace where the flagstaff was located. The original steps to the flagstaff were constructed of finely cut stone and are no longer extant. The stone steps have been replaced by wood steps and rails that ascend the mound to the flagstaff. (Figure 302). The wooden steps are not character-defining features of the cemetery landscape and do not contribute to its significance.



FIGURE 302. This set of wooden steps, edged by a hand rail, provide access to the flagstaff.

Several additional sets of steps are associated with the terrace banks. The small set is concrete and the larger set is constructed of brick. The date of origin of these steps is not currently known (Figure 303 and Figure 304).



FIGURE 303. Existing set of stone steps with stone cheekwalls is located near the Trindle monument.



FIGURE 304. A larger set of brick steps with brick cheekwalls is located on the face of a terrace.

A longer set of steps, first constructed in 1880, and replaced in 1931 with the addition of the brick rest pavilion, provides access from the cemetery loop road to the brick rest pavilion atop the Indian Mound. The steps are constructed of brick, and are edged by brick cheek walls and concrete-capped brick piers. According to park staff, the Indian Mound steps and brickwork were stabilized and repaired in 2005 and 2019. This set of steps survives from the period of significance with integrity and contributes to the significance of the cemetery (Figure 305 and Figure 306).



FIGURE 305. Early photographs depict the stairway providing access to the top of the Indian Mound. Source: Vicksburg National Military Park Archives, photo 687.



FIGURE 306. The steps as they exist today.

The only formal sidewalks within the cemetery exist at the superintendent's lodge and the gardener's cottage, between the road and the front porch of each building. The entrance to the sidewalk at the superintendent's lodge is flanked with a short set of landscape steps edged by brick piers. In addition to the main vehicular and pedestrian circular routes, several level grass areas that do not include burials are used as access routes for small maintenance vehicles. Two such routes are denoted by small metal posts, while others are unmarked. A short driveway loop is also located adjacent to the superintendent's lodge. These circulation features postdate the period of significance and are non-contributing.

Contributing Circulation Features

- Loop road (Trindle Circle) (1867–1888)
- Traces of abandoned road segments (1880s)
- Steps leading to the top of the Indian Mound (1880)
- Landscape steps

Non-contributing Circulation Features

- Maintenance roads and access areas
- Asphalt curbs and road surfacing
- Concrete sidewalks at superintendent's lodge and gardener's cottage
- Wooden steps on Sylvan Hill Mound
- Maintenance vehicle routes
- Driveway loop at superintendent's lodge and gardener's cottage

Missing Circulation Features

- Sections of the original loop road
- Cut stone steps on Sylvan Hill Mound
- Pedestrian gravel paths
- Steps to the superintendent's lodge

Cultural Vegetation

Summary Analysis. During the planning and construction of Vicksburg National Cemetery, special attention was given by the War Department, superintendents of the cemetery, and later the National Park Service, to the plantings used to enhance the cemetery landscape. Extensive tree planting began in 1867. In his "Report of Inspection" in that year, C. F. Folsom wrote: "No trees or shrubs of any value had been planted within the Cemetery, with the notable exception of approximately 100 slips of weeping willows donated to the Cemetery by Andrew Johnson, President of the United States."[163] The originals had been brought from Egypt by Commodore William F. Lynch and presented to Andrew Johnson in 1859. Major plantings were later installed throughout the cemetery, in part based on advice provided by Landscape Architect, Frederick Law Olmsted, who was asked to evaluate the design of the national cemetery system by Quartermaster Gen. Montgomery Meigs in 1870.[164]

In 1874, a small greenhouse was erected and the superintendent began propagating various plants.[165] It was likely during the early cemetery development period that the tranquil character and park-like setting of the landscape was established. This has been maintained over time.

163. Folsom, "Report of Inspection," June 1867, C.F.; quoted in Meyer.
164. Meyer, 27.
165. Ibid., 71.

Today, the character of plantings within the cemetery is derived from large trees, both deciduous and evergreen, that occur in groups, as specimen trees in association with the terraces, and as rows that edge the loop road. The majority of the cemetery is otherwise maintained in turf lawn. The tree plantings and turf are character-defining features of the cemetery that survive from the period of significance and contribute to the significance of the cemetery landscape.

Additional cultural vegetation features include ornamental plantings associated the superintendent's lodge and the gardener's cottage. These plantings are more formal and less picturesque. Some are potted, while others are tightly clipped. These plantings postdate the period of significance and are non-contributing.

Feature Discussion.

Trees. Existing large deciduous and evergreen trees planted in an informal pattern are found throughout much of the cemetery. Species include a variety of oaks (*Quercus alba, Q. nigra, Q. falcata, Q. virginiana)*, hickory (*Carya* sp.), loblolly pine (*Pinus tæda*), Eastern red cedar (*Juniperus virginiana*), American holly (*Ilex opaca*), Southern magnolia (*Magnolia grandiflora*), saucer magnolia (*M. soulangeana*), ginkgo (*Ginkgo biloba*), flowering dogwood (*Cornus florida*), and arborvitae (*Thuja occidentalis*). One of the most impressive specimens is a large ginkgo located in Section O of the cemetery. There are also several other examples of large ginkgo trees that feature trunks with diameters of 5 or more feet. Additional outstanding specimen trees included a Southern red oak, flowering dogwood, Southern magnolia, and saucer magnolia. Further research would be required to determine the age of the extant trees. Many of these trees survive with integrity and contribute to the historic character and the park-like setting established for the cemetery since 1876 (Figure 307 through Figure 309). However, extensive damage and destruction was inflicted on approximately 30 trees during a wind event on December 27, 2018. Most of the trees were older Cedar or Magnolias. Depending on the extent of damage, the integrity of the individual tree would be diminished.

Trees that were present historically but are no longer extant include German lindens (*Tilia europæa*) that were grafted onto native ash root-stock.



FIGURE 307. Large trees planted throughout the cemetery landscape have been part of the historical character of the site since the late nineteenth century. Source: Vicksburg National Military Park Archives.



FIGURE 308. Large specimen trees continue to dominate the cemetery landscape today, preserving the historic character of the site.



FIGURE 309. One of the large ginkgo trees present in the cemetery landscape today.

Historical photographs and maps illustrate the more formal tree plantings added to the cemetery along the carriage roads in the 1870s, including Southern magnolias. By 1876, the cemetery featured tree lined carriage drives. Trees were likely planted from stock being grown in the cemetery greenhouse, as noted by Meyer "approximately 500 young magnolia trees, as well as a number of cedars, holly, and other deciduous and evergreen trees were growing in the cemetery greenhouse."[166] The 1917 survey map of the cemetery includes tree symbols and clearly delineates rows of tree plantings along the cemetery loop road. Remnants of this historic landscape feature have been retained over the years through replacement of diseased or dying original trees with new plantings. Many of the existing magnolias are quite large and may be 100 years old. These more formal magnolia tree plantings along the loop road retain integrity and contribute to the significance of the cemetery landscape (Figure 310 through Figure 312).



FIGURE 310. This historic photograph illustrates the formal tree plantings along the cemetery loop road as well as the abundance of other less formal plantings on the terraces, and ornamental plantings that were associated with terra cotta pots and the arbor in the left of the picture. Source: Library of Congress, image 4a28840.



FIGURE 311. A similar view from 2014 shows the degree to which the magnolias and other plantings have been lost since the nineteenth century in some areas of the cemetery.

166. Ibid., 77.



FIGURE 312. Large magnolias continue to line portions of the loop road. Erosion and slumping threaten the stability of the root systems.

Turf. The most prevalent grass species used in the cemetery and other areas of Vicksburg National Military Park is the non-native bermudagrass (*Cynodon dactylon*), which is generally thought to provide a high level of protection against soil erosion and is consistent with the time period during which the cemetery and park were established. The grass cover present today contributes to the significance of the historical cemetery landscape (Figure 313 and Figure 314).



FIGURE 313. This historical photograph from circa 1905 shows the expanse of turf cover present in the cemetery. Source: Vicksburg National Military Park Archives.



FIGURE 314. This contemporary photograph of the cemetery shows a similar well-manicured grass cover present today.

Historic photographs of the cemetery taken before the 1930s reveal a larger number of ornamental plantings were present historically that do not survive today. It is likely that ornamental plantings were not replaced when lost over the years. The photographs reveal that the overall planting design of the cemetery included a large and diverse amount of plant material. Also present historically was a large mass of roses, banana trees, and a formal clipped hedge in the vicinity of and around the Officers' circle monument and fountain. There were also ornamental plantings around the Trindle monument within the cemetery. These plantings are missing today. The existing ornamental plantings postdate the period of significance and are non-contributing (Figure 315 and Figure 316).



FIGURE 315. Early photograph of gun monument and fountain at the Officers' circle. Source: Library of Congress, image 4a03820.



FIGURE 316. Same view of the gun monument today. The plantings are not extant and the fountain is buried and covered.

Contributing Cultural Vegetation

- Large deciduous and evergreen trees throughout the cemetery
- Rows of trees planted along Trindle Circle
- Turf grass throughout the cemetery

Non-contributing Cultural Vegetation

- Ornamental plantings around the superintendent's lodge and gardener's cottage
- Ornamental plantings near the Trindle monument

Missing Cultural Vegetation

- Extensive ornamental plantings including trees, shrubs and flowers throughout the cemetery
- Weeping willows donated by President Andrew Johnson
- Ornamental plants in pots along the loop road
- Ornamental plantings associated with Officers' circle including a formal clipped hedge, banana trees, and other assorted species

Buildings and Structures

Summary Analysis. Several buildings, structures, and monuments survive from the period of significance and contribute to the significance of the cemetery. These include the superintendent's lodge, gardener's cottage, maintenance shop building, rest pavilion, cemetery entrance arch, entrance gate, cemetery perimeter wall, and the flagstaff.

The most notable features missing from the period of significance include: the brick rostrum (Figure 317); the original arbor atop the Indian Mound and other arbors used along the cemetery road; the original superintendent's lodge and separate kitchen; the cemetery comfort station and storehouse (Figure 318); greenhouses (1874) and (1889); cemetery contact station (Figure 319); a stable, and the original flagstaff.



FIGURE 317. The brick rostrum was built during the early cemetery development period (1879). It was used for public events. Source: Vicksburg National Military Park Archives.



FIGURE 318. Historic photograph of the comfort station and storehouse, no longer extant on the cemetery site. Source: Vicksburg National Military Park Archives.



FIGURE 319. Cemetery contact station also dated to circa 1870 and is no longer extant on the cemetery site. Source: Vicksburg National Military Park Archives.

Non-contributing buildings are those outside the brick cemetery wall. They include: the USS *Cairo* museum and pavilion; the storage, maintenance, and repair facilities; and the park archives facility. The USS *Cairo* museum and pavilion are partially within the 120-acre unit boundary of the cemetery. The remainder of the buildings are fully located in the 120-acre unit boundary. (Refer to Figure 3 in Chapter 1).

Feature Discussion.

Cemetery Perimeter Wall. The brick perimeter wall that edges the east and west sides of the cemetery, enclosing two terraces (W and M-U-U) that were not part of the original cemetery, was built in 1874 in response to post Civil War legislation that mandated fencing of national cemeteries.[167] The walls as constructed were 4 feet high and 2 feet thick. The original design of the masonry wall featured a coping composed of the top course of bricks, and pyramidal caps on the piers. Sections of the wall began to collapse almost immediately after construction. Within a decade, sections of the south wall above Mint Spring Bayou collapsed.

Since construction, many segments of the cemetery wall have been repaired or replaced. While some sections of the wall have been reconstructed consistent with the original alignment, other sections follow a different alignment. Replacement sections were sometimes lacking visual consistency due to differences in masonry construction. Nearly all of the wall segments have lost their pyramidal pier caps (Figure 320 and Figure 321).[168]

The east wall follows the original historic alignment but original capping and coping have been removed. Another section of wall that is representative of the original 1874 design and built on the original alignment occurs at the southeast corner of the cemetery.

Construction dates for other masonry wall sections range from the late 1930s to the 1950s.[169] The walls at the west and northwest sections of the cemetery, near North Washington Street, were realigned and rebuilt between 1939 and 1942 in response to highway construction. A large portion of the south wall has been lost due to erosion of the steep slopes above Mint Spring Bayou. In some places, chain link fencing has been installed to replace the wall, but severe erosion in other places precludes the use of any fencing at all. Portions of the north wall have collapsed and were removed. The foundation of the wall on the north boundary remains in the original 1874 alignment. Currently, this portion of the boundary is marked by a chain link fence that follows the original wall alignment.[170]

167. *An Act to Establish and to Protect National Cemeteries*, approved February 22, 1867.
168. National Park Service, *Preservation and Reconstruction of the National Cemetery Walls Environmental Assessment, Vicksburg National Cemetery* (Vicksburg, Mississippi: National Park Service, November 2003).
169. Ibid.
170. Ibid.

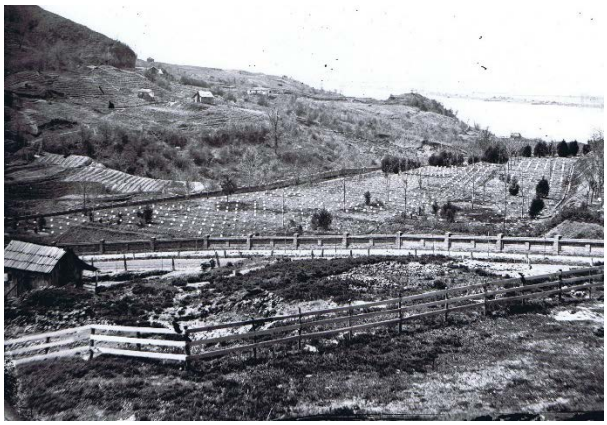


FIGURE 320. Perimeter wall on the east side of the cemetery with columns, coping and caps circa 1876. The brick wall spans from left to right and is located midway down the image.



FIGURE 321. Existing eastern wall with missing caps.

Superintendent's Lodge. In December of 1868, construction began on the superintendent's lodge for Vicksburg National Cemetery. The original lodge was constructed with brick and had three rooms. It was a one-story structure with corbeled brickwork and gabled roof with bracketed overhanging eaves. A separate kitchen structure was constructed near the lodge in 1889. A new roof was installed on the lodge in 1907 and a gallery was built to connect the lodge and the kitchen. None of these structures are extant. In 1928, the lodge was damaged by fire and taken down. Within the same year, a new shingle-style lodge was completed. This building survives from the period of significance. In 1933, the old brick kitchen, which was being used as a storeroom, was converted into a garage. The garage is no longer extant (Figure 322 and Figure 323).



FIGURE 322. The superintendent's lodge as it appeared in early 1930s. The cemetery contact station is left of the lodge.



FIGURE 323. The lodge today has been well maintained, with minimal changes that would diminish its integrity.

In 2011, the lodge was painted, reroofed, and repaired. Despite minor changes in materials and minor repairs, the lodge survives with high integrity from the period of significance.

Gardener's cottage. The gardener's cottage was constructed in 1882–1883. There were two rooms on the lower level and one large room on the upper level. The cottage was constructed adjacent to the brick stable and shed, all completed by 1883. The building was significantly renovated in 1931, including the construction of a new second floor under a gambrel roof. As part of the 1931 work, stables and other outbuildings originally connected to the rear of the building were demolished (Figure 324 and Figure 325).



FIGURE 324. The gardener's cottage as it appeared prior to 1931. Renovations have not occurred and brick outbuildings remain adjacent to the cottage. The maintenance shop (1931) has not been constructed in this photograph.



FIGURE 325. The cottage as it appears today retains integrity and contributes to the historical character of Vicksburg National Cemetery.

Despite changes in materials and design additions, the lodge survives with integrity from the period of significance.

Maintenance shop. The new service building (now the maintenance shop) was constructed in 1931 to replace sheds and the stable constructed in 1881–1883. The service building contained a public toilet, stable, and vehicle building with an upper story likely included as a hay loft to support mules housed below. The service building was to front to the east and align with the existing gardener's cottage at a distance of thirty feet. It was constructed of cement and common red brick.171

The service building, now functions as the maintenance shop for Vicksburg National Cemetery (Figure 326).



FIGURE 326. The building today survives from the period of significance. Additions and changes to the design have occurred over time and diminished the integrity, but the building still retain integrity from the period of significance.

Rest Pavilion. In July of 1931, plans were developed for replacing the old arbor that had stood atop the Indian Mound for over 55 years (Figure 327). The wooden arbor was almost completely rotted, with the exception of the columns. A new Rest Pavilion was constructed in 1931, replacing the 1875 wooden arbor on the Indian Mound. The rest pavilion is constructed of red brick set in a Flemish bond pattern with a single arched entrance opening. It looks much the same as it did in 1931 and possesses integrity. The brick rest pavilion survives from the period of significance and contributes to the significance of the cemetery (Figure 328).

171. Meyer, 169.



FIGURE 327. The wooden arbor was constructed in 1875 atop the Indian Mound. View is looking south from the cemetery landscape toward the arbor.



FIGURE 328. The rest pavilion occupies the high elevation atop the Indian Mound. The structure allows views of all four sides of the cemetery and the landscape beyond the cemetery boundaries.

Cemetery Entrance Arch. The entrance arch at the former vehicular entrance to the cemetery from North Washington Street is a limestone structure built in 1879. The arch is approximately 35 feet tall. The opening is 20 feet tall. In 1880, the entrance arch was described as "massive and its proportions beautiful, the work upon it has been well done".[172] The approach road to the cemetery through this new entrance arch lagged behind in completion but was finally usable in 1880 (Figure 329). President Ulysses S. Grant returned to Vicksburg in 1880 and arrived at the cemetery by carriage. In 1901, President William McKinley and his party and passed through the imposing entrance arch and toured the cemetery (Figure 330).



FIGURE 329. The cemetery arch, circa 1879, after the new entrance was completed. Construction of the approach road progressed more slowly and the road was not usable until 1880. Source: Vicksburg National Military Park Archives.



FIGURE 330. The arrival of President William McKinley through the new entrance arch of Vicksburg National Cemetery in 1901. Source: Vicksburg National Military Park Archives.

172. Ibid., 95.

The extant entrance arch survives from the period of significance with integrity. It is well maintained and remains an icon within Vicksburg National Cemetery (Figure 331).



FIGURE 331. The entrance arch survives from the period of significance and retains high integrity. The structure looks much as it did in 1875 upon completion. It has been well maintained and is structurally sound.

Entrance Gate. In 1873, there were three carriage entrances to the cemetery, situated at three points along the Yazoo Valley road. They were so constructed that a vehicle entering the northern entrance had to pass out either the southern or central entrances. A carriage entering either the northern or southern entrances passed over the main drive, which formed a semi-circle. Thus, entering from either the north or south one would exit through the central entrance. Both the main and central drives were wide enough to allow two carriages to pass, but neither was wide enough to allow a carriage to turn around. It was therefore recommended by Lieutenant Shelby that three large iron gates, one at each entrance, and one small iron gate for pedestrians situated in front of the superintendent's Lodge near the central entrance, be constructed. He further suggested that six heavy guns lying in the cemetery be used as posts for the iron gates in place of stone posts, but his proposal was never executed.[173]

The central iron gate, constructed circa 1878–1885, was supported by stone columns and the pedestrian gate is smaller but also supported by a stone column (Figure 332). The central entrance pictured in the historic photograph is now the only entrance into the cemetery. The entrance is marked by an ornate structure of black painted cast iron posts topped with gold painted urns and decorated with select painted reliefs (Figure 333).



FIGURE 332. A circa 1880–1910 photograph showing the iron gates at the central entrance including the pedestrian gate near the superintendent's lodge. The gates are supported by stone columns. Source: Vicksburg National Military Park Archives.

173. Ibid., 60-61.



FIGURE 333. The current entrance gate is supported by stone columns and two ornate cast iron posts. The pedestrian iron gate is retained near the superintendent's lodge.

The entrance gate survives with integrity of location and association. For this reason it is a contributing feature to the historic character of the cemetery landscape. It should be maintained as a cultural resource. The iron gates and support columns may postdate the period of significance. The exact date of the installation of the current gate is unknown (Figure 334).



FIGURE 334. The current ornate gate and column at the cemetery entrance topped with gold painted runs and select painted reliefs.

Flagstaff. The flagstaff in Vicksburg National Cemetery is located south of the superintendent's lodge. It is clearly visible from the loop road as well as from various vantage points within the cemetery. This location was chosen in 1867 to take advantage of one of the highest elevations in the cemetery, and for its proximity to one of the cemetery entrances. In 1880 the original flagstaff was struck by lightning and destroyed (Figure 335).



FIGURE 335. The original flagstaff as seen from the cemetery looking north. High elevations are apparent in the circa 1871–1874 archival photograph. Source: Vicksburg National Military Park Archives.

The current flagstaff was ordered by Quartermaster General Montgomery C. Meigs. It was to feature an ornamental iron socket and a base from St. Louis, Missouri. It was installed in 1906. The mounded circular landform surrounding the flagstaff is known as Sylvan Hill. Nearby was the rostrum built in 1879. The rostrum was removed from the site after World War II. The flagstaff survives from the period of significance and is a contributing feature to the significance of Vicksburg National Cemetery (Figure 336).



FIGURE 336. The flagstaff survives from the period of significance and remains in the same location chosen for the flagstaff in 1867.

Contributing Buildings and Structures

- Cemetery perimeter wall (1874)
- Superintendent's lodge (1928)
- Gardener's cottage (1882–1883)
- Maintenance shop (1931)
- Brick rest pavilion (1931)
- Cemetery entrance arch (1879)
- Flagstaff (1906)

Non-contributing Buildings and Structures

- USS *Cairo* shelter and museum
- Archive/carriage restoration shop/maintenance complex

Missing Buildings and Structures

- Rostrum (1879)
- Cemetery mound arbor (1875)
- Arbors along the cemetery road (1880s)
- Original flagstaff (1867)
- Greenhouses (first was built in 1874 and demolished in 1889; the second was built in 1889 and demolished in 1907)
- Original superintendent's lodge, kitchen, and connecting gallery (1868)
- Stable and shed, cemetery comfort station and storehouse (1870)
- Cemetery contact station (1870)

Views and Vistas

Summary Analysis. Due to the dramatic descending topography of the cemetery and its proximity to the Mississippi River, panoramic views have been afforded from the cemetery to the surrounding landscape since the burials began in 1867. These survive today, although they are diminished by changes to the landscape beyond the park boundary. Features that diminish the integrity of the view include the industrial warehouses to the west, the loss of the original river channel, and the USS *Cairo* Museum that is visually dominant to the east at the entrance to the cemetery.

Feature Discussion.

Views from the Cemetery. Historically, the cemetery site was recognized for the grand views afforded to the surrounding landscape and of the Mississippi River. These dramatic views were retained as part of the design of the loop road and the burial terraces. Views to the surrounding landscape were also sometimes framed using specimen trees and groups of trees. These views survive from the period of significance and are character-defining features that contribute to the significance of the cemetery landscape (Figure 337 and Figure 338).



FIGURE 337. View from the cemetery toward the Mississippi River in the late 1800s. Source: Vicksburg National Military Park Archives, photo 600.



FIGURE 338. The same view in 2014.

Views within the Cemetery. Interior views within the cemetery were created through the construction of the terraces and the loop road in 1867. The loop road was laid out to follow natural curves of banks and ridges of the cemetery, affording an ever-changing series of views as it ascended the terraces to the higher elevation to the east. Views included the terraces and plateaus and the geometric arrangement of burial markers, enhanced by plantings (Figure 339 and Figure 340). The interior views of the cemetery survive today, are character-defining features of the cemetery landscape, and contribute to its significance.



FIGURE 339. Photograph from the early 1900s that illustrates a typical view from the loop road to the terraces and burial plateaus. Source: Library of Congress, image 4a03822.



FIGURE 340. Similar views exist today from the loop road.

Since 1868, a structure has occupied the apex of the Indian Mound. From the interior of the cemetery, the mound and the structure have historically been visible from several vantage points. These views survive from the period of significance, are character-defining, and contribute to the significance of the cemetery landscape.

Contributing Views and Vistas

- Views to surrounding landscapes from the higher elevations in the cemetery
- Interior views from the loop road across the cemetery terraces and plateaus
- Views to structures on the Indian Mound from within the cemetery

Non-contributing Views and Vistas

- Views from the cemetery across North Washington Street
- Views from the cemetery to the USS *Cairo* Museum, exhibit, and tensile structure

Missing Views and Vistas

- View to the Mississippi River

Small-scale Features

Summary Analysis. Small-scale features located within Vicksburg National Cemetery include grave markers, headstones, monuments, memorials, wayside tablets, signs, fencing, and a limited number of site furnishings. The predominant feature that survives from the period of significance is the system of headstones, markers associated with unidentified soldiers, and cemetery section markers established during the 1860s and 1870s. Several monuments are also present that have been individually added over time. These features survive from the period of significance, are character-defining, and contribute to the significance of the cemetery landscape (Figure 341 and Figure 342).



FIGURE 341. Circa 1880–1910 archival photograph of the geometric arrangement of headstones and monuments within the cemetery landscape. Source: Vicksburg National Military Park Archives.



FIGURE 342. Headstones and monuments remain present today, and the cemetery continues to convey the historic character established during the 1800s. Source: Vicksburg National Military Park staff.

Interpretive features also survive from the period of significance and contribute to the significance of the cemetery landscape. They include the Bronze sharpshooter tablets, Iron Position markers, "Bivouac of the Dead" tablets, and War Department tablets. Three gun monuments also survive from the period of significance.

Remaining small-scale features within the cemetery postdate the period of significance and are non-contributing. These features include informational and regulatory signs, post and cable gates, picnic tables, wayside sign in Section M, and tree identification signs from 1970s or later.

While the extent of small-scale features that are missing from the historic landscape may not be completely known, features described or seen in historic documentation but no longer present today include seven gun monuments, wood and cast iron benches, terra cotta pots, wooden arbors, original wooden grave markers, and the original wood boundary fence.

Feature Discussion.

Grave Markers. Prevalent within the cemetery landscape are the rows of white marble headstones. The original markers were wooden, decayed rapidly, and obstructed the proper maintenance of the cemetery. The marble markers were installed in 1875 and carry the name, rank, and regiment of the interred, as well as the grave

number. Interments of unidentified soldiers and sailors are marked by small, square blocks, marked with an etched number. These markers were placed in 1875 and survive in the cemetery landscape. None of the markers used prior to 1875 are still extant (Figure 343 and Figure 344).

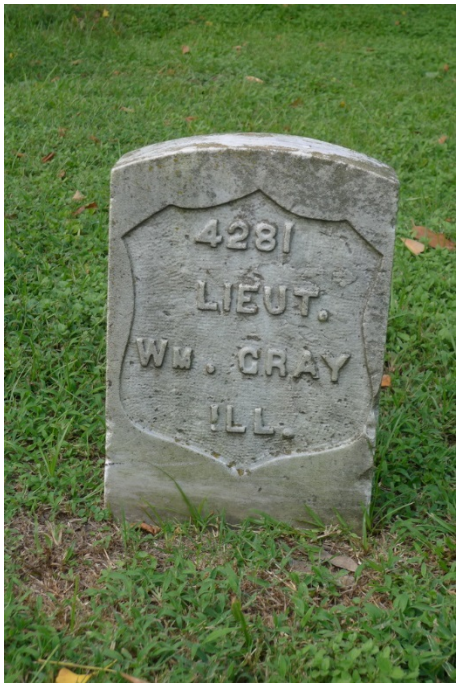


FIGURE 343. Headstone of identified Union soldier.



FIGURE 344. Typical marker for unidentified soldier burials. These display only numbers.

The grave headstones and markers are historically significant features of Vicksburg National Cemetery. They fulfill the required function of honoring Union soldiers in a consistent manner, both identified and unidentified soldiers (Figure 345 and Figure 346).



FIGURE 345. Markers for unidentified soldiers are prevalent in the cemetery as seen in this photograph from circa early 1900s. Source: Vicksburg National Military Park Archives.



FIGURE 346. A combination of grave markers indicate identified and unidentified soldiers within the cemetery. These survive from the period of significance and are contributing features of the historic cemetery landscape.

Today, grave markers that honor those identified and unidentified are fairly consistent, with a few exceptions in style and size. All original headstones contribute to the significance of the historic site. Headstones that are replacements or have been added since the period of significance contribute to the historic property as part of a larger collection.

Section Markers. Each of the twenty-four sections that comprise the cemetery is marked by one or two marble section markers placed in close proximity to the loop road to guide visitors. The markers survive from the period of significance and contribute to the significance of the cemetery (Figure 347 and Figure 348).



FIGURE 347. Section markers are used to identify the cemetery's twenty-four burial areas for visitors.



FIGURE 348. Section marker for Section L.

Monuments. The largest monument within the cemetery is the 25th and 31st Iowa Infantry Monument, erected in1905. It is located near the steps leading to the top of the Indian Mound. This monument survives in good condition from the period of significance and is a contributing feature of the historic cemetery landscape (Figure 349 and Figure 350).



FIGURE 349. The 25th and 31st Iowa Infantry Monument is visible in this historic photography with the Grant-Pemberton Surrender Interview Monument and the wooden arbor/gazebo on top of the Indian Mound beyond. Source: Vicksburg National Military Park Archives.



FIGURE 350. A view of the Iowa Monument today.

The Grant-Pemberton Surrender Interview Monument marked the historic meeting place between the lines where generals Grant and Pemberton discussed surrender terms for Vicksburg. The monument was initially slated to be a grave marker, but was confiscated by Federal troops to mark the surrender site. After only a few short years (1864–1867) the monument became heavily damaged by relic hunters and vandalism. To ensure preservation of the monument, it was moved from the battlefield and placed on the Indian Mound in Vicksburg National Cemetery in 1868 (Figure 351). The monument was removed from the Indian Mound in 1940 and returned to its original location. It is now installed in the Vicksburg National Military Park Visitor Center.

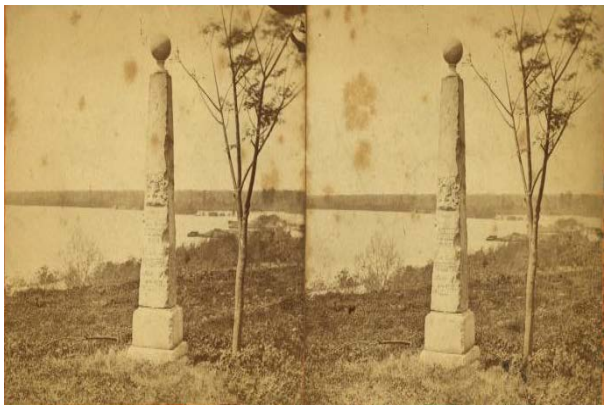


FIGURE 351. Grant-Pemberton Surrender Interview Monument atop the Indian Mound (1868). Tree next to it was later removed.

A smaller monument to Union soldiers who died as prisoners during the Civil War stands near the cemetery flagstaff mound. Adjacent to this monument are three low stone slabs, each commemorating the death of a soldier who fought in the Vietnam War. These monuments postdate the period of significance. They are non-contributing features but should be treated as cultural resources (Figure 352 and Figure 353).



FIGURE 352. Monument to Union soldiers who died in Vicksburg as prisoners of war dedicated in 1991.



FIGURE 353. Memorial markers for soldiers who died in the War in Vietnam.

Gun Monuments. By 1875, ten gun monuments had been placed throughout the cemetery (Figure 354 and Figure 355).



FIGURE 354. One of the gun monuments installed within the cemetery was converted into a fountain at the Officers' circle. Source: Library of Congress, image 4a24831v.



FIGURE 355. Early photograph of one of the gun monuments placed in the cemetery during the 1870s. Source: Vicksburg National Military Park Archives.

At least eight of the gun monuments remained present in 1970. However, only three survive today. These are located in the triangular turf area along the loop road, in Section O, and near the Iowa Monument (Figure 356 and Figure 357).



FIGURE 356. Gun monument in the triangular piece of turf along the loop road.



FIGURE 357. Gun monument in the landscape context of Section O of the cemetery.

The three surviving gun monuments are contributing features of the historic cemetery landscape.

Grave Monuments. A monument to a former cemetery superintendent, John Trindle, and his family stands in section G of the cemetery. Historic photographs indicate that the elevated grass portion of the memorial was once set with ornamental plantings that are no longer present (Figure 358 and Figure 359).



FIGURE 358. This circa 1880–1890 archival photograph depicts the Trindle gravesite and associated ornamental plantings. Source: Vicksburg National Military Park Archives, photo 391.



FIGURE 359. The Trindle gravesite today retains integrity, but is missing the ornamental plantings present historically.

Adjacent to this monument is a decorative grave marker (1898) for Catherine O'Shea, the infant daughter of former cemetery superintendent, Thomas O'Shea.

Both the Trindle monument and the decorative grave marker survive from the period of significance and are contributing features of the cemetery landscape.

Interpretive and Commemorative Features. Two bronze tablets, one in section B and one in section E, indicate the positions of the 25th and 31st Iowa Infantry sharpshooters during the Siege of Vicksburg that extended from May 27 to July 4, 1863 (Figure 360).



FIGURE 360. Bronze tablet marking the position of the Iowa 25th Infantry sharpshooters during the Siege of Vicksburg.

There are also three cast iron position markers indicating trench locations of Union troops under the command of C. R. Woods present within the cemetery (Figure 361).



FIGURE 361. Position marker indicating the location of the Union trench excavated by C. R. Woods' Brigade.

These markers survive from the period of significance and are considered contributing features of the historic landscape.

A number of cast iron tablets edge the loop road. These each contain a stanza from the poem "Bivouac of the Dead" by Theodore O'Hara, a former newspaper editor who served in the Confederate army during the Civil War (Figure 362).



FIGURE 362. One of the tablets containing a stanza from the poem "Bivouac of the Dead."

These cast iron tablets were erected circa 1881–1882 and survive from the period of significance.

They are contributing features of the historic cemetery landscape.

Two other tablets, similar in style to the "Bivouac of the Dead" poem tablets, are located along the loop road. One conveys the rules of behavior for visitors to the cemetery, as set forth in 1875, while the other provides the text of the act that established the national cemetery system in 1867. These tablets, which were installed in the 1870s and 1880s, survive from the period of significance and are contributing features of the cemetery landscape (Figure 363 and Figure 364).

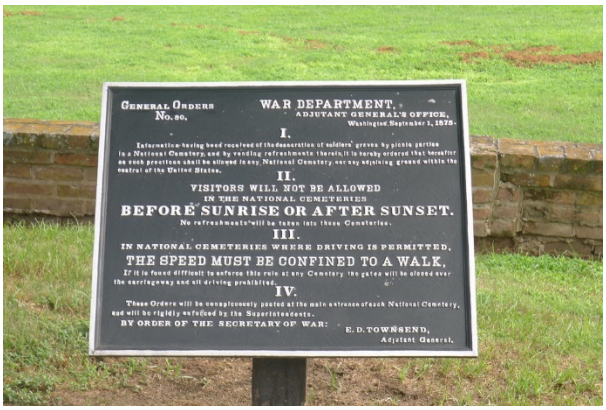


FIGURE 363. Tablet that conveys the rules of behavior for visitors to the cemetery.

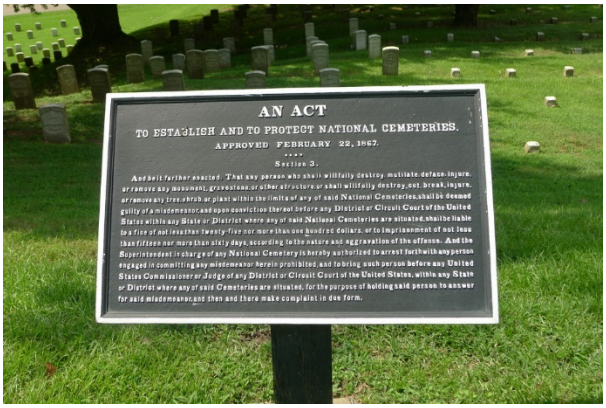


FIGURE 364. The tablet that includes the text of the act that established the national cemetery system in 1867.

An upright wayside display is located near the intersection of the loop road and the maintenance road. This cast iron tablet includes the full text of the Gettysburg Address, given by President Lincoln at the dedication of Soldiers' National Cemetery at Gettysburg in 1863. This display postdates the period of significance and is a non-contributing feature.

Signage. There are a number of signs within the cemetery that provide regulatory, wayfinding, and interpretive information to visitors. They include a metal tour stop sign at the current entrance gate, two small metal standard NPS identification signs indicating that the superintendent's lodge and gardener's cottage are private residences, small signs on a few trees featuring the common and botanical names of the species, and standard Federal Highway Administration traffic signs. All postdate the period of significance and are non-contributing features.

Site furnishings. Located near the flagstaff mound behind the superintendent's lodge are a bell mounted between two metal supports and a metal box containing the US flag and POW/MIA flag. The bell itself dates to the early years of the cemetery and was rung for the cemetery workers. The metal flag box is nestled in a shrub bed to be hidden from view as much as possible (Figure 365).



FIGURE 365. The bell and metal flag box are located near the flagstaff within the cemetery.

The bell was originally located in the belfry, a 25-foot-tall structure erected circa 1867. By 1890, the structure was reported to be in danger of falling. It collapsed during a storm in 1927. Although the belfry was not rebuilt, the bell, manufactured by G. L. Hanks in Cincinnati, Ohio, was retained (Figure 366). Interestingly, the foundry only operated under the name George L. Hanks from circa 1844 to 1849. George Hanks died in 1859, and the foundry operated under the

name Niles Works Bell Foundry during the time the bell is believed to have been installed at the cemetery. It is therefore probable that the bell was manufactured during the late 1840s and was reused for the cemetery. The bell survives from the period of significance and is a contributing feature of the cemetery landscape. The metal box containing the flags and associated materials postdates the period of significance and is a non-contributing feature.



FIGURE 366. The bell is present in this historic photograph from circa 1870. Source: Vicksburg National Military Park Archives.

Benches. There is one cast iron and wood bench located along the east wall of the maintenance shop in the cemetery. The cast iron bench is representative of the settees that were historically located throughout the cemetery. It was historically located at the rostrum, which is no longer extant (Figure 367). The bench, no longer in its original location, survives from the period of significance.



FIGURE 367. View of the settee style benches present at the rostrum, circa 1890. Source: Vicksburg National Military Park Archives.

Terra cotta pots. Two large, decorative terra cotta pots were historically located near the sidewalk leading to the superintendent's lodge. They have since been moved to Vicksburg National Military Park. Many more of these pots were located throughout the cemetery during the period of significance. They were used for arrangements of ornamental plants and were placed at strategic locations along the loop road and at the rostrum. None survive within the cemetery today (Figure 368 and Figure 369).



FIGURE 368. Terra cotta pots were used for ornamental plantings and placed in various locations along the loop road during the period of significance (date of postcard unknown). Source: Vicksburg National Military Park Archives.



FIGURE 369. None of the terra cotta pots survive within the cemetery. The two surviving pots have been moved to Vicksburg National Military Park.

Picnic tables. Wood and metal picnic tables are located near the maintenance shop and gardener's cottage. A few other picnic tables, placed on concrete pads, are located in the turf area between the cemetery and the USS *Cairo* Museum. These

site furnishings postdate the period of significance and are non-contributing.

Fences. By June of 1867, the cemetery grounds had been enclosed on three sides with a substantial fence constructed of post and rail with a recommendation that this wood fence be finished before beginning work on a permanent enclosure of either iron or stone. The brick perimeter wall completed in 1874 replaced the original wooden fence. Engineer James Gall recommended that all but 800 feet of the old wooden fence be sold. He thought that the retained 800 feet could be used to enclose a portion of ground on the river front between the new brick wall and the low-water line of the river.[174] Captain Almon F. Rockwell, Assistant Quartermaster-in-Charge of National Cemeteries, recommended that the entire fence be sold.[175] However, on October 1, Captain Rockwell was obliged to instruct Lieutenant Shelby to pile up the wood from the fence for future use for fuel and repairs, since Quartermaster General Meigs disapproved of selling the fence because the Department would be unable to keep the profits.[176] This fence was removed from the cemetery site.

Other small-scale features within the cemetery landscape include boundary and safety chain link fences on the north and south sides of the cemetery. These features are not historic and detract somewhat from the historic and aesthetic character of the cemetery. A new chain link fence was installed near the top of the bluff following stabilization work in 2011. These fences and post and cable gates are non-contributing features to the historic cemetery landscape.

Contributing Small-scale Features

- Cemetery headstones (1875–present)
- Section markers
- 25th and 31st Iowa Infantry Monument (1905)
- Union Prisoner of War Memorial (treat as a cultural resource)
- Vietnam Memorials (treat as a cultural resource)
- Three gun monuments (1875)
- Trindle family monument (1875)
- Catherine O'Shea grave marker (1898)
- Bronze sharpshooter tablets (1906)
- Iron position markers (early 1900s)
- "Bivouac of the Dead" tablets (circa 1881–1882)
- War Department tablets (1870s–1880s)
- Gettysburg Address tablet (1878)
- Cemetery bell (1867; modified 1927, 1931)
- Flagstaff box
- Wood and cast iron bench
- Tree number tags from 1930's
- Grant-Pemberton Surrender Interview Monument (missing from the cemetery but located in the visitor's center) (1868)

Non-contributing Small-scale Features

- Informational and regulatory signs
- Chain link fence
- Post and cable gates
- Picnic tables
- Wayside sign in Section M
- Tree identification signs from 1970s
- Boundary survey marker

Missing Small-scale Features

- Seven gun monuments
- Wood and cast iron benches

174. Letter, Gall to Meigs, September 7, 1874, C.F. as noted in Meyer, 65–66.
175. Letter, Rockwell to Gall, September 26, 1874, C.F. noted in Meyer, 65–66.
176. Letter, Rockwell to Shelby, October 1, 1874, C. F. noted in Meyer, 65–66.

- Terra cotta pots
- Wooden arbor
- Original wooden grave marker
- Original wood boundary fence

Utilities and Drainage Infrastructure

Summary Analysis. Utilities in Vicksburg National Cemetery include drainage infrastructure composed of gutters, swales, curbs, pipes, concrete culverts and spillways, and drop inlets with grates. Water is supplied to the cemetery from the City of Vicksburg Water, Sewer, and Gas and electricity is provided by Enterygy.

The predominant utility features surviving from the period of significance are the drainage infrastructure associated with the construction of the terraces and subsequent efforts conducted to address ongoing problems associated with erosion and slumping of the terraces due to inadequate drainage. Those culverts and spillways present today that postdate the period of significance are non- contributing.

Feature Discussion

Drainage. Drainage of the Vicksburg National Cemetery site has been problematic and challenging from the beginning of construction in 1866–1867. Terraces were originally constructed to direct water to drain along the entire length of each plateau. However, the system was subject to failure if the drains were not kept in perfect working condition. With a buildup of sediment or debris, water would spill over the bank and down the slopes, causing erosion.[177] In 1868, after the drainage system was assessed by Capt. Lewis C. Forsyth, heavy posts were planted 5 feet below the line of the smooth soapstone strata and 8 feet apart, bearing backward toward the plateau above at an angle of 30 degrees. Behind the posts, timbers were placed that extended from one to the next to support the bank above. Reservoirs were constructed behind the timber posts into which all of the surface water was conducted. Water was then directed to drains set at the elevation of the terrace below. The new system was completed by 1869. Drainage problems continued to plague cemetery managers, however, including slumping soil profiles caused by water soaking into the surface soil. [178]

In 1869, Quartermaster General Meigs ordered Maj. Alexander J. Perry to contact Frederick L Olmsted of New York to solicit his recommendation for a man competent to help design some improvements for the drainage problems encountered at the cemetery. Olmsted suggested Mr. James Gall as the most qualified to design and install improved drainage infrastructure. Mr. Gall led the design and installation of the second comprehensive drainage system within the cemetery beginning in 1870. This system survived for many years and resulted in the stabilization of the cemetery terraces until circa1920. Problems continued, however, as another drainage system was installed in 1933. It is likely that evidence of the older systems, in the form of pipes and tile drains, survive underground today. The extent of the existing underground infrastructure and its condition is not known.

On the ground surface, portions of the historic brick gutter system used along the loop roads remain evident. These retain a width of 2 feet 8 inches. Many have been replaced by larger concrete gutters that measure 4 feet in width. There are also smaller concrete gutters and grass swales adjacent to the loop road as it descends to lower elevations (Figure 370 and Figure 371).

177. Meyer, 25.

178. Ibid., 42-43.



FIGURE 370. Remnants of the historic brick gutter system are evident in some locations along the loop road, particularly the trace road near the original entrance arch.



FIGURE 371. Concrete gutters replaced the brick. The size of the gutters also increased.

Water Supply. In 1884–1886, engineer Gall reported that water was being pumped from Mint Spring Bayou to the water tank near the superintendent's lodge. A pipe ran from the tank down through the burial terraces to the stable yard. At several places it was tapped by hydrants to which hoses were attached for watering the shrubbery and flowers, while additional provisions were made for watering a fountain near Mound "E" at the main entrance gate. At that time, a large "Columbiad Gun Monument," which could be used in connection with a fountain was sitting at the center of mound "E."[179] There was also a hydraulic ram that supplied the water tank, 100 feet above the Bayou with 10,000 to 12,000 gallons of water every 24 hours. In addition, 3 cisterns had a capacity of 18,000 gallons.

Until 1923, water for the cemetery was still being obtained from Mint Spring Bayou and pumped to the tank near the superintendent's lodge. As a result of the partial drainage of the bayou, city water was finally introduced into the cemetery on July 1, 1923. The water was procured from a small branch line of the city water system which had been installed to accommodate a few customers in a sparsely settled neighborhood east of the cemetery. The pipes entered the cemetery at the southeast corner and then ran to the superintendent's lodge, a distance of about 200 yards, where they emptied into the water tank. From the tank, the water ran to the gardener's cottage and stables, as had been the practice in the past. Scarcely a year later, Congress passed legislation that permitted the city of Vicksburg to construct, operate, and maintain water mains, in connection with the city waterworks, on and under the National Cemetery Road. The Act was approved June 7, 1924.[180]

Electricity. When the new superintendent's lodge was completed on April 5, 1928, electrical power was provided to the cemetery for the first time. On July 12, 1928, the Mississippi Power and Light Company offered to extend their lines to the cemetery. [181]

Contributing Utilities

- Systems of above and below ground drainage infrastructure

Non-contributing Utilities

- Drainage grates
- Curbs
- Concrete gutters

Missing Utilities

- Brick gutters

179. Ibid., 118-119.
180. Ibid., 156.
181. Ibid., 163-164.

- Silt basins

Contributing Archeological Sites

Knowledge of archeological resources within Vicksburg National Cemetery is limited, due to a lack of prior systematic archeological investigations. Determinations have not been made to date regarding the eligibility of specific archeological resources associated with the cemetery[182]

Integrity Assessment

Introduction

The primary objective of this section is to determine the integrity of Vicksburg National Cemetery. Integrity is defined as the degree to which a historic property site retains its ability to convey 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.[183]

The historic resources located within Vicksburg National Cemetery continue to reflect the period of significance, identified as part of this CLR as 1866–1961. This period addresses the location and setting of the cemetery and the burials there, which began in 1867 and continued until the cemetery closed for new burials in 1961. This period also represents the burial and commemoration of Union soldiers and sailors involved in the Civil War, and subsequently veterans of other wars, as well as cemetery employees, superintendents, and their families. Overall, the landscape of the cemetery retains a high degree of integrity to the period of significance due to the number of historic features that survive today, the limited number of changes that have occurred within the cemetery since1961, and the efforts conducted by the National Park Service to protect the historic character of the cemetery.

Integrity

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 the bulletin:

> **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 they physical elements that were combined 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

182. Jessica McNeil and Melissa D. Hardy, Archeological Investigations at Vicksburg National Cemetery (Tallahassee, Florida: National Park Service, Southeast Archeological Center, 2012), 11.

183. National Park Service, National Register Bulletin: *How to Apply the National Register Criteria for Evaluation* (Washington, D.C.: Department of the Interior, 1995), 44.

> the direct link between an important historic event or person and a historic property.[184]

Location. The cemetery site possesses integrity of **location** as it is the original site purchased in 1866 for the express purpose of establishment of a national cemetery. The cemetery is also the original site for burials of Union soldiers and subsequent veterans from other wars beginning in 1867 and continuing until the cemetery closed to new burials in 1961.

Design. Today the cemetery continues to convey its historical associations with the original design of the cemetery for burial of Union soldiers through the arrangement of burial sections, terraces and plateaus, the loop road, and the geometric organization of grave markers and monuments, as well as the brick cemetery perimeter wall, and plantings that enhanced views and spaces within the cemetery. Changes to the terraces have occurred over the years, mostly due to erosion and installation of drainage features, but these modifications of the terraces do not diminish the quality of the designed landscape. Integrity of design has also been diminished by changes to historic circulation patterns, including the elimination of segments of the original loop road and some pedestrian paths and the closing of the original entrance. Closing of this entrance altered the experience of the cemetery loop road but did not affect the basic physical alignment of the road. Overall, the cemetery continues to possess integrity of design to the original period of development.

Setting. Although surrounding land use patterns have changed over time, Vicksburg National Cemetery possesses integrity of setting due to the ongoing presence of Vicksburg National Military Park to the east and south, and limited development within the viewshed to the west and north. The Yazoo River Diversion canal to the west of the cemetery recalls the Mississippi River channel present when the cemetery was established. Forest vegetation edges the cemetery to the south, protecting the cemetery from incompatible views in this direction. Mint Spring Bayou to the south of the cemetery remains intact and contributes to the integrity of setting of the cemetery. Industrial development to the west diminishes the integrity of setting to a degree.

Materials. The development and construction of Vicksburg National Cemetery, including the carriage loop road, the brick perimeter wall, the grassed terraces and the extensive planted vegetation, occurred during the mid to late 1800s. The majority of the historic materials used to construct the cemetery survive today with integrity. The loop road was originally gravel and has since been paved with asphalt, and many of the original brick gutters have been replaced with concrete structures. Some sections of the brick perimeter wall have been replaced with chain link fencing, or repaired using different materials. The grass terraces have been part of the cemetery landscape since burials began in 1867. This landscape feature retains integrity of materials. Tree plantings were an essential part of the historical development of the cemetery landscape. Although some of the details of ornamental plantings have been lost, and individual trees that have died have not always been replaced, the extant vegetation of the cemetery contributes to the cemetery's integrity of materials.

Workmanship. Evidence of the high quality of workmanship involved in the construction of the cemetery during the period of significance survives in features such as the cemetery perimeter wall, entrance arch, rest pavilion, designed terraces, loop road, and drainage infrastructure. The brick wall, entrance arch, and rest pavilion retain the essential materials and workmanship integral to their construction. The designed terraces, while diminished by erosion, also possess integrity of workmanship. Integrity of workmanship for the loop road is diminished by the use of asphalt and the addition of many layers to the surface over time as part of repaving efforts. Drainage infrastructure has diminished integrity of workmanship due to the failure of the system.

184. Ibid., 44-45.

Feeling. The beauty and serenity of the Vicksburg National Cemetery survives today with integrity of feeling. The site remains a place of honor, commemoration, and sacred ground. The patterns of white headstones on green grass and the graceful descent of the terraces and associated large shade trees, all present during the period of significance, survive today, creating a beautiful and peaceful site for the burial of soldiers and their families.

Association. Although the cemetery is closed to new burials, the overall designed landscape and its structures, circulation, views, vegetation, and spatial organization accurately portray the function of the landscape as it was during the period of significance. Through these designed features, the cemetery continues to convey its important associations with the Civil War and the establishment of national cemeteries in this country.

Treatment Plan

Introduction

Treatment is a preservation strategy for long-term management of a historic property, intended to direct physical work on the landscape so that the distinguishing characteristics and features that contribute to the significance of the property are preserved. The treatment plan portion of a cultural landscape report (CLR) typically addresses resource management by providing a preservation master plan or blueprint for the historic landscape in the short- as well as the long-term. One of the goals of treatment is to enhance the historic character of a cultural landscape while accommodating contemporary function and use. The CLR treatment plan establishes how the landscape should look and be maintained in the future to protect historic integrity and character.

This treatment plan has been prepared to provide the National Park Service with an overall vision for the cultural landscape of Vicksburg National Cemetery and is intended to guide and support long-term management of the site and its resources (Figure 372 and Figure 373). The plan includes treatment guidelines, recommendations, and implementation projects.

In addition to historic landscape preservation, the treatment plan also addresses park management goals that include improved visitor access, sustainability, interpretation (Figure 374), and maintenance routines and practices (Figure 375).

A CLR prepared for Vicksburg National Military Park in 2009 served as a baseline for many of the resource management and interpretation strategies presented in this treatment plan for Vicksburg National Cemetery. A cultural landscape inventory (CLI) prepared for the national cemetery in 2011 also afforded important baseline information regarding the nature of historic resources and potentially appropriate treatment strategies.



FIGURE 372. Goals of treatment include enhancement of the historic character of the Vicksburg National Cemetery cultural landscape.



FIGURE 373. The rows of grave markers present within the cemetery contribute to the significance of the cultural landscape, and merit careful treatment.



FIGURE 374. Wayside exhibits, such as this one located within the cemetery describes the contributions of the US Colored Troops during and after the Civil War, and their burial at Vicksburg National Cemetery. This meets an interpretive goal within the cemetery.



FIGURE 375. Mowing is part of the routine maintenance at the cemetery.

The treatment plan chapter is organized into the following eight sections:

1. **Park Management Goals, Issues, and Concerns** describes the issues raised by the park for consideration as part of the CLR treatment plan.

2. **National Cemetery Regulatory Considerations** summarizes the regulations and other relevant guidelines that inform management and care of national cemeteries under the administration of the National Park Service.

3. **Treatment Approach** describes the four treatment approaches recognized by the Secretary of the Interior for historic properties and considered in developing this CLR. Recommended Treatment Approach for Vicksburg National Cemetery describes the approach selected for the cemetery based on goals for the property set forth by the park and in previous planning documents, and identifies the need for changes to the cultural landscape to meet current and projected interpretive, functional, and management goals.

4. **Treatment Concept** conveys the overarching vision or concept for landscape treatment within the cemetery.

5. **Overall Guidelines for Treatment** provides an overarching set of guidelines that applies to all resource management activities conducted within Vicksburg National Cemetery.

6. **Cultural Landscape Treatment Recommendations** identify the individual actions required to address the cemetery's management goals, issues, and concerns.

7. **Implementation Projects** identify and describe 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, and issues of concern.

Park Management Goals, Issues, and Concerns

The management goals, issues, and concerns to be addressed by this treatment plan were identified in several ways. Most were conveyed during a project start-up meeting held at the park on September 3, 2014, that was attended by National Park Service and regional personnel, and members of the CLR project team, and in follow-up conference calls to discuss treatment issues. Others were identified during field investigations conducted in July 2015. Treatment issues were also derived from review of park planning documents including the *Final General Management Plan for Vicksburg National Military Park and National Cemetery* (1980), *Cultural Landscape Report for Vicksburg National Military Park* (2009), and *Cultural Landscape*

Inventory for the Vicksburg National Cemetery (2011), as well as the *Foundation Document for Vicksburg National Military Park* (2014).

During project discussions with the team, the park emphasized that recommendations should take into account the historic periods of cemetery development, the role of commemoration, and the evolving character of the cemetery over time.

Eight specific areas of concern were identified for consideration as part of the CLR treatment plan as discussed below.

1. *Guidance is needed for documentation protocols that ensure that all cemetery burials are marked and recorded*

The park noted that several years ago thirteen unrecorded modern burials were identified in the cemetery. Additionally, the park is aware that several spousal graves have never been properly located, recorded, or marked. Some spousal graves have been marked since the oversight was recognized through the addition of names on the veteran's headstones in 2012–2013. There remain additional graves that require proper recordation and marking. Guidance is needed to establish an appropriate documentation process and procedures that will ensure each grave marker and monument within the cemetery is accurate, and that the information is recorded in a comprehensive system (Figure 376 and Figure 377).



FIGURE 376. Some of the Civil War-era headstones remain in good condition with legible identification information.



FIGURE 377. Other headstones have weathered to such a degree that the text is no longer legible.

2. *Guidance is needed to establish cemetery maintenance practices and appropriate recordation of maintenance activities, as well as repair protocols for headstones and other markers and monuments*

Of particular concern to the park is the appropriate recordation and documentation of maintenance and repair practices used in the cemetery. Headstones, grave markers, and monuments should be inspected on a regular basis to ensure proper maintenance (Figure 378 through Figure 380).



FIGURE 378. Other masonry headstones are damaged, such as the one above that exhibits a horizontal crack. Efforts have been made to repair the crack in the headstone shown.



FIGURE 379. PVC pipe is used in association with some headstones to protect them from damage caused by mowing.



FIGURE 380. One of the issues related to headstone care is the fact that they are often damaged by string trimmers as part of routine maintenance.

3. *Strategies are needed for review, evaluation, and improvement to drainage and erosion control systems within the cemetery*

Certain areas of the cemetery are prone to washouts, slumping of terrace slopes, and surface erosion, which is most evident in association with the sloped sections between terraces, and where channelized water reaches unpaved areas due to broken curbs or missing gutters. The landscape is particularly subject to erosion during heavy rain events (Figure 381 through Figure 384).

Managing storm water within the cemetery has been challenging since the land was terraced in 1866–1867. Initial efforts made to prevent soil slumping and slope slippage entailed the installation of a bulwark of posts and timbers as a stabilization measure. Tile drains were added later as part of civil engineer James Gall's plan carried out in the 1880s. In 1933, a new system of terrace drainage was installed for the terraces. Despite these efforts, surface and subsurface drainage remains problematic today and controlling storm water continues to be a challenge for cemetery managers. It is unclear whether any subsurface drainage structures survive and continue to function. A comprehensive plan for managing drainage is needed that can be monitored and maintained.



FIGURE 381. Slumping occurs on the sloped sections below the terraces.



FIGURE 382. The entire length of this sloped section is slumping.



FIGURE 383. Where brick drainage structures, like the one shown, are blocked, proper surface drainage is impeded, leading to erosion problems.



FIGURE 384. Broken or missing curbing allows water to flow over the turf, and potentially leads to erosion damage.

4. *Guidance is needed for turf lawn management and maintenance, including the potential need for soil amendments and alternative ground covers where grass is not viable*

Turf lawn is a character-defining element of the national cemetery that has been an integral part of the design since early establishment in the 1860s. Bermudagrass was planted to cover the terraces and aid in the stabilization. Maintaining the health and character of turf lawn is challenging. Proper maintenance is critical for the care of grave markers, which are subject to soiling where turf is missing and to damage caused by mowing equipment. Concerns of park staff to be addressed include turf maintenance within the context of current and desirable future conditions within the cemetery (Figure 385 through Figure 389).



FIGURE 385. This photograph, taken in the 1930s, depicts the mowing regimen used by the CCC to maintain the slopes. Source: Vicksburg National Military Park Archives.



FIGURE 386. Mowing on steep slopes remains a challenge for park personnel.



FIGURE 387. Large deciduous trees produce shade that diminishes the vigor of the turf lawn.



FIGURE 388. In some places with low light conditions, turf grass is entirely missing.



FIGURE 389. This historic photograph, circa 1880–1920, depicts the use of a special scythe to maintain the turf around headstones and markers. Source: Vicksburg National Military Park Archives.

5. *Guidance is needed for identification of historically significant trees, and an overall tree and vegetation stewardship strategy*

Vicksburg National Cemetery contains numerous evergreen and deciduous trees. Trees were first planted within the cemetery as part of its early design. Archival photographs and several early plans offer a good record of late-nineteenth century plantings and the way in which they were used to complement the loop road and establish a park-like character. Numerous ornamental plantings were also used to enhance the cemetery landscape (Refer to landscape plans in Appendix B).

Maintenance of tree plantings has remained challenging. Issues of concern include pruning, tree and stump removal, tree replacement, turf care under tree canopies, and the threat of physical damage to grave markers and monuments from fallen or uprooted trees and limbs. More than thirty trees were lost due to the severe weather event in 2018 as noted in Chapter 3.

The park does not currently have sufficient staff to undertake preventive tree care, such as regular pruning. Many of the existing trees are now mature and are likely to require significant care on an ongoing basis. A replacement policy is not in place for trees lost to age, disease, or weather.

The park needs guidance on tree care, maintenance, replacement, removal of stumps, and mitigation strategies to address the effects of trees on other historic resources and the cemetery's historic landscape character (Figure 390 through Figure 392).



FIGURE 390. Dead trees and large stumps are present within the cemetery where former plantings have been lost.



FIGURE 391. Tree roots have engulfed several markers within the cemetery, such as the unidentified soldier markers shown.



FIGURE 392. This large ginkgo tree is located at the edge of a terrace. It poses several management challenges, which include protection of the roots where the slope drops away, erosion of the slope, grass cover on the slope, and growth of the tree into areas associated with grave markers and stones.

6. *Strategies are needed for repair, restoration, maintenance, management, and replacement of headstones, cemetery section markers, monuments, plaques, and landscape steps*

Repair and maintenance protocols are needed to address a range of condition issues associated with grave markers and monuments. These issues include soiling, chipping, cracking, biological growth, erosion and surface wear, marker resetting, and the need for replacement. Shade from tree plantings has contributed to problems with biological growth on grave markers. Condition issues for features such as the perimeter wall and landscape steps include incompatible repairs, soiling, and deterioration. Contributing to the condition problems are lawn maintenance practices, previous cleaning processes and chemicals, impact damage from trees, and soiling due to exposed earth where grass is not present at the base of the markers. Replacement of historic markers affects the integrity of the cemetery but is often necessary to address condition problems. Concerns of park staff include appropriate methods and guidelines for repair and maintenance to address these issues and to help protect the historic character, condition, and integrity of grave markers and monuments. An additional concern is the high number of stone markers (the exact number is not known) that are currently flush with ground level or buried. A strategy is needed for inventory and documentation of all of the markers and appropriate, specific recommendations for treatment (Figure 393 through Figure 397).



FIGURE 393. The grave marker to the right has subsided into the ground and is now flush with the grade. The stone needs to be uncovered, reset and the problem corrected.



FIGURE 394. The Section T limestone marker is badly damaged. It is also sited precariously close to the loop road and curb.



FIGURE 395. Brick and concrete steps at the Indian Mound were uneven (as recorded in 2014), and the cheekwall was at risk of failing. The steps and brick cheekwalls were repaired in 2018.



FIGURE 396. Biological growth, as seen on this Civil War-era headstone, is one of the condition issues requiring correction.



FIGURE 397. Repair recommendations are needed for cracked and broken headstones, such as the marker shown above.

7. *Guidance is needed for marking and interpreting the layers of history within the cemetery including features that were present historically but do not survive today*

Interpretive features, some of which are historical, are found in various places throughout the cemetery. The park is interested in developing an approach to interpretation within the cemetery that respects the historic character, significance, and layered history of the landscape, including recognizing its role in the siege.

While the themes, media, and locations of interpretive information are the purview of a long-range interpretive plan, there is a need for guidance in developing future interpretive opportunities within the cemetery that do not diminish the integrity of the cultural landscape. Issues to consider include visual impact of wayside exhibits, and the appropriate design, size, number, and location of signs and other features. Staff also requested guidance in the feasibility of restoring the rostrum and the historic fountain at the Officers' circle. Information being generated in an administrative history for the cemetery could be used to enhance interpretation of the cemetery, including the circumstances of its closure in 1961 (Figure 398 and Figure 399).



FIGURE 398. This cast iron tablet is inscribed with the "Act to establish and protect National Cemeteries." The tablets within the cemetery require specific cleaning protocols.



FIGURE 399. This large tablet is inscribed with the text of the Gettysburg Address.

8. *Consider options and strategies for providing ABAAS accessibility within the cemetery that allows for pedestrian circulation within limited interpretive areas*

There is little in the way of walks or paths for visitors to use to access the cemetery. Visitors are permitted to walk among the graves and along the road. The only walks extend between the road and the superintendent's lodge and the gardener's cottage.

There are segments of the loop road that are level enough to serve ABAAS accessibility needs. However, there is no continuous route that links accessible parking spaces and any potential interpretive areas of the cemetery. Concerns include the extent of changes to the designed historic landscape necessary to accommodate extended ABAAS accessibility and how to best mix pedestrian access and interpretation with the memorial nature of a national cemetery. Any strategies should adhere to ABAAS standards and Section 508 of the Rehabilitation Act (Figure 400).



FIGURE 400. Visitors currently walk across the turf to view grave sites on the terraces. This approach does not meet ABAAS accessibility standards. There are also landscape steps within the cemetery terraces, such as the flight shown above, that do not meet accessibility standards.

National Cemetery Regulatory Considerations

Treatment recommendations for Vicksburg National Cemetery need to be consistent with the existing legislative framework established by the federal government for cultural resources, burial grounds, and national cemeteries, as well as federal historic preservation guidelines. They must also be consistent with National Park Service agency standards and park planning documents, such as the 1980 GMP, the 2009 CLR, and the 2014 Foundation Document for Vicksburg National Military Park.

Current national cemetery management policies are reflected in Director's Order 61: *National Cemetery Operations* (July 2010) and *Reference Manual 61: National Cemetery Operations* (November 2011), as updated by the National Park Service to guide operation of the fourteen national

cemeteries administered by the agency.[184] These documents make reference to the regulations and standards established by the National Cemetery Administration, an agency of the Department of Veterans Affairs. Although the cemeteries administered by the National Park Service are excluded from National Cemetery Administration oversight, the National Park Service works to meet the administration's policies and shares in its mission to honor the dead and keep their burial places sacred forever, as embodied in a Congressional Joint Resolution of April 3, 1866.

Included in these policy documents are the requirement that all National Park Service national cemeteries have either an approved CLR or National Register documentation that adequately addresses the cultural landscape, identifies contributing landscape characteristics and features, and establishes criteria for analyzing the historic significance and integrity of the landscape.[185] Director's Order 61 provides general direction on visitor use; interment eligibility, limitations, facilities, and services; disinterment; headstones, markers, and commemorative markers; and ceremonies and special events. Reference Manual 61 provides guidance on treatment and use of component parts of national cemeteries, preservation guidelines, cultural landscape guidelines, archeology guidelines, and guidance for headstones, markers, and commemorative monuments.

Management and treatment of Vicksburg National Cemetery, as a component of the National Park System, is also guided by the mission of the National Park Service ". . . to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."[186] The application of this mission to cultural landscapes is articulated in the Secretary of the Interior's *Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes*.[187] As a cultural resource, management of Vicksburg National Cemetery is defined in federal regulations by 36 CFR Part 2: Resource Protection, Public Use and Recreation, section 2.1: Preservation of Natural, Cultural, and Archeological Resources. The application of these regulations to cultural landscapes is considered within National Park Service *Management Policies 2006,* Director's Order 28: *Cultural Resource Management, and* NPS-28: *Cultural Resource Management Guidelines*.

In addition to its management as a cultural resource, Vicksburg National Cemetery is also subject to National Park Service regulations and policies relating to national cemeteries including 36 CFR Part 12 - National Cemetery Regulations. Specifically, these regulations note:

> All national cemeteries administered by the National Park Service will be managed as historically significant resources, and as integral parts of larger historical parks. Burials in national cemeteries will be permitted, pursuant to applicable regulations, until available space has been filled. . . .
>
> The enlargement of a national cemetery for additional burials constitutes a modern intrusion, compromising the historical

184. As reorganized in 1973, the national cemetery system is comprised of 146 important national cemeteries under the jurisdiction of the Department of Veterans Affairs, and 14 national cemeteries associated with historic sites and battlefields managed by the National Park Service.
185. National Park Service, Reference Manual 61: *National Cemetery Operations* (Washington, D.C.: Department of the Interior, November 2011), 6.
186. National Park Service Organic Act, 16 USC 1, 3, 9a, 460 1-6a(e), 462(k) (1916).
187. *Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes.* U.S. Department of the Interior, National Park Service, Stewardship and Partnerships Heritage Preservation Services, Historic Landscape Initiative, Washington D.C. 1996.

> character of both the cemetery and historical park, and will not be permitted.[188]

The National Park Service regulations are modeled after the regulations published by the National Cemetery Administration, 38 CFR Part 38 - National Cemeteries of the Department of Veterans Affairs.

Policies established by the agency to guide national cemetery management are found in several Department of Veterans Affairs publications:

- National Cemetery System Policy Manual M40-1 9 (May 5, 1975)
- *Operations of National Cemetery Manual* M40-2 (May 1, 1984)
- *Headstones and Markers Manual* M40-3 (December 3, 1982)

The *Headstone and Markers Manual,* which is currently in the process of being revised by the National Cemetery Administration, details the eligibility requirements for receiving headstones, and the styles of markers available. The specifications included in the manual that are relevant to this treatment plan include the types of headstones furnished, the disposition of removed headstones, and the policies for headstone replacement. Replacement of historic headstones is also addressed in National Cemetery Administration Notice 2004-06, which includes information about the importance of preservation of the cultural landscape, within the context of correcting inaccurate information on nineteenth-century markers.

The 2010 revision of Director's Order 61 and other National Park Service management policies regarding national cemeteries in part reflects changes made by the National Cemetery Administration to its guidelines on management of cemetery landscapes in response to the Veterans Millennium Health Care and Benefit Act of 1999 (Title VI, Subtitle B, Section 613). The Act stipulated an evaluation of the repairs needed at national cemeteries to meet care and appearance standards. Based on this study, the National Cemetery Administration established the National Shrine Commitment, which articulates an overall vision for national cemeteries as national shrines:

> A national shrine is a place of honor and memory that declares to the visitor or family member who views it that, within its majestic setting, each and every veteran may find a sense of serenity, historic sacrifice and nobility of purpose. Each visitor should depart feeling that the ground, the gravesites and the environs of the national cemetery are a beautiful and awe-inspiring tribute to those who gave much to preserve our Nation's freedom and way of life.[189]

The current version of *National Shrine Commitment: Operational Standards and Measures* is the most current in a long line of published national cemetery standards beginning with War Department administration in 1911, which expanded on standards established during the founding of the national cemetery system during the Civil War. The *National Shrine Commitment* assumes a high level of care and maintenance for all cemeteries within the system. The current standards provide detailed direction on the treatment of headstones, buildings, and grounds. They outline the requirements for maintenance, including the percentage of lawn that must be weed free and the percentage of headstones that must not show evidence of debris or objectionable accumulations.

While these standards and measures, and the *National Shrine Commitment*, pertain specifically to the National Cemetery Administration,

188. National Park Service, *Management Policies 2006,* section 8.6.10.1.

189. National Cemetery Administration, *National Shrine Commitment: Operational Standards and Measures,* Version 4.0 (Washington, D.C.: U.S. Department of Veterans Affairs, October 2009), 4.

standards designed to impart honor, memory, majesty, serenity, and beauty perpetuate qualities identified as desirable during the nineteenth century, when many national cemeteries—including Vicksburg National Cemetery—were established. These qualities suggest applicability of the National Cemetery Regulations to the treatment of Vicksburg National Cemetery. However, while these suggested measures provide an appropriate basis for the treatment of historic landscape features, they do not address contemporary needs for historic preservation and interpretation as addressed by National Park Service regulations and policies, setting up an internal conflict for management.

It is therefore important that the CLR treatment plan be consistent with park planning documents, which indicate that enhancing interpretation and the ability of the visitor to experience a "sense of place" within the greater context of the military park is a primary objective of management.

Treatment Approach

In order to comply with all of the federal regulations that relate to administration and management of Vicksburg National Cemetery, it will be important to establish a framework for treatment that is consistent with the Secretary of the Interior's *Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes*.

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 management of Vicksburg National Cemetery. The treatment approaches are described as forming the "philosophical basis for responsible preservation practice and enable long-term preservation of a landscape's historic features, qualities, and materials,"[190] They include: 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. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction.

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.

190. 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.

Recommended Treatment Approach for Vicksburg National Cemetery

Based upon the goals for the property set forth by Vicksburg National Military Park personnel and the park Foundation Document, **rehabilitation** is recommended by this CLR as the most appropriate overarching treatment approach for Vicksburg National Cemetery. 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, sustainability, and the improvement of visitor amenities. As part of rehabilitation treatment, stabilization, protection, and preservation of historic and natural resources are assumed even when new uses are accommodated.

In considering the other treatment alternatives recognized by the Secretary of the Interior for possible application to the Vicksburg National Cemetery cultural landscape, the CLR found them inappropriate for the following reasons. **Preservation** is overly restrictive because it does not allow for the inclusion of new features designed to support interpretation and visitor access. **Restoration** and **reconstruction** are overly ambitious as 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 year or period. Additionally, the period of significance identified in the CLR for Vicksburg National Cemetery is extensive—1866–1961—suggesting that restoring the landscape to a particular year may obscure important aspects of landscape evolution over time.

At the same time, restoration of specific features, such as the rostrum or the Officer's circle fountain, for which sufficient documentation exists may be desirable to consider as part of rehabilitation as an aid to interpretation. At the same time, the park has determined that restoration of these structures and others, such as the perimeter wall, are not currently anticipated for inclusion in long-range planning or the development of projects submitted for PMIS funding.

Secretary of the Interior's Standards for Rehabilitation

The Secretary of the Interior has developed standards for rehabilitation that can be applied to the treatment of historic properties. These are intended to help preserve the distinctive character of a historic property while allowing for reasonable change in order to meet new needs. The standards (36 CFR Part 67) apply to historic properties of all periods, locations, sizes, conditions, and uses. The standards establish 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. Ten basic principles comprise the standards for rehabilitation as follows:

1. 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.

2. 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.

3. 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

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of

craftsmanship that characterize a property will be preserved.

6. 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.

7. 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.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alteration, 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.

10. 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.

Treatment Concept

Refer to Figure 401 and Figure 402, Treatment Recommendations.

The section that follows is intended to convey the overarching vision or concept for landscape treatment at Vicksburg National Cemetery. The concept is intended to meet the goals identified by the National Park Service and to reflect the statements of significance developed for the *Foundation Document for Vicksburg National Military Park* (2014) describing the distinctive nature of the cemetery and why it is important within a national, regional, and system-wide context.

Vicksburg National Cemetery is a sacred and well-preserved historic landscape of honor and memory. The national cemetery continues to fulfill its purpose as a final resting place for United States soldiers and sailors who served this country in times of national and international conflict. Of the approximately 17,000 Union veterans buried in the cemetery, the identities of only approximately 4,000 are known and therefore the majority of the Civil War dead are listed as unknown. Approximately 1,300 veterans of wars subsequent to the Civil War are interred in Vicksburg National Cemetery. The cemetery has been closed for burials since 1961, except for a few individuals whose reservations for interment had been accepted prior to that time.

The cemetery is instantly recognizable as a part of the larger national cemetery system due to the presence of several character-defining features. They include the brick perimeter wall; carefully laid out geometric patterns of burials; commemorative monuments; the original entrance arch; and large deciduous and evergreen trees along the loop road and gracing the terraced landform. These features create a quality of peaceful and solemn reverence.

Appropriate long-term treatment measures for Vicksburg National Cemetery will preserve and protect these qualities and character-defining features while maintaining in good condition the historic resources of the cemetery. Important considerations include protecting original historic fabric, replacing deteriorated features in kind where necessary, and addressing contemporary needs in the least intrusive and most compatible manner possible.

Given the extensive period of significance for the cemetery (1866–1961), which spans several discrete periods of development, the goal of treatment is not to restore the landscape to a particular period of time, but rather to protect all

resources that contribute to its significance, while affording improved visitor access and facilitating a better understanding of the evolution of the landscape and the contributions of features to the significance of the site. It is recommended that the park consider interpreting the various layers of history present today in the national cemetery using a range of creative means and methods considered to have a limited impact on the integrity of historic resources.

Cultural Landscape Report

for

Vicksburg National Cemetery

Consider infill of slopes adjacent to Trindle Circle in conjunction with a comprehensive vegetation management plan and a comprehensive erosion and drainage plan

Consider replacing piers, cheekwalls, steps, and sidewalk and/or extending the sidewalk to the loop drive; construct a small gate with privacy sign to limit public access. Alternatively, document and remove features and construct a sidewalk connecting the lodge and driveway

Preserve, maintain, and manage the bell in its current location

Preserve, maintain, and manage the location of the flagstaff and its terraced base as a significant cultural resource

Consider interpretation of the brick rostrum, based on historical plans and photographs; and consider the opportunity for new interpretation of historic features in this area

Repair, maintain, and manage the brick steps on the terrace bank providing access from Section O to the "Sylvan Hill" plateau

USS *Cairo* exhibit and museum

USS Cairo parking

Connecting Avenue

Retain and maintain the alignment of the cemetery drive

Retain and maintain the alignment of the cemetery drive

Preserve, maintain, and manage cemetery markers, headstones, and section markers (refer to Implementation Project 3)

Preserve, maintain, and manage the gun monument (refer to Implementation Project 3)

Repair, maintain, and manage the sandstone steps (refer to Implementation Project 3)

Preserve, maintain, and manage the Trindle Monument (refer to Implementation Project 3)

Preserve, maintain, and manage the 25th and 31st Iowa Infantry Monument (refer to Implementation Project 3)

Repair brick landscape steps (refer to Implementation Project 3)

Mound O

Mound E

North Washington Street (U.S. 61 Bus)

Preserve, maintain, and manage the gun monument (refer to Implementation Project 3)

Preserve, maintain, and manage the constructed topography of the terraced landform: short-term treatment for slumping terrace banks would include addition of topsoil and erosion control fabric to stabilize the bank for re-seeding and resultant grass cover; long-term comprehensive solutions would entail the development of a site-wide stormwater and drainage management plan

Preserve, maintain, and interpret the brick remnant ditch, brick piers, and steps located east of the former entrance road

Preserve, maintain, and manage the gun monument and consider interpretation of historic layer of the cultural landscape including the fountain and ornamental plantings

0' 200' 400'

SCALE 1" = 200'

Legend

- Cemetery building
- Paved road
- Unpaved road
- Stream
- Wall
- Fence
- Edge of terrace
- A Section designation

Notes:

1. Topography data based on 2005 data provided by NPS.
2. Dimensions and locations are approximate, based on field observations and NPS-provided GIS data.

Figure 401.

Treatment Recommendations:

Topography, Circulation, and Small-scale Features

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Cultural Landscape Report

for

Vicksburg National Cemetery



Legend

- Cemetery building
- Paved road
- Unpaved road
- Stream
- Wall
- Fence
- Edge of terrace
- A Section designation
- Tree

Notes:

1. Topography data based on 2005 data provided by NPS.
2. Tree cover shown based on 2014 fieldwork.
3. Dimensions and locations are approximate, based on field observations and NPS-provided GIS data.

Figure 402.

Treatment Recommendations:

Vegetation, Buildings, and Structures

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Overall Guidelines for Treatment

The goals for management and maintenance include balancing the high degree of care recommended by the *National Shrine Commitment: Operational Standards and Measure* with appropriate historic resource preservation. In some cases, historic resource protection may suggest the use of gentler cleansing materials on markers that may not result in a bright appearance, and the retention of trees, which are not recommended for inclusion in national cemeteries administered by the National Cemetery Administration. The park should therefore carefully implement management and maintenance treatment measures that preserve the historic character and materials of the landscape, while working as closely as possible to meet the spirit of National Cemetery Administration guidelines. The park may elect to explain this approach to the visitor as part of expanded interpretation at the cemetery.

- Consider updating the Vicksburg National Military Park National Register nomination. The update should include the national cemetery. Preparation of the cemetery section of the nomination should utilize the information provided in this CLR.

- Maintain the landscape features of the historic cemetery in good condition. Protect historic resources to avoid damage that will lead to condition problems or the need for replacement in the future. Repair features assessed by this CLR or other studies in fair or poor condition.

- Base all repair and replacement work on historical documentation.

- Document all alterations to historically significant landscape features whenever possible. Maintain this information in a centralized location and ensure that the database is easily accessed and amended as work is conducted. Vicksburg National Cemetery staff should further develop their own strategies and designation of responsibilities for this documentation.

- Employ available technology, such as Geographic Information systems (GIS), Global Positioning system (GPS), 3-D scanning technologies, Lidar, and remote sensing techniques used by archeologists, such as ground penetrating radar (GPR), in inventorying, documenting, and recording information relating to the cemetery's historic resources.

- Avoid reconstructing missing historic features or introducing conjectural features into the historic landscape, which may create a false sense of history and mislead the visitor. The CLR does not recommend restoring the landscape to a particular period of time, it does recommend the interpretation of history and changes over time including the Civil War siege of Vicksburg, initial cemetery establishment, and administration by the War Department and later the National Park Service. For missing features of importance, consider various means and methods for their interpretation that will help the visitor to visualize and conceptualize the role and spatial presence of these elements.

- Limit the addition of new features within the cemetery, except for grave markers associated with new burials. The addition of interpretive signage, removable site furnishings, and plantings are exceptions to this recommendation.

- Ensure that any ground-disturbing activity is monitored by a qualified archeologist. Involve archeologists in early planning for new projects that require ground disturbance. The exception to this recommendation is for ground disturbance associated with grave openings and closings, and filling sinkholes and areas of subsidence.

- Use the smallest machinery possible for excavation of graves or for maintenance purposes to reduce damage to roads, grave

markers, and monuments and to help minimize soil erosion.

- Develop a vegetation management plan that preserves the historic character of the cemetery by identifying a planting and replacement policy for trees and shrubs identified as contributing to its significance or known to be missing and desirable to reestablish. Use previous cemetery vegetation plans, such of those prepared in 1917, 1933, and 2004, as the basis for developing the planting and replacement policy. Consider the viability of all species indicated in the previous plans for use in the future. Develop a list of recommended plants as part of the vegetation management plan, taking into consideration the accumulated experience of park maintenance personnel regarding the species that have performed well in the cemetery environment and local climate. The use of native species should take precedence over non-native species. Trends in climate change should also be taken into consideration in developing a list of recommended species for use in the future within the cemetery. As part of the vegetation management plan, identify the goals for tree and shrub plantings so that species substitutions can be made should conditions change. The list of appropriate native tree species to be used for planting and replacement should meet the goals identified. Appropriate species are those that can be maintained in current and anticipated future climate conditions.

  The vegetation management plan should develop best practices recommendations for turf management and maintenance, which are ". . . recommendations generally offered by conservators as likely to cause the least damage to both the cemetery landscape and, in particular, the stone markers."[191] Best practices provide guidance that should be customized to the specific conditions at Vicksburg National Cemetery. Best practices should include standards for soil testing, weed control, compacted ground and aeration, mowing, trimming, edging, and fertilizing (Refer to Specific Implementation Project 1).

- Maintain and update existing surveys of cemetery tree and shrub plantings using GPS technology and add this information to the park's GIS database to aid in vegetation management.

- Maintain historic vegetation by stabilizing and pruning to protect against structural failure caused by wind, ice, snow, or age.

- Implement a cyclical maintenance program that includes periodic inspection of all trees for damage, disease, and or evidence of decline in order to prevent deterioration or loss of plant material. Treat each condition appropriately and ensure that maintenance actions are documented for the database record. Regular maintenance of vegetation should also prevent damage to adjacent and nearby resources, such as grave markers, monuments, and the perimeter wall.

- Make every reasonable effort to treat or stabilize a historic tree that is diseased or damaged prior to considering removal. Avoid removing historic specimen trees unless they pose a safety threat to visitors, are in advanced decline, or present a risk to other historic resources (Refer to Implementation Project 2).

- Replace historic trees and other plants based on the proposed planting plan developed for the cemetery that takes into consideration the original design intent of plantings, specifically the evergreen and deciduous trees along the cemetery loop road, and the role of the trees in creating space, character, patterns, and a

191. *Best Practices for Cemetery Lawn Maintenance* (Chicora Foundation, Inc. Columbia, South Carolina), https://chicora.org/ lawn-maintenance.html, accessed April 2019.

symbolic sense of place throughout the cemetery. The tree loss in 2018 included some of the historic trees along the loop road and others within the terraces that created specific spatial patterns and contributed to the historic character of the cemetery (Refer to Implementation Projects 1 and 2).

- Ensure that the root zones of historic trees are not compacted by circulation routes or storage of equipment or materials (Refer to Implementation Project 1).

- Protect existing vegetation, especially trees, in areas impacted by new burials or other excavation activity, and closely monitor throughout the disturbance period. Tree roots typically extend well past the drip line of the tree. At a minimum, the area within the drip line should be protected from soil compaction from heavy equipment, which will inhibit air and water penetration to the root zone and threaten the health of the tree. If major roots are anticipated to be affected, use an air spade to clear soil from those roots so that the mass can be tied back away from the area of excavation. Once the work is completed, replace the roots at their original level and backfill (Refer to Implementation Project 2).

- Maintain critical viewsheds within the cemetery when developing planting plans.

- Analyze and evaluate the drainage systems and patterns for the cemetery as a whole, and any influences on drainage that arise from adjacent areas before designing new drainage structures to address site-specific problems. Identify critical areas of erosion, slope slump, and areas where standing water occurs following a rain event and record these places on a site plan, so they can be addressed. As well, use this CLR to help identify the terrace banks where erosion and slippage are threatening the grave markers and burials. Use the analysis and evaluation to design a cemetery-wide storm water management system that takes into consideration ways to protect the integrity of the historic cemetery landscape.

- Consider alternative ground covers for areas where shade and steep slopes are leading to turf mortality and associated erosion (Refer to Implementation Project 1).

- Develop a repair and maintenance plan for cemetery circulation systems. The plan should include guidelines for maintenance of road surfacing and repair.

- Ensure that a single or unified wayside exhibit style is used for all signage and identity features associated with the cemetery.

Cultural Landscape Treatment Recommendations

- Retain and maintain the features that are character-defining for Vicksburg National Cemetery, including:
    - The constructed topography of the terraced landform
    - The perimeter brick wall
    - The geometric arrangements of headstones
    - The individual specimen trees believed to survive from the late 1800s and early 1900s
    - Expanse of turf lawn throughout the cemetery
    - The Indian Mound
    - The cemetery loop drive (Trindle Circle)
    - The road trace associated with the original entrance
    - The landscape steps in various locations in the cemetery
    - The superintendent's lodge
    - The gardener's cottage
    - The maintenance/shop building
    - The rest pavilion
    - The entrance arch
    - Views to and from the Indian Mound

- Views across the cemetery from the higher elevations
- Views of large trees and monuments
- The cemetery headstones and section markers
- The 25th and 31st Iowa Infantry Monument
- Gun Monument 1
- Gun Monument 2
- Gun Monument 3
- The Trindle family monument
- The Catherine O'Shea grave marker
- The bronze tablets
- "Bivouac of the Dead" tablets
- Informational and regulatory wayside tablets
- The position markers
- The terra cotta pots
- The bell

▪ Consider the need to provide some strategic ABAAS-compliant accessibility systems within the cemetery and or in association with the USS *Cairo* Museum and parking area. Strategies should be developed within the context of a comprehensive accessibility plan and specific interpretation planning for the cemetery. This approach would ensure preservation of cultural and natural resources while providing all visitors with a variety of opportunities to learn more about Vicksburg National Cemetery. Consider opportunities to provide interpretation of features that are no longer extant within the cemetery, including former superintendent's lodge structures, the rostrum, greenhouses, and former ornamental plantings. The lodge design developed by US Army Quartermaster Gen. Montgomery Meigs was used in many national cemeteries around the country, including the original lodge at Vicksburg National Cemetery. Also consider interpretation of the brick rostrum in its documented location near the flagstaff. Also consider interpretation of the missing greenhouse structures, and the extensive use of ornamental plantings that were an integral part of the historic design and construction of the cemetery. Consider the information afforded by this CLR in the development of the plan, such as the layers of history associated with the cemetery and its relationship to the nationwide national cemetery system. Consider using electronic media methods that do not require the addition of new site features within the historic landscape as part of the interpretive program available to visitors.

▪ Consider preparation of a cemetery-wide accessibility plan and partnering with the National Center on Accessibility. The Center offers extensive experience in comprehensive planning for ABBAS accessibility in national parks and national historic sites. The plan might consider Vicksburg National Military Park as a whole and include specific recommendations for Vicksburg National Cemetery. This approach would aid in the development of comprehensive programmatic interpretation in all areas where there are severe limitations to physical access due to topography. Because the national cemetery landscape is highly sensitive to change due to its integrity and commemorative importance, roads, walkways, signs, or structures associated with expanded ABAAS access should be considered carefully. An accessibility plan would guide the staff in making improvements to accommodate the public in accordance with all federal accessibility requirements for both programmatic and physical access. Access to burial sites, if physically prohibitive, should be addressed using an alternative method, such as the provision of virtual information associated with computer stations provided nearby at the USS *Cairo* Museum, where other visitor services are readily available. The accessibility plan should address all of these issues and ensure that the park and cemetery are as

accessible as possible to all visitors (Figure 403).



FIGURE 403. The USS *Cairo* Museum located immediately outside the perimeter wall of the cemetery could be used to provide alternative means of accessing information associated with the cemetery where physical access may not be possible.

- Consider preparation of a cemetery-wide storm water management plan by a qualified civil engineer and historical landscape architect. Necessary steps for preparing such a plan are anticipated to include an inventory and assessment of the existing storm water management infrastructure. New technologies such as ground-penetrating radar should be used to accurately locate the existing infrastructure and evaluate its condition and ability to function. The storm water management plan should incorporate existing systems where appropriate. It would also need to address the current issues and concerns associated with managing storm water within the cemetery. The plan should prioritize and stage the installation of new infrastructure, while providing short-term remedies for areas that are subject to erosion, slumping, and other problems until new infrastructure can be installed (Figure 404).



FIGURE 404. Erosion on the slopes of the Indian Mound has exposed a drainpipe. Identification of the entire drainage system would help with a long-term comprehensive approach for relocation of the pipe. In the short-term, the pipe could be buried deeper but within the context of a slope restoration through addition of soil and erosion control fabric to stabilize the bank until grass cover is re-established.

- Complete analyses intended to support the management of vegetation within the cemetery, including testing and evaluating the pH, fertility, composition, and tilth of the soil to determine its suitability for proposed plantings and need for soil amendments. Consult with a knowledgeable expert regarding the proposed list of species, including turf mixes, taking into consideration the soil testing and evaluation. Current effective methods for turf maintenance in Vicksburg National Cemetery include frequent mowing, quickly removing leaves and other plant debris and avoiding unnecessary traffic on turf, particularly when wet.

- Evaluate each tree within the cemetery to establish a prioritized maintenance plan for care. Engage when possible a professional to address the issue of managing hazardous tree concerns on a periodic basis. Ensure that work conducted is consistent with the Hazardous Tree Program in place for the cemetery where frequency is determined by existing hazardous conditions.

- Use caution when planting a new tree in the cemetery. Substantial digging may be required and the possibility of disturbing archeological resources is high. It is often best to plant a new tree in the location of a former tree, where the soil has already been disturbed. Also consider

the size of the tree and extent of its root system when it is fully grown, so as to minimize the chance of the tree interfering with or damaging graves, steep slopes, or concrete drainage ditches on the cemetery loop road. Carefully consider the species of tree to be planted. In addition to choosing a historically appropriate tree, consider the unique characteristics and maintenance demands of the species. Appropriate species for replacement or new plantings in Vicksburg National Cemetery include: magnolia *(Magnolia grandiflora);* red cedar *(Juniperius virginiana);* shumard red oak *(Quercus shumardii);* white ash *(Fraxinus Americana);* water oak *(Quercus nigra);* ginkgo *(Ginkgo biloba);* American linden (*Tilia americana);* sycamore *(Platanus occidentalis);* live oak *(Quercus virginiana);* white oak *(Quercus alba);* red oak *(Quercus rubra);* chestnut oak *(Quercus prinus);* sweet gum *(Liquidambar styraciflua);* dogwood *(Cornus florida);* redbud *(Cercis canadensis);* hackberry *(Celtis occidentalis);* Norway spruce *(Picea abies);* red spruce *(Picea rubens);* and American holly *(Ilex Americana)*. Consider planting the smaller flowering trees and some shrubs in association with the Superintendent's lodge and the Gardner's cottage. Also consider introducing seasonal color through plantings of annuals or perennials in terracotta pots near the entrance or associated with the lodge and cottage. The terracotta pots were used historically in the cemetery along the loop drive.

- Develop a turf maintenance and mowing schedule and best practices designed to prevent damage to grave markers and other masonry features. Keep turf neatly cut and carefully trimmed around headstones, signs, buildings, and structures to prevent damage to these features. Frequent mowing helps prevent markers and other objects from being hidden in tall grass. Keeping headstones straight and at the correct height is also important to ensure that they are visible to those mowing (Refer to Implementation Projects 1, 2, and 3).

- Plant an alternative ground cover in areas of deep shade, including beneath large trees, where turf is currently missing or not healthy. Recommended alternative species include St. Augustine sod *(Stenotaphrum secundatum* 'dwarf captiva'). This species is a dense, coarse-textured grass that tolerates a wide range of soil conditions and extreme summer heat. The cultivar 'dwarf captiva' is recommended due to its shade and insect tolerance.

- Ensure that each grave marker, headstone, section marker, and monument within the cemetery has been documented using GPS/GIS technology and photography (including the front and back of each headstone) and maintain the information in a database that can be used to record condition issues and treatments. Documentation should include broken headstones and grave markers that are currently buried. In the long term, consideration should be paid to recovering and restoring buried markers to their above ground position and restoring fallen or severely damaged headstones to their original upright position. NPS policy supports replacing all markers that have become seriously damaged or illegible. New stones should be provided when markers are beyond repair. The original information included on all grave markers should be etched onto any replacement stones.

- Preserve, maintain, and interpret the brick gutter, brick piers and step associated with the former main entrance into the cemetery. These remnants are part of a distinctive layer of landscape history in the cemetery. A broken concrete sidewalk is associated with the piers and steps. Consider removing the concrete and use interpretation to document the location and purpose of this circulation feature. Use grass to cover the area of the walkway, similar to the grass cover on the road traces (Figure 405 and Figure 406).



FIGURE 405. Brick piers and steps should be preserved, maintained, and interpreted as a historic layer of circulation within the cemetery.



FIGURE 407. Historic road segments are now covered with grass and should remain free of plantings and burials.



FIGURE 406. The brick gutter should be preserved, maintained and interpreted as a historic layer of storm water systems within the cemetery.



FIGURE 408. Grass trace between the two large tree trunks is where Dry Bayou was filled and later planted with grass. The grass trace should remain free of burials and plantings for pedestrian use and vehicular use when necessary.

- Maintain the existing avenues of grass that now cover the abandoned segments of the original loop road and the filled Dry Bayou. The grass serves as a pedestrian walkway, although it is not ABAAS accessible. These former roads should be kept free of plantings and burials (Figure 407 and Figure 408).

- Identify stone section markers in need of repair, due to weather, and damage from storm water and mowing. Prioritize the restoration or replacement of these damaged section makers. Refer to Implementation Project 2 for guidance regarding section marker repair, cleaning, and replacement.

- Repair damaged sections of the perimeter wall, taking care to correct any past repair efforts that resulted in additional problems or were not visually consistent with the historic wall design.

- Repair rather than replace grave markers with condition issues wherever possible.

- Prepare a comprehensive masonry and metalwork maintenance guide that includes a manual to direct work on each type of marker, monument or interpretive plaque or feature. Include appropriate stone cleaning methods for grave and section markers and monuments. Train those conducting the maintenance in the methods indicated in the guide and ensure that they are followed (Refer to Implementation Project 3).

- Inspect grave markers and monuments regularly to ensure that they remain in good condition. Document inspections with reports and photographs to aid in the understanding of any chronic conditions and record the information it he electronic database of information recommended above (Refer to Implementation Project 3).

- Identify gravesites disrupted by roots. Evaluate options for either moving monuments slightly (making sure to document the change) or removing the problematic vegetation. The decision should be based on several factors, including an evaluation of the historical significance of the vegetation and the marker; the degree of intrusion; and the extent of potential damage that might occur through removal or relocation (Figure 409 through Figure 411).



FIGURE 409. Grave marker is completely engulfed by tree growth. At this stage of damage potential, there are two choices: remove, document, and relocate the marker at a safe distance; or consider removal of the tree to allow space for all the markers in that area. Condition of the tree should be assessed before any action.



FIGURE 410. Tree roots are upending the edge of the concrete ditch on Trindle Circle. This is a very large and apparently healthy tree. One option to consider is rebuilding the ditch and use a layer of pea gravel underneath it to allow root growth. If grave markers are threatened as well, the tree may need to be removed. Plan ahead for tree replacement away from the edge of the cemetery loop drive.



FIGURE 411. Root system for this magnolia is spreading to the sides of the tree due to lack of soil cover on the bank. This condition should be monitored as the roots continue to be undermined by erosion. The tree could easily be uprooted due to bouts of heavy rain and runoff.

- Consider the use of organic methods rather than chemical pesticides, herbicides, and fertilizers around historic grave markers. Acidic chemicals can deteriorate marble and limestone, while alkaline chemicals can deteriorate granite (Refer to Implementation Project 2).

- The piers and sidewalk in front of the Superintendent's lodge are remnants of a historic feature (Figure 412). Consider

inspecting the area associated with the existing steps to determine the extent of any feature remains. Consider an alternative treatment to replace the piers and the damaged sidewalk and steps and or extend the sidewalk to the edge of the road. To protect the privacy of the residents, construct a small gate across the sidewalk and put up discreet "private, no access" signage. This would retain the historic feature while limiting public access to the Superintendent's lodge. Another alternative is documentation of the surviving feature, followed by removal of the piers and sidewalk. A new sidewalk would provide the desired connection to the lodge from the driveway.



FIGURE 412. Remnants of concrete cheekwalls and a deteriorated concrete sidewalk are located near the Superintendent's lodge. These features do not currently support access to the lodge. The CLR provides alternatives for addressing this condition.

- Chain link fences have replaced segments of the brick perimeter wall over time along the north and south boundaries of the cemetery (Figure 413). If chain link fencing is to remain as a long-term replacement strategy for missing sections of the perimeter wall, consider using black vinyl/coated chain link. The vinyl coating is usually applied to a galvanized chain link, adding another barrier to the elements which extends the life of the fence. The black chain link provides a more dignified and less visually intrusive feature within the cemetery landscape. Black chain link fencing occurs at the base of the Indian Mound in association with the Mint Spring Bluff stabilization project completed in 2011(Figure 414).



FIGURE 413. Gray chain link is more visually intrusive as it occurs along the north boundary of the cemetery.



FIGURE 414. Black vinyl chain link fencing occurs at the base of the Indian Mound, and blends in effectively with the landscape.

Implementation Projects

This section provides guidance for implementing many of the recommendations conveyed above. The plan should include the provisions for implementing treatments developed and described within this CLR for the national cemetery. The guidance is organized as a series of three implementation projects, each presenting a goal or vision for treatment and laying out a process for achieving it. The three implementation projects identified below—1) Vegetation Management Plan; 2) Vegetation Maintenance and Protection of Grave Markers and Monuments; and 3) Maintenance Manual for Masonry, Stone and Metal Features of the Cemetery—are intended to support the park's ability to secure funding and are presented in a format that is consistent with National Park Service Project Management Information System (PMIS) and Facility

Management Software System (FMSS) forms. These projects also address life safety considerations, visitor accessibility, and interpretation. All projects are subject to review under Federal Section 106 and National Environmental Protection Act (NEPA) compliance.

The projects are presented in a consistent format that includes the following sections: 1) description; 2) considerations; 3) location; and 4) project implementation process.

Recommendations indicated in the implementation projects reflect current best techniques and practices; however, techniques and practices continue to evolve and are subject to change and improvement. Several sources, including but not limited to the National Center for Preservation Technology and Training (NCPTT), the Historic Preservation Training Center (HPTC), and the Olmsted Center for Landscape Preservation (OCLP), as well as other National Park Service publications, are available to guide treatment and to outline current best practices. (Specific references are noted below in specific implementation plans.)

1. Vegetation Management Plan

Description. A vegetation management plan is currently needed for Vicksburg National Cemetery to facilitate appropriate maintenance of the historic landscape in good condition and perpetuate its historic integrity. Goals for the plan should include establishment of a plant inventory, and accessible database to house the inventory data, mapping that indicates current tree locations and records where trees have been lost, appropriate strategies for tree replacement, short- and long-term vegetation management approaches, preferred maintenance procedures, a planting plan to address missing specimens and guide future replacement of deciduous and evergreen trees and shrub plantings, pruning, mowing, tree removal, and applying soil amendments.

In addition, the vegetation management plan should specifically address:

- treatment of specimen trees.
- treatment of turf lawn and other ground covers.
- restoration of historic vegetation conditions (as appropriate) that have been lost over time, based on review of historic plans, maps, photographs, and other primary source materials.
- development of a tree inventory system and associated mapping as the basis for care and replacement of plantings.
- invasive species control.

Considerations. A vegetation management plan would serve a crucial role in implementing the recommendations included in this CLR. The vegetation management plan should 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 complete any outstanding inventory and evaluation needs to serve as a baseline of information. The information should be recorded, as noted in the treatment recommendations section above, using electronic georeferenced mapping, photography, and notes recorded in an accessible location, and in such a way that they can be updated over time. This should be done by a contractor with oversight by park staff.

The origin of existing plantings should be identified using available resources such as historic plans and aerial photographs, so that they are tied to the various planting programs discussed in the site history and analysis sections of the CLR. The 1917 plan that provides the most specific information about nineteenth-century plantings should be considered a baseline of information regarding past planting intentions. Also contributing to baseline information are the Division of Forestry tree sketch from 1933 and the 2004 maps developed by the park that illustrate the

trees surviving from 1933. The trees that survive from the 1933 plan would be identified as such in the database (Refer to tree maps in Appendix B). They should also be indicated on the mapping included in the vegetation management plan.

Plantings established after 1933 should also be recorded, along with any plantings that are added to the cemetery in the future. The species composition indicated in the earlier planting plans, and the overall approach to siting deciduous versus evergreen specimens should be respected in future plans. Consideration should be paid to evaluating the species composition planted during the period of significance to determine current trends in terms of climate change, which may affect temperature, precipitation, and the frequency of severe weather events. Adjustments would need to be made to respond to anticipated future conditions. Substitutions should be considered for species that are not anticipated to thrive under emerging climate conditions and for non-native species that may constitute invasive exotics.

The vegetation management plan should include a planting plan that reflects the historic intent for the cemetery plantings and indicates where replacement in-kind is appropriate and where replacement from a list of recommended species is acceptable. Some of the historic plantings are over-mature or require immediate care and maintenance. Others have been lost. New plantings have been added to the cemetery that may not be consistent with the historic design intent and approach. The planting plan should reconcile these conditions, while recommending where restoration of former plantings to enhance integrity is appropriate.

The vegetation management plan should provide guidance for maintaining existing and proposed tree, shrub, and other ornamental plant materials in good condition.

The vegetation management plan should also consider how the spacing of plantings can be used to accommodate modern mowing equipment, including riding mowers currently in use throughout the cemetery.

BMPs for tree planting, removal, and pruning, turf maintenance, and invasive species control and eradication should be identified for inclusion in the vegetation management plan. The plan should also address the necessity of training park staff in the implementation of BMPs. BMP examples include:

- Plant trees only where there is adequate room both overhead and underground for the mature size of the tree.
- Plant trees at least 8 to 10 feet from the loop drive. This would encourage healthy tree root growth and avoid cracking and uplifting of road and drainage infrastructure.
- Consider the installation of root barriers along the loop drive to prevent tree roots from heaving and breaking the concrete drainage ditches or asphalt paving.
- Avoid replacement or new plantings near the loop road of tree species including all fruit and nut trees, leyland cypress *(Cupressus x leylandii)*; ginkgo *(Ginkgo biloba (female)*; pecan *(Carya illinoinensis);* sweetgum *(Liquidambar styraciflua)*; black walnut *(Juglans nigra);* and weeping willow *(Salix babylonica)*.

Non-native species with the potential to disrupt native plant communities, particularly plants identified as invasives, should be eradicated. Development of a monitoring program that identifies and records the locations of invasive exotic plants, and subsequent eradication procedures should be included in the vegetation management plan (Figure 415).



FIGURE 415. Invasive vine type species can overtake the interior and trunk of trees. One native invasive is poison ivy and a non-native is kudzu vine. Growth should be removed as part of regular maintenance.

Location. The vegetation management plan would pertain to plantings located throughout Vicksburg National Cemetery.

Project Implementation Process.

1. Prepare the vegetation management plan, utilizing the studies cited above and the CLR recommendations relating to control, removal, and modification of existing vegetation in support of historic, cultural, and natural resource management. Involve park staff and regional natural resource specialists in preparation of the plan. Identify priority projects and implementation phasing options in the plan.

2. Prepare a planting plan based on the vegetation management plan to guide proposed rehabilitation and restoration efforts.

4. Initiate CLR projects relating to vegetation management and include turf management and maintenance.

2. Vegetation Maintenance and Protection of Grave Markers and Monuments

Description. Protection and maintenance of masonry grave markers and monuments, while ensuring that the plantings nearby are not impacted, poses a difficult challenge. In particular, maintaining turf lawn through mowing poses a threat to grave markers, monuments, and other historic resources. In addition, trees can fail, with limbs or trunks falling on and damaging markers, monuments, and other plantings. While maintenance of the cemetery to careful standards of care is a critical mission conducted to honor American military personnel, it should be undertaken in a way that limits the potential hazard to historic masonry features. The challenge is best approached in two ways: by encouraging healthy vegetative growth; and following specific care protocols for mowing, pruning, and tree removal and replacement that allow for the least damage to markers and monuments.

Considerations. The major goal to consider in developing a strategy for maintaining vegetation associated with markers and monuments is to ensure that activities do not affect the integrity of the resource while also maintaining historic character.

Many trees in Vicksburg National Cemetery are historic features that help convey the unique character, grace, and spatial order of the cemetery. There are several older, mature specimens present within the cemetery. There are also younger plantings that appear to have been added to replace historic features lost over time and are important in conveying the original cemetery design intent. Preservation, management, and maintenance of these trees are critical for protecting the integrity of the historic cemetery. Maintenance of all trees, and the specific care required for mature historic trees, requires strategies for preservation, removal, re-planting, and developing horticultural practices for proper nutrition and growth.

Work conducted to maintain cemetery plantings would be tied to the detailed survey and inventory of trees recommended in the treatment plan. The inventory should include information such as species, location, approximate age, trunk diameter, height, and condition. The regular assessment and recordation of plant conditions should be conducted using a tree inventory data sheet, potentially developed by a certified arborist. The data sheet should help rank the tree as either in good, fair, poor, dead, or hazard condition using a matrix of points.

The turf species composition to be used in the cemetery should be based on selection of a mix that meets the visual, physical, and environmental criteria identified by the park, and is adapted to the growing conditions associated with the cemetery. Consideration should be paid to including separate mixes for full sun and shade conditions in order to address the current problems associated with turf beneath tree canopies. A consistent mix, or mixes, should be used throughout the cemetery.

Dispersal of seeds should be undertaken during the appropriate season for the individual species, or alternatively, sod should be used. When replacement of turf is required but seeding and sod are not viable options, the park should apply an erosion control fabric and seed with a non-invasive annual grass to protect the soil until the appropriate planting season. Erosion control fabrics are biodegradable products referred to as geotextile matting or blankets. Geotextile matting is made of either natural or man-made material with the purpose of providing temporary soil stabilization. Erosion control matting is manufactured in many forms. Erosion control materials used to protect the soil from erosion after repair should be biodegradable (Figure 416 and Figure 417).



FIGURE 416. Example of major slumping on the face of a terrace bank.



FIGURE 417. This terrace bank has been restored through the addition of soil and erosion control fabric by the park staff. Such measures are appropriate for the short-term. Long-term solutions may entail the development of a comprehensive storm water management plan for the cemetery.

- Several options exist to disperse seed. Hydroseeding or drilling may be particularly useful at Vicksburg National Cemetery. Hydroseeding is also known as hydraulic mulch seeding or hydra-seeding. It is a modern planting process wherein a watery mixture of seed, mulch, fertilizer and bonding agent or tackifier is sprayed onto a designated terrain. The bonding agent in the slurry serves to hold the mulch in place. Hydroseeding protects against soil erosion by covering the seeded ground with mulch that helps prevent washouts during heavy rains and loss to wind or pests and drying out of the seed by the sun. A truck or trailer mounted with a tank is used at the site to apply the mixture.

Location. The vegetation maintenance and management practices discussed herein relate to any place within the cemetery where plantings, markers, and monuments need to be considered in tandem.

Project Implementation Process.

1. Prepare maintenance protocols and use them to conduct regular inspections, pruning, removal, replanting, mowing, and soil amendment needs.

2. Initiate CLR projects relating to vegetation maintenance.

General Tree Maintenance Guidelines.

- Plant the right tree species in an appropriate location and maintain it properly so that it thrives and does not cause harm to other historic features or visitors.

- Inspect trees at regular intervals, and after damaging storms, to determine pruning needs, and evaluate possible hazard conditions. Also inspect trees to record where root systems are impacting grave markers.

- Follow the cemetery planting plan (refer to Implementation Project 1) when addressing the need for tree planting replacements.

- Monitor root zones of historic trees to judge levels of compaction by parking or pull-offs. New pull-offs or additional parking should be strategically located to avoid the tree roots.

Guidelines for Tree Pruning. A five-year cycle of pruning is advised for normal tree care. However, more frequent pruning is needed for younger trees. After planting a tree, remove broken and dead limbs. Remove dead, diseased and crossing braces after the first growing season. Depending on species, growth rate and purpose, the following year's pruning should concentrate on correcting potential structural problems such as weak branch crotches, crossing suckers, and water sprouts. Best practice is inspection of the tree every year and pruning only what it required for proper structure and health. Prior to pruning, erect plywood structures over grave markers and monuments to protect them from damage.

Guidelines for Tree Removal.

- Remove historic vegetation only when it poses a hazard to humans, cultural resources, or natural resources due to its potential to drop limbs, fall, or transfer disease to other plants.

- Engage a certified arborist when possible with successful experience working at historically significant sites to conduct the work.

- Use hand-pulling or removal with small tools to remove vegetation that is located close to other historic features.

- Minimize the use of heavy vehicles in or around the root zone of nearby trees in order to limit soil compaction; restrict the use of heavy vehicles to times when the soil is firm to reduce soil disturbance potential.

- Field-check the site prior to tree removal with an archeologist, natural resource specialist, and/or historical landscape architect to ensure that other natural or cultural resources will not be adversely affected.

- Cut all trees and shrubs to be removed flush with the ground. Record the location of the plant prior to its removal.

- Allow the stump to decay rather than grinding or removing it. This is the least invasive technique for stump removal and will cause negligible disturbance to the surrounding area. The stump may take from between 12 and 36 months to decay, depending on the tree species and local conditions. The following procedures should be followed:

    - Flush cut the tree trunk as close to the ground as possible and remove bark from the stump.

    - Drill a series of holes ¾ inch to 1 inch in diameter, 6 inches deep, and 2 to 3 inches apart into the stump.

- Fill holes with a mixture of one-part screened compost, one-part screened topsoil, and one-part slow release organic high-nitrogen fertilizer such as feather-meal or cottonseed-meal.

- Keep the stump moistened during dry periods and re-fill holes as needed with compost/soil/nitrogen mix.

- Check the stump periodically. Within 12 to 36 months, the stump should be adequately decayed to remove the remaining material with hand tools. After removal, backfill the hole with soil that matches the texture and composition of the original soil as closely as possible and reseed the area.

- Remove felled trees and large shrubs without dragging, which can gouge the ground surface.

- Seed and cover exposed soil areas immediately with erosion control material, such as geotextile matting, or use hydro-mulch, to reduce the potential for erosion.

- Ensure that the removal of any historic trees is noted in the tree inventory.

Guidelines for New and Replacement Plantings. Many historic trees have died and been removed. Additional trees will die in the future from natural aging, pest infestation, disease, or weather. Consideration should be paid to strategic locations for replacement trees. As trees mature and their root systems spread, they can overtake the grave markers, threatening the integrity of the marker. Therefore, careful site selection for replanting is recommended.

Development of a planting plan for the entire cemetery would provide a strategy for selecting appropriate locations for new and replacement plantings. The plan should delineate where trees could be planted to retain the historic design intent while avoiding impacts to other historic resources.

Replacement of trees in a cultural landscape requires methods that respect the sensitivity and importance of the cemetery and its major features, in particular, grave headstones and markers. The following guidelines offer methods for minimizing adverse impacts to the grave markers, perimeter wall, monuments, and the character and integrity of the cultural landscape.

- Replace dead or damaged historic plant materials in-kind, whenever possible, using specimens of the same species, variety, and form.

- Replace with species of similar size, shape/habit, texture, and color if in-kind replacements are not available or appropriate (due to disease, hardiness, maintenance requirements, etc.).

- Ensure that replacement vegetation is added to the tree inventory.

- Consider that procedures for replanting trees would be disruptive and damaging to resources adjacent to the planting site, especially grave markers. Equipment for planting trees may need to be brought into the cemetery, so site selection and correct procedures are critical to the success of the planting and protection of nearby historic features.

- Because of modern digging techniques, when balled and burlapped trees are planted, remove the burlap from the top of the ball and examine where the root flare begins. It is good practice to plant with the root flare an inch or two higher than the surrounding ground to accommodate any settling that may occur. The hole should be backfilled with soil that matches the texture and composition of the original soil as closely as possible.

- Allow stumps located on the terrace plateau edges at the bank face and along road edges to decay. The trees should be replaced in-kind based on historical documentation. Consideration should be paid to stabilization of the slope face and comprehensive drainage

and erosion evaluation prior to siting the tree planting. New and replacement plantings should be located far enough away from grave markers that they will not be impacted by the root system.

- Engage a qualified archeologist to monitor new planting efforts in areas that may contain subsurface cultural resources.

Guidelines for Turf Care.

- Conduct careful training of maintenance personnel in maintenance practices that avoid damage to gravesite features during mowing operations.

- Utilize appropriate mowing equipment in the vicinity of gravestones. Avoid heavy machinery and equipment that will damage grave markers or exacerbate erosion.

- Use turf wheels on riding mowers.

- Equip all mowers with rubber bumpers on the decks, any axle assembly, or other feature that might come in contact with a gravestone while mowing.

- Include and use discharge guards on all mowers used in the cemetery. The rear discharge riding mowers that the park has begun using will help eliminate the spraying of grass clippings on the markers. This practice should be continued whenever possible. Mowers outfitted with a discharge guard used within the park are required to be used in the down position for safety purposes.

- Given the density of headstones in Vicksburg National Cemetery, it will be nearly impossible to direct the discharge chute of the mower away from all headstones while mowing around them. An alternative is to use mulching mowers that do not have discharge chutes. The only difficulty with these mowers is they do not process clippings well when the grass is tall. This would require more frequent mowing.

- Cut grass to a height of 3.5 inches unless unique considerations require a different height that is agreed to prior to mowing. This is probably the lower limit due to the various elevations. Also, turf in shady areas will do better if left to grow slightly taller before cutting.

- Use no power mower within 12 inches of markers. Trim turf within the 12 inches of the grave markers with a line trimmer (weed whips) using a line that measures no more than .09 inch in diameter and does not possess a metal core. The string should be softened by soaking prior to use to prevent damage to headstones, grave markers, section markers, and monuments.[192] Mowing equipment should not come into contact with headstones, markers, or monuments.

- Regarding application of chemical herbicides, as noted by the Olmsted Center:

> Chemical herbicides are not recommended for broadcast or spray application. Many contain salts and are often acidic—conditions which can be harmful to marble and limestone. If herbicides must be used, in order to minimize the conflict between stone conservation and healthy vegetation, select the least acidic one available and apply with great care.[193]

  Where herbicides are being considered for control of Johnsongrass around the cemetery headstones, the best approach is to paint the herbicide directly on the exposed grass.

192. Olmsted Center for Landscape Preservation, *Cultural Landscape Report for Gettysburg National Cemetery* (Boston, Massachusetts: National Park Service, 2017), 217.

193. Ibid., 2.

- Rake up and discard off premises all large clumps of grass debris left by the mowers.
- Report any damage immediately to the chief of maintenance.
- Consider aeration where necessary. Loess soils naturally have good aeration. Where the turf is poorly aerated due to high water levels and a low permeable pore system, the application of quicklime is recommended to improve the soil.
- Regarding use of fertilizer, as noted by the Olmsted Center:

> Add fertilizer and lime based on soil tests. In general, spread ground limestone several weeks prior to the application of fertilizer. Results are generally better with light, frequent applications of fertilizer, especially nitrogen than occasional, heavy doses.[194]

3. Maintenance Manual for Masonry, Stone and Metal Features of the Cemetery

Description. The grave markers, monuments, commemorative and interpretive features, and the perimeter wall of Vicksburg National Cemetery are important historic resources as well as honorific memorials. These features are constructed of masonry, limestone, marble, sandstone, and granite, as well as concrete and metal, and are subject to damage and deterioration due to weather, lack of maintenance, inappropriate past repairs and conservation, and vandalism. In addition, the headstones and monuments, as well as the metal elements and brick perimeter wall, are vulnerable to damage from vegetation and the methods used to maintain it. Grass, tree roots and branches, and vegetation and tree maintenance practices, can damage grave markers and other masonry and metal features. A maintenance manual is needed to address all aspects of care relating to these significant historic resources. Several sources, including NCPTT online publications, are available to provide guidance on treatment and to outline current best practices.[195]

Considerations. A detailed assessment of the condition of grave makers and monuments is an important step prior to conducting repair and treatment. The assessment is needed to document and evaluate the likely or possible causes of problems prior to the implementation of conservation treatments, and to provide documentation of existing conditions for reference in future monitoring and repairs.

When considering repairs to cemetery features, it is important to consider both immediate and long-term needs. Repair work should not accelerate deterioration or cause problems in the future. All repair and maintenance efforts should be

194. Ibid.

195. NCPTT publications of particular relevance include: "Resetting Ground Supported Headstones 2017-04," posted by Jason Church, NCPTT, November 22, 2016, https://www.ncptt.nps.gov/blog/resetting-ground-supporting-headstones/, accessed April 2019; "Cleaning and Resetting Headstones, posted by NCPTT on February 5, 2007, https://www.ncptt. nps. gov/blog/cleaning-and-resetting-headstones, accessed April 2019; "Best Practice Recommendations for Cleaning Government Issued Headstones," posted by Mary Striegel, NCPTT, July 21, 2011, https://www.ncptt.nps.gov/blog/best-practice-recommendations-for-cleaning-government-issued-marble-headstones, accessed April 2019; and "Comparative Study of Commercially Available Cleaners for use on Federally-issued Headstones," posted by Sean Clifford, NCPTT, September 29, 2016, https://www .ncptt.nps.gov/blog/comparative-study-of-commercially-available-cleaners-for-use-on-federally-issued-headstones-3, accessed April 2019. (NCPTT publications are regularly updated.) NPS Research Manual 61: National Cemetery Operations includes headstone cleaning guidance developed by the NCPTT.

approached using a conservative and adaptive approach, beginning by applying the gentlest and least intrusive methods, as aggressive repairs may permanently alter the historic fabric of a resource. Specific treatments should be tested on inconspicuous small areas of markers prior to full scale implementation. Wherever possible, repairs and treatments should be reversible. Conservation of the headstones, monuments, and section markers should use compatible materials and the treatments should be re-treatable to the greatest extent possible. The conservation of these historic resources should comply with the Secretary of the Interior's Standards for Preservation and the American Institute of Conservation's Code of Ethics and Guidelines for Practice. Repairs to the historic cemetery features should only be performed by those with proven experience in the preservation of historic materials. All work should be documented, evaluated, and considered within a framework of an adaptive strategy.

Considerations. Typical condition concerns for the masonry and metal features at Vicksburg National Cemetery include the following:

Displacement. Monuments and markers may be out of plumb or not level due to installation, insufficient footings (where present), erosion and movement of earth, and growth of trees and tree roots (Figure 418, Figure 419, and Figure 420). Markers are also sunken at some locations due to subsidence. Where displaced, monuments and markers are vulnerable to cracking and other deterioration, as well as to falling over.

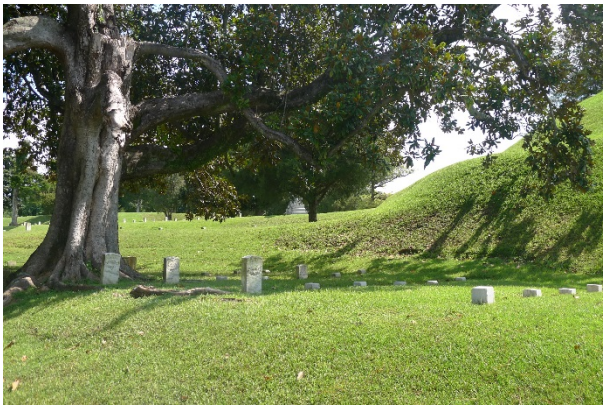


FIGURE 418. Markers in the cemetery start to lean when in the vicinity of tree roots. Treatment should start with the tree and identification of best practices to remove a root fragment or if a greater effort should need to be made to protect the grave marker. As the tree grows, the threat from the roots will topple the marker or literally engulf it with trunk growth.



FIGURE 419. Markers in the cemetery located at the transition of the terrace plateau and the bank are undermined by erosion thus causing them to lean. Treatment to stabilize the markers and allow them to be properly reset requires coordination with erosion control efforts on the terrace banks.



FIGURE 420. The leaning cannon should be righted with more support at its base.

Stone cracking and crazing. Grave markers exhibit varying degrees of cracking, including horizontal cracks at the base of the markers, and vertical cracks through natural veining at the top of the markers. Narrow, medium, or wide separations in surfaces that extend through the thickness of the layer or stone can promote loss of material strength and further deterioration through moisture penetration. Some previous repairs performed with inappropriate materials or techniques that are damaging to the stone may be contributing to this problem.



FIGURE 421. Example of cracked marble markers in the cemetery.

Chipping. Many of the grave markers and section markers exhibit problems with chipping at the edges that can be directly attributed to lawn maintenance. Some of the small markers are severely damaged. Chipping is also evident in association with the section markers (Figure 422).



FIGURE 422. Some of the small markers for the unknown soldiers have sustained extensive damage from mowers and weathering, as shown above.



FIGURE 423. Section markers also exhibit chipping damage from mowers.

Erosion and surface wear. The marble grave markers exhibit erosion and surface wear due to natural weathering, and possibly also due to previous chemical and high-pressure water cleaning efforts. The concrete section markers exhibit problems of weathering on the top surface associated with loss of edge definition, paste erosion, and increased aggregate exposure.

Incompatible prior repairs. Some of the stone cemetery resources have been repaired using visually and physically incompatible mortar and grout materials. Where mortar or grout is harder than the adjacent substrate, deterioration of the stone can occur.

Ponding. When water collects in pools on flat surfaces, surrounding materials can become saturation, leading to deterioration.

Rising damp. This is the movement of moisture upward through permeable building materials by capillary action. Salts may be deposited in the voids, pores, and cracks, leading to deterioration. Rising damp also contributes to soiling and staining or the masonry or metal (see below).

Biological growth, soiling, and staining. Soiling is caused by inorganic or organic foreign matter that accumulates on the surface of the features over time. Soiling was observed at the base of most grave markers as a result of rainwater splashing adjacent soil onto the surface of the stone. Section markers exhibit a small degree of soiling at the base.

Biological growth consists of unwanted vegetative growth, fungi, and algae that may result in organic staining and deterioration of the masonry. The grave markers and arch exhibit black and green biological growth. The brick perimeter wall also exhibits problems with black and green biological growth (Figure 424 through Figure 428).



FIGURE 424. Biological growth extends the length of the perimeter brick wall on the east boundary.



FIGURE 425. Plant material is growing atop the arch.



FIGURE 426. The arch exhibits soiling and organic growth, primarily at the top of the structure.



FIGURE 427. Grave markers display various degrees of biological growth.



FIGURE 428. Soiling and staining of cannon markers occurs when rains soak eroded areas around the base and splatter mud onto the structure.

Deterioration of brick masonry. The perimeter wall exhibits localized deterioration of brick surfaces, open mortar joints, soiling and staining from moisture, and deterioration of sealant joints. Various types of repointing mortar are present from past repair efforts (Figure 429). Sealant is present in upward-facing joints in the coping of the brick perimeter wall, and is cracked and deteriorated due to aging.



FIGURE 429. The perimeter brick wall exhibits deterioration of the masonry and open mortar and sealant joints.

Metals coating erosion. The iron gates and decorative columns at the cemetery entrance are well maintained (Figure 430). Metal features, such as the cannon monuments, exhibit some surface roughness associated with a loss of protective coating material.



FIGURE 430. Iron gates and decorative columns are well maintained at the cemetery entrance.

Location. The features that are the focus of the maintenance manual are primarily located within the original 40 acres of the cemetery and include the perimeter wall.

Project Implementation Process.

1. Undertake the studies necessary to support the masonry and metalwork management plan, including maintenance planning.

2. Prepare the management plan, utilizing the studies and the CLR's recommendations in support of historic, cultural, and natural resource management. Reference current best practices, including those provided by the NCPTT and others. Identify priority projects and implementation phasing options in the plan.

3. Initiate CLR-proposed projects relating to masonry and metalwork maintenance.

(Refer to Appendix E: Guidelines for Consideration in the Development of the Maintenance Manual for Masonry, Stone, and Metal Features of the Cemetery.)

Recommendations for Further Study

Research conducted for this study by the project team, with assistance from the park, has indicated that further study would be useful on the following topics:

- There are conflicting accounts in available documentation as to the number of outstanding reservations within the cemetery. Further research may be able to confirm the correct information.

- Documentation regarding tree removals since 2004 could not be located at the park. If documentation is available, it would be helpful to assemble it for record purposes. Tree losses during the December 2018 storm should be included in this documentation.

- There are conflicting accounts in current documents and discussions as to the number of sunken or buried grave markers. It would be useful to confirm the correct information as part of future studies.

- Further research could be conducted to understand more fully the drainage systems associated with the national cemetery. Consideration should be given to documentation of existing below-ground and above-ground drainage infrastructure by a licensed civil engineer. Establishment of the existing conditions of the infrastructure would then inform comprehensive recommendations for repair, restoration, or design for the drainage system and/or specific drainage structures. This additional study is recommended so the drainage issues apparent in the cemetery today can be addressed in the most comprehensive way, to assist in development of proper repair and maintenance measures and ensuring the future of contributing cultural landscape features of the cemetery.

- The preservation of Vicksburg National Military Park as a Civil War battlefield could be further explored, particularly as an area for expanded interpretation.

- Further research could be conducted on the role of African American persons as cemetery labor, and reconciliation after the Civil War, and how these contexts are represented at Vicksburg National Cemetery.

- Further research could be conducted on the effects of the Civil War centennial on the national cemetery. (Information specific to this subject was not identified in archival documentation reviewed for this study.)

- Further research could be conducted on effects of Mission 66 on Vicksburg National Cemetery. (Information specific to this subject was not identified in archival documentation reviewed for this study.)

- Further research could be conducted on the reasons for closure of Vicksburg National Cemetery, which are not clearly understood at this time. (Research on this question and several of the above topics could be addressed as part of a future updated Administrative History.)

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Appendices

Appendix A: Resource Inventory Table

Appendix B: Historic Maps

Appendix C: Replacing Trees in Cultural Landscapes

Appendix D: Enabling Legislation Establishing Vicksburg National Military Park

Appendix E: Guidelines for Consideration in the Development of the Maintenance Manual for Masonry, Stone, and Metal Resources of the Cemetery

Appendix A: Resource Inventory Table

Feature Name	Contributing	Non-contributing	Missing	Date of Origin	Modifications	Condition*	Notes	HS No.	LCS No.
* Condition ratings are based on the following definitions:									
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.									
Natural Systems and Features									
Limestone geology	x			predates p.o.s.					
Loess Bluffs soils	x			predates p.o.s.					
Mint Spring Bayou	x			predates p.o.s.					
Dry Bayou			x	predates p.o.s.			eventually filled in within the cemetery boundaries		
Mint Spring waterfall	x			predates p.o.s.			designated Mississippi State Natural Feature		
Natural springs and seeps	x			predates p.o.s.			locations not well-documented; may not be any in study area		
Successional woodland		x		ca.1930's; post 1966					
Mint Spring Bluff	x			predates p.o.s.	Stabilized many times after 1867				
Adjacent Natural Systems and Features									
Mississippi River	x			predates p.o.s.	1876 - flood created new channel				
Yazoo River Diversion Canal	x			1902			based on former channel of the Mississippi River		

Feature Name	Contributing	Non-contributing	Missing	Date of Origin	Modifications	Condition*	Notes	HS No.	LCS No.
Responses to Natural Systems and Features									
Terracing to create burial areas	x			1867–1912		fair			
Construction of Drainage Systems over the site	x			1868-1961	replacements	unknown	some are certainly missing, but extent is not known		
Cemetery loop road alignment	x			1860s-1870s	segments removed	good	basic north/south alignment remains and loops		
Efforts to Stabilize Mint Spring Bluff	x			1867-2019					
Placement of arbor on Indian Mound			x	1876	removed and replaced				
Placement of the brick rest pavilion on the high point of the Indian Mound	x			1931	fair to good				
Use of paved gutters and grass swales along roadways	x			1870	brick replaced with concrete at unknown date				
Construction of perimeter wall	x			1874	rebuilding after flooding; 1930's CCC rebuilt	poor to good	repairs have been substandard		
Bridge over Mint Spring Bayou east of cemetery			x						
Bridge over Mint Spring Bayou associated with the original entrance road			x						
Topographic Modifications									
Constructed landscape terraces	x			1867–1912					
Indian Mound	x			predates p.o.s.		fair			
Mint Spring Bluff stabilization		x		2010-2011	2016-2019 stablized	good			
Grading for wall construction	x			1874					
"Sylvan Hill" plateau	x			1867					
Missing Topography									
Steep, deeply incised slopes			x						
Patterns of Spatial Organization									

Feature Name	Contributing	Non-contributing	Missing	Date of Origin	Modifications	Condition*	Notes	HS No.	LCS No.
Landscape terraces	x			1867–1912		fair to good			
Geometric patterns of headstones	x			1875–present		good		HS-036	LCS ID 001358
Large tree plantings	x			1876–present		fair to good			
Successional woodland		x							
Cemetery perimeter wall	x			1874	1924; 1939–1941	fair to good		HS-950	LCS ID 090461
Land Uses and Activities									
Cemetery	x			1867–1961		good			
Education/museum/interpretive		x		1977-1985		good	associated with USS *Cairo* museum and gunboat exhibit		
Visitor Services		x		1977-1985		good	associated with USS *Cairo* museum and gunboat exhibit		
Recreation	x			ca. 1870's					
Commemorative	x			1867		good			
Maintenance	x			1882–1883		good			
Residential	x			1868		good			
Missing Land Use Patterns									
Agriculture			x	prior to p.o.s.					
Military			x	1797; 1862–1863					
Circulation									
Cemetery loop road (Trindle Circle)	x			1867–1888	realigned, repaved, entrance relocated	fair to good			
Maintenance road		x				good			
Concrete sidewalks		x				fair to good			
Landscape steps to Indian Mound	x			1880	stabilized & repaired 2005 and 2018	good			
Other landscape steps	x			1880s		fair to good			

Feature Name	Contributing	Non-contributing	Missing	Date of Origin	Modifications	Condition*	Notes	HS No.	LCS No.
Grass road traces	x			various		fair to good			
Wooden steps on Sylvan Hill Mound		x				good			
Asphalt curbs and road surfacing		x				fair to good			
Adjacent Circulation									
North Washington Street (U.S. 61 Business)	x			1939–1941					
Connecting Avenue/Park tour road	x			1903	realigned c.1963 in Mint Spring Bayou vicinity		portions follow alignment of Yazoo Valley Road		
Gravel maintenance road (Given Hill Road)		x					portion follows alignment of Yazoo Valley Road		
Missing Circulation									
Original access road			x	1867	closed post -1962				
Previous cemetery entrances			x		removed post-1885				
Cultural Vegetation									
Turf grass throughout the cemetery	x			1867		fair to good	erosion		
Historic specimen trees	x			late 19th–early 20th centuries		fair	possibly as early as 1870s		
Trindle Circle tree plantings	x			By- 1876		fair to good			
Ornamental plantings around the superintendent's lodge and gardener's cottage		x				fair to good			
Ornamental plantings near the Trindle Monument		x		20th century	1930s (CCC efforts)	fair to good			
Missing Vegetation									
Extensive ornamental plantings including trees, shrubs and flowers througout the cemetery			x						

Feature Name	Contributing	Non-contributing	Missing	Date of Origin	Modifications	Condition*	Notes	HS No.	LCS No.
Ornamental plant in pots along the loop road			x						
Andrew Johnson weeping willows			x	1867					
Ornamental plantings associated with Officers' circle including a formal clipped hedge, banana trees, and other diverse species			x	1867					
Historic cedars and magnolias lost to weather events			x	2018					
Buildings and Structures									
Cemetery Perimeter Wall	x			1874	repaired many times; west side realigned 1939–1942; other portions rebuilt 1930s–1950s	poor to good		HS-950	LCS ID 090461
Superintendent's Lodge	x			1928	repainted, repaired 2011	good		HS-039	LCS ID 007290
Gardener's Cottage	x			1882–1883	remodeled 1931; repaired 2011	good		HS-038	LCS ID 007289
Maintenance Shops	x			1931		fair to good			
Brick Rest Pavilion	x			1931		fair to good		HS-040	LCS ID 007291
Cemetery Entrance Arch	x			1879		good		HS-037	LCS ID 007288
Entrance Gate (original location)	x					good			
Flagstaff (original location)	x			1906		good		HS-905	LCS ID 091213
Chain link fence		x				fair to good	see dwg 3007B		
Adjacent Buildings and Structures									
USS *Cairo* Shelter & Museum		x		1977-1985		good			
Archive/carriage restoration shop/maintenance comlex		x				good			
Missing Buildings and Structures									
Rostrum			x	1879	removed after WW2				

Feature Name	Contributing	Non-contributing	Missing	Date of Origin	Modifications	Condition*	Notes	HS No.	LCS No.
Cemetery mound arbor			x	1875	removed 1931		replaced by brick rest pavilion		
Arbors along the loop road (Trindle Circle)			x	1870s					
Original flagstaff			x	1867	destroyed by lightning 1880				
Original Superintendent's Lodge & outbuildings (kitchen/garage, utility)			x	1868	Lodge removed 1928, others removed c.1931		replaced by current lodge		
Stables & outbuildings associated with Gardener's Cottage			x	1882–1883	removed 1931				
Greenhouse			x	1889	removed 1907				
Office/registry/entrance station			x						
Views and Vistas									
Views of the Headstones and Markers within the cemetery	x								
Views of Large Trees and Monuments within the cemetery	x								
Views to durrounding landscapes from the higher elevations in the cemetery.	x								
Views to and from the Indian Mound and Brick Rest Pavilion	x			1875					
Views of the USS *Cairo* area		x		1974					
Views of North Washington Street and adjacent industrial complex		x		post-1961					
Missing Views and Vistas									
Views to Mississippi River			x				visual relationship to the River has fundamentally changed		
Small-scale Features									
Cemetery Headstones	x			1875–present		poor to good	trimmer damage to bases, chipped and broken edges, engulfed by roots	HS-036	LCS ID 001358
Section Markers	x					fair to good			

Feature Name	Contributing	Non-contributing	Missing	Date of Origin	Modifications	Condition*	Notes	HS No.	LCS No.
25th and 31st Iowa Infantry Monument	x			1905		good		HS-368	LCS ID 003690
Grant-Pemberton Interview Surrender Monument	x			1868	removed 1940	good	built 1863, moved to cemetery 1868; now resides at the visitor center		LCS ID 091212 (this may just refer to the cannon)
Union Prisoner of War Memorial		x				good		HS-903	LCS ID 091211
Vietnam memorials		x				good			
Gun Monument 1	x			1875		good	by maintenance road		
Gun Monument 2	x			1875	modified to fountain 1888	good	in Mound E		
Gun Monument 3	x			1875		good	in Section O		
Trindle Family monument and curb	x			1875		fair to good			
Catherine O'Shea Grave Marker	x			1898		fair to good			
Bronze Tablets	x			1906		good			
Position Markers	x			early 1900s		good			
"Bivouac of the Dead" Wayside Tablets	x			c.1881–1882		good	periodically repainted; some replacements?		
War Department Tablets	x			1870s–1880s		good	periodically repainted		
Bell	x			c.1867	1927; c.1931		originally in belfry, moved when belfry blew down, moved again possibly when original superintendent's house removed		
Flagstaff box	x					good			
Wood and cast iron bench near maintenance shop	x					good			
Gettysburg Address Display	x			1878		good	possibly installed same time as Bivouac tablets		
Other informational and regulatory signs		x				good			
Chain link fence		x				fair to good			
Post and cable access gates		x				fair			
Wood and metal picnic tables in maintenance area		x				good			

Feature Name	Contributing	Non-contributing	Missing	Date of Origin	Modifications	Condition*	Notes	HS No.	LCS No.
Wayside sign in Section M		x		2012		good	gives information about USCT		
Tree number tags	x			1930s		fair	very few of these left		
Tree identification signs		x		1970s–1980s					
Missing Small-scale Features									
Terra cotta pots			x		moved to Heritage Garden 2011				
Original wooden grave markers			x						
Seven gun monuments			x	1875			possibly removed for metal drive in WW2; several still present on 1969 tree map		
Arbor along sidewalk			x				either were several of these or one that was moved several times (photos of it along road by section T, by steps to indian mound, and behind rostrum)		
Wood and cast iron benches			x				Many moved to various locations throughout the park		
Utilities and Drainage Infrastructure									
Concrete gutters		x				good	constructed over brick gutters in many places		
Curbs		x				poor to good			
Brick culverts	x					fair			
Concrete culverts		x							
Cemetery Perimeter Wall gutter	x					fair			
Drainage grates		x							
Remnant brick gutter by Entrance Arch	x					poor to fair			
Subsurface drainage	x		x	1870s		unknown	extent of surviving is unknown		
HVAC		x							

Feature Name	Contributing	Non-contributing	Missing	Date of Origin	Modifications	Condition*	Notes	HS No.	LCS No.
Missing Utilities									
Cast iron spigots			x				fed by cisterns		
Cisterns			x				possibly present below ground		
Archeological Resources									
No determination of eligibility of specific archeological resources associated with the cemetery.									

Appendix B: Historic Maps

Plan of the city of Vicksburg showing the placement of the National Cemetery, approximately 1-1/2 miles north of the city, circa 1860s.

A sketch of lands taken for a National Cemetery at Vicksburg, Capt. C. W. Folsom. June 29, 1867.

Office of Quartermaster General, U.S. Army. National Cemetery, Vicksburg, Mississippi. March 21, 1893.

Office of Deputy Quartermaster, U.S. Army. National Cemetery, Vicksburg, Mississippi. September 7, 1917, revised October 31, 1935.

National Park Service, United States Department of the Interior. Existing Conditions Map for the Vicksburg National Cemetery, A Part of the Master Plan for the Vicksburg National Military Park and Cemetery. September 1, 1939.

National Park Service, Branch of Engineering, United States Department of the Interior. Topographic Map Vicksburg National Cemetery. Drawing No. NMP-VIC 5303. November 1940.

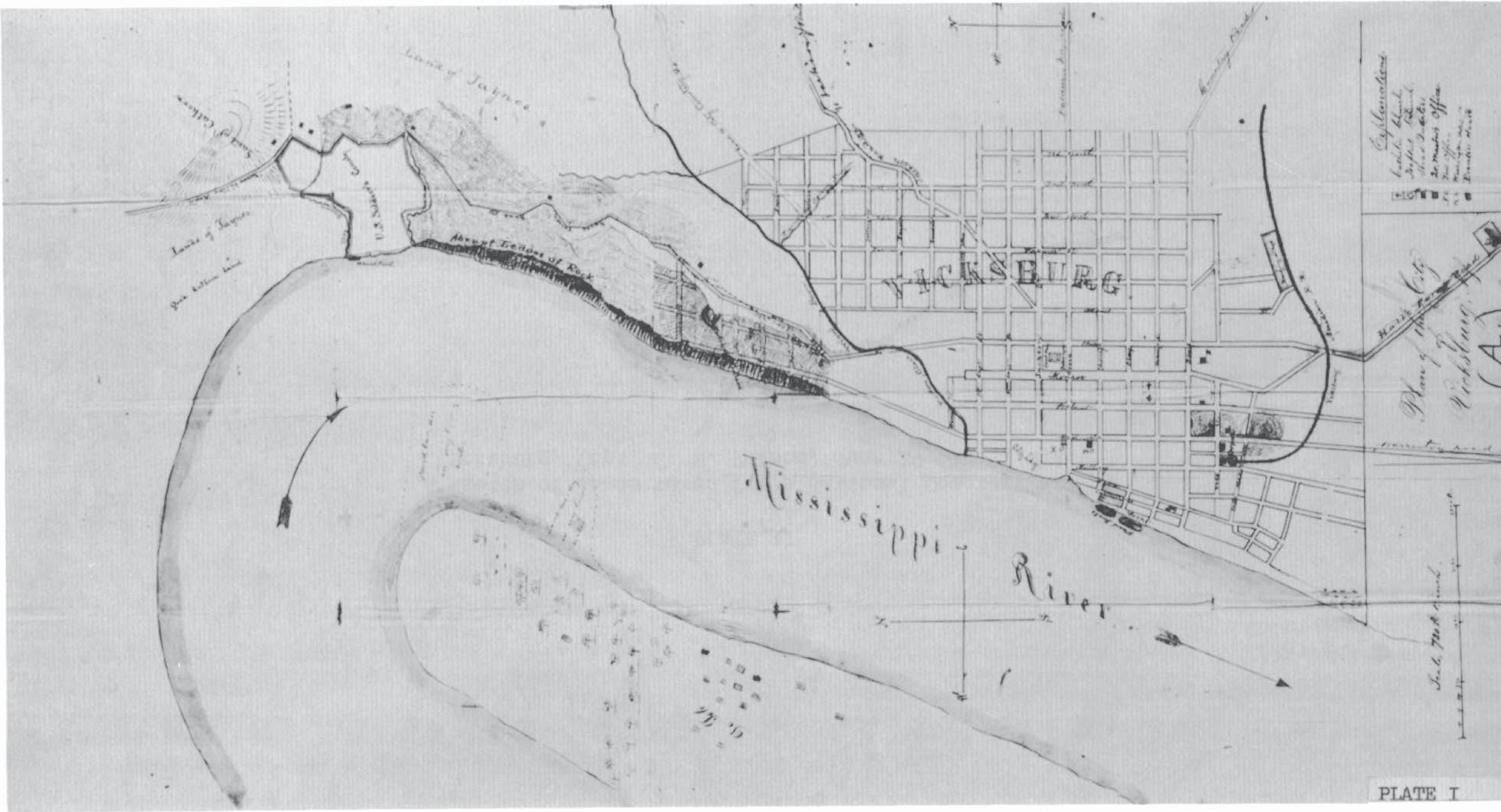
General Land Office, United States Department of the Interior. Vicksburg National Cemetery Township No. 16 North, Range No. 3 East Washington Meridian, Mississippi. December 11, 1941.

Division of Design and Construction, Eastern Office, National Park Service, United States Department of the Interior. Boundary Wall and Fence Construction, National Cemetery, Vicksburg National Military Park. Drawing No. NMP-VK 3007A. December 1957.

Division of Design and Construction, Eastern Office, National Park Service, United States Department of the Interior. Boundary Wall and Fence Construction, National Cemetery, Vicksburg National Military Park. Drawing No. NMP-VK 3007B. December 1957.

Supplementary Sheet No. 6-A Vicksburg National Military Park. November 1963.

National Park Service, Denver Service Center, United States Department of the Interior. Road Bank Stabilization, National Cemetery, Vicksburg N.M.P. and N.C. Drawing No. 306-41,009. August 21, 1975.



Lands of Fagnes
Lands of Fagnes
U.S. Reserve
About of Ledges of Rock
VICKSBURG
Mississippi
River
Explanations
Plan of the City of Vicksburg
(A.)

PLATE I

Catherine's Land

Bottom Land

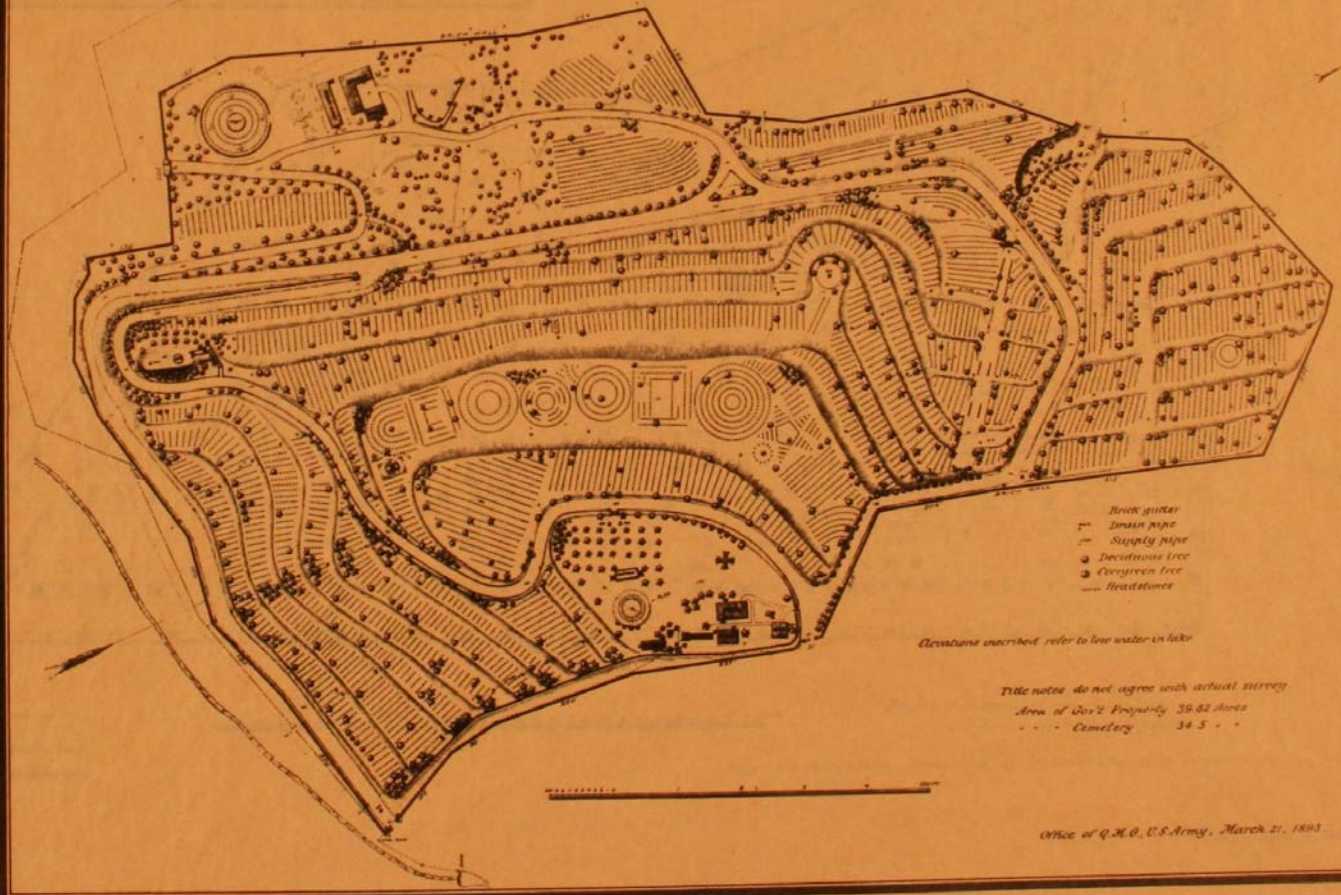
MISSISSIPPI RIVER.

PLATE II



NATIONAL CEMETERY

VICKSBURG, MISS.



Office of Q.M.G., U.S. Army, March 21, 1893.

NATIONAL CEMETERY

VICKSBURG, MISS.

ROAD CONSTRUCTED BY THE U.S.

TRASH BURNER

PARKING SHED (APPROXIMATE AND FINAL)

PUBLIC ROAD

CEMETERY ROAD

BRIDGE

Y. & M. V. R.R.

PINE BRAKE BAYOU

PUBLIC ROAD TO VICKSBURG

Brick gutter
Drain pipe
Supply pipe
Deciduous tree
Evergreen tree
Headstones

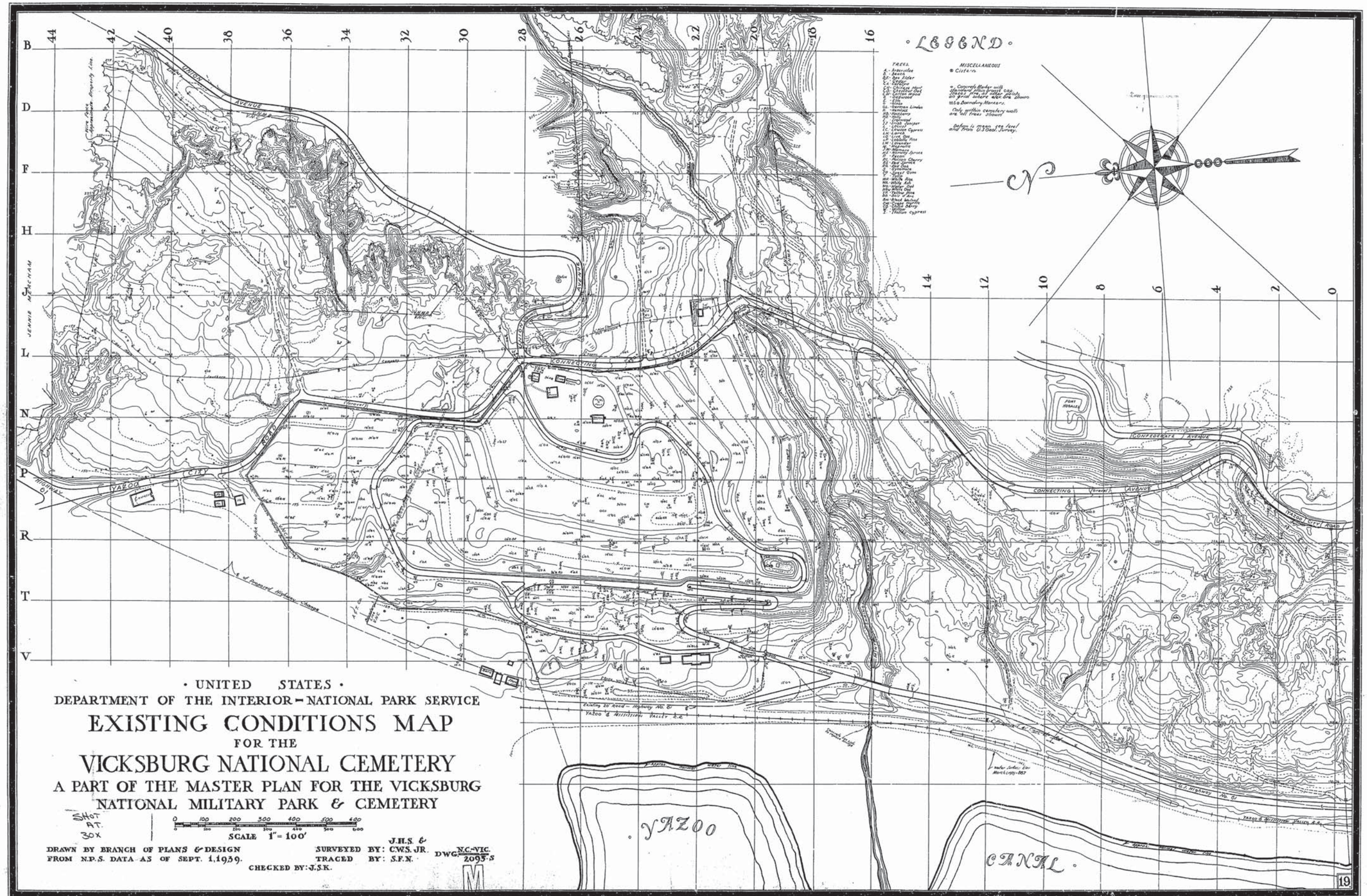
Elevations inscribed refer to low water in lake

Plotted from survey made by D.L. Andrews, Aug. 1917

Area of Gov't Property 40 Acres (Approx.)
" " Cemetery 35 " "

Office of D.Q.M, U.S. Army, Washington D.C.
Sept. 7, 1917

REVISED OCT. 31, 1935. - WASH. CEM. INTER. DEPOT. WASH. D.C.


LEGEND
TREES
MISCELLANEOUS
Cistern
Concrete Marker with Standard Bronze Tablet
Boundary Markers
Only within cemetery walls are all trees shown
Datum is mean sea level and from U.S. Coast Survey.
N
UNION AVENUE
CONNECTING AVENUE
CONFEDERATE AVENUE
HIGHWAY No. 61
YAZOO CITY
YAZOO
CANAL
FORT HOSALES
JENNIE McCRAHAN
UNITED STATES
DEPARTMENT OF THE INTERIOR - NATIONAL PARK SERVICE
EXISTING CONDITIONS MAP
FOR THE
VICKSBURG NATIONAL CEMETERY
A PART OF THE MASTER PLAN FOR THE VICKSBURG NATIONAL MILITARY PARK & CEMETERY
SHOT AT. 30X
SCALE 1" = 100'
DRAWN BY BRANCH OF PLANS & DESIGN
FROM N.P.S. DATA AS OF SEPT. 1, 1939.
SURVEYED BY: J.H.S. & C.W.S. JR.
TRACED BY: S.F.N.
CHECKED BY: J.S.K.
DWG. N.C.-VIC. 2095-S
19

LEGEND

Trees

A = Arbor Vitae
AR =
B = Beech
BE = Box Elder
BO = Bois d' Arc
BS =
BW = Black Walnut
C = Cedar
CA = Catalpa
CB = China Berry
CH = Chinese Hort
CM = Crepe Myrtle
CO = Chestnut Oak
CW = Cotton Wood
D = Dog Wood
E =
F =
G = Ginko
GL = German Linden
GU =
H = Hemlock
HB = Hackberry
HO = Holly
I = Ironwood
IC = Italian Cypress
IJ = Irish Juniper
HL =
L = Locust
LC = Lawson Cypress
LH = Larch
LO = Live Oak
LP = Loblolly Pine
LV = Lavender
M = Magnolia
MM = Mimosa or Magnolia (Usp)
NS = Norway Spruce
O =
P = Pecan
PO = Poison Otaccy
PR =
RC =
RO = Red Oak
RS = Red Spruce
S = Sycamore
SG = Sweet Gum
SLP =
T = Tulip
VC =
W = Willow
WA = White Ash
WHO = White Oak
WO = Water Oak
WP = White Pine
YP = Yellow Pine
BL =
38 =

Miscellaneous

⊕ = Cistern
♦ = Concrete Marker with standard plain bronze cap stakes are at other points on grid where elev. is shown.
Ⓐ & Ⓑ = Conc. Mon. Boundary Markers.

All trees are not shown except within cemetery wall.

Datum is Mean Sea Level From U.S. Geol. Survey.



HALF-SIZE REPRODUCTION

SCALE 1" = 100'
CONTOUR INTERVAL = 5'

TOPOGRAPHIC MAP
VICKSBURG NATIONAL CEMETERY
VICKSBURG NATIONAL MILITARY PARK

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
BRANCH OF ENGINEERING
PREPARED BY REGIONAL OFFICE

REGION 1

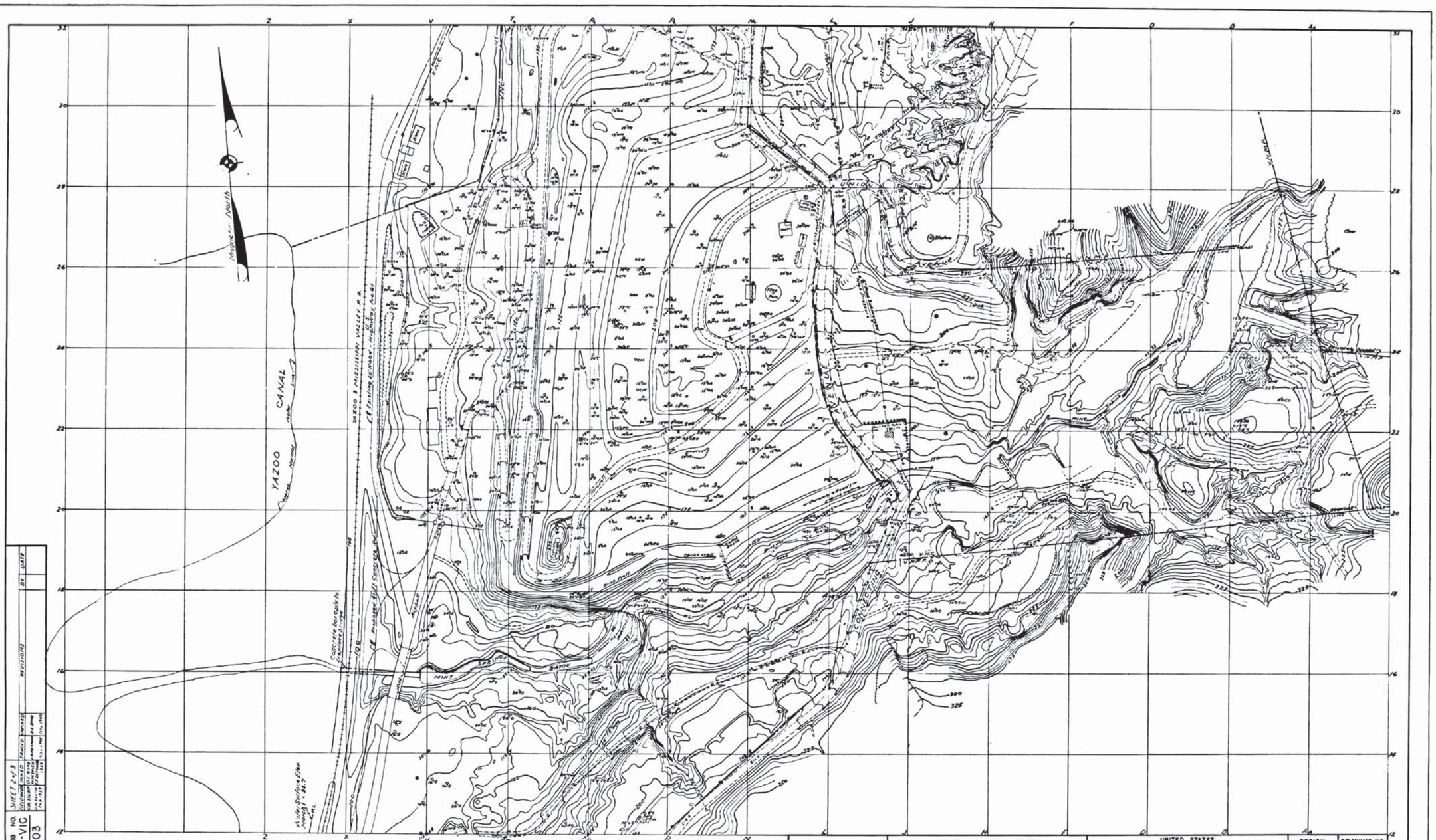
DRAWING NO. NMP-VIC 5303 SHEET 1 OF 3

DRAWING NO. NMP-VIC 5303

SHEET 1 of 3

REVISIONS | BY | DATE

DESIGNED C.O. Bass
DRAWN C.O. Bass
TRACED
CHECKED
APPROVED



DRAWING NO. NMP-VIC 5303

SHEET 2 of 3

REVISIONS	BY	DATE

TOPOGRAPHIC MAP
VICKSBURG NATIONAL CEMETERY
VICKSBURG NATIONAL MILITARY PARK

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
BRANCH OF ENGINEERING
PREPARED BY REGIONAL

REGION I

DRAWING NO. NMP-VIC 5303
SHEET 2 OF 3

YAZOO RIVER CANAL

J. Dornbusch Estate

Magnetic North

SCALE 1" = 100'
CONTOUR INTERVAL = 5'

TOPOGRAPHIC MAP
VICKSBURG NATIONAL CEMETERY
VICKSBURG NATIONAL MILITARY PARK

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
BRANCH OF ENGINEERING
REGIONAL

REGION 1

DRAWING NO. NMP-VIC 5303 SHEET 3 OF 3

DRAWING NO. NMP-VIC 5303

SHEET 3 of 3

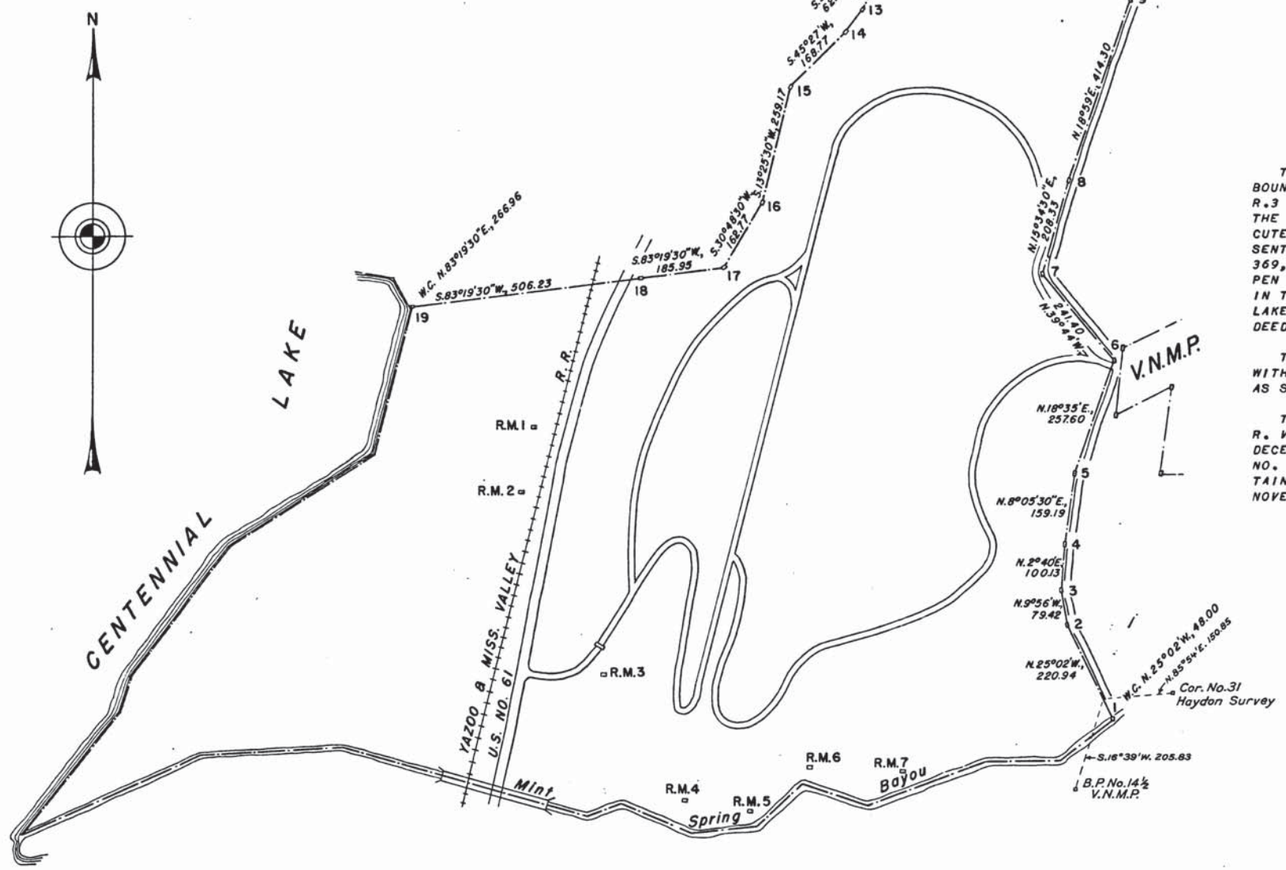
REVISIONS

BY | DATE

VICKSBURG NATIONAL CEMETERY
TOWNSHIP NO. 16 NORTH, RANGE NO. 3 EAST
WASHINGTON MERIDIAN, MISSISSIPPI

Scale: 1 Inch = 200 Feet.

0 100 200



MEMORANDUM

THIS PLAT DELINEATES THE REESTABLISHMENT OF THE BOUNDARIES OF THE VICKSBURG NATIONAL CEMETERY IN T.16 N., R.3 E., IN THEIR TRUE ORIGINAL POSITIONS ACCORDING TO THE BEST AVAILABLE EVIDENCE OF THE ORIGINAL SURVEY EXECUTED BY DABNEY, VERNON, AND SEARLES IN 1866, AND REPRESENTED ON A PLAT THEREOF RECORDED IN BOOK "FFF", PAGE 369, IN THE OFFICE OF THE CLERK OF CHANCERY COURT, WARREN COUNTY, MISSISSIPPI, AS MODIFIED BY SUBSEQUENT CHANGES IN THE COURSES OF THE MISSISSIPPI RIVER (NOW CENTENNIAL LAKE) AND MINT SPRING BAYOU TO CONFORM TO THE SURVEY AND DEED RECORD.

THE ANGLE POINTS ON THE BOUNDARIES ARE MONUMENTED WITH CONCRETE POSTS SUITABLY MARKED AND NUMBERED SERIALLY AS SHOWN HEREON.

THE SURVEY WAS EXECUTED BY CLYDE W. ATHERLY AND GUY R. VEAL, CADASTRAL ENGINEERS, FROM FEBRUARY 7, 1938, TO DECEMBER 18, 1940, UNDER SPECIAL INSTRUCTIONS FOR GROUP NO. 8, MISSISSIPPI, ISSUED PURSUANT TO AUTHORITY CONTAINED IN GENERAL LAND OFFICE LETTER 1660947 "E" DATED NOVEMBER 3, 1936.

OFFICE OF SUPERVISOR OF SURVEYS
DENVER, COLORADO, OCTOBER 24, 1941.

THE ABOVE PLAT OF THE VICKSBURG NATIONAL CEMETERY IN TOWNSHIP NO. 16 NORTH, RANGE NO. 3 EAST, OF THE WASHINGTON MERIDIAN, MISSISSIPPI, IS STRICTLY CONFORMABLE TO THE FIELD NOTES OF THE SURVEY THEREOF, WHICH HAVE BEEN EXAMINED AND APPROVED.

C. C. Horton Jr.
ACTING SUPERVISOR OF SURVEYS.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
WASHINGTON, D.C., DECEMBER 11, 1941

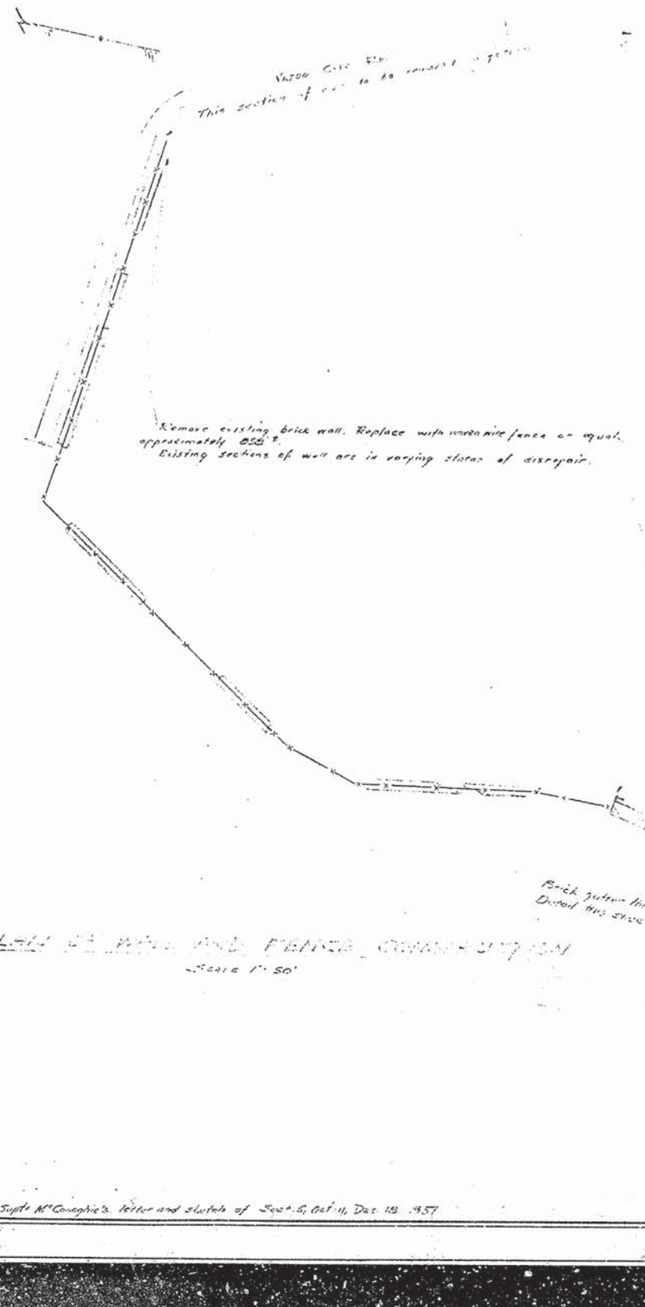
THE SURVEY REPRESENTED BY THIS PLAT, HAVING BEEN CORRECTLY EXECUTED IN ACCORDANCE WITH THE REQUIREMENTS OF LAW AND THE REGULATIONS OF THIS OFFICE, IS HEREBY ACCEPTED.

Joel David Wolfsohn
ASSISTANT COMMISSIONER.

NMP-VIC-7101-A

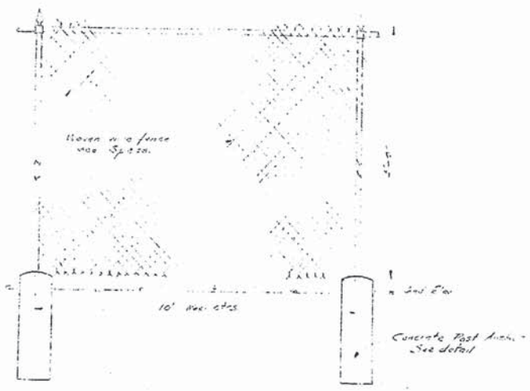
SCHEDULE OF CONSTRUCTION ITEMS

ITEM	DESCRIPTION	QUANTITY
1	Construct woven wire fence 6' high	852 lin ft
2	Construct 6" th. wall on concrete foundation	210 lin ft
3	Construct brick wall on existing foundation	140 lin ft
4	Construct brick gutter along wall as shown	110 lin ft

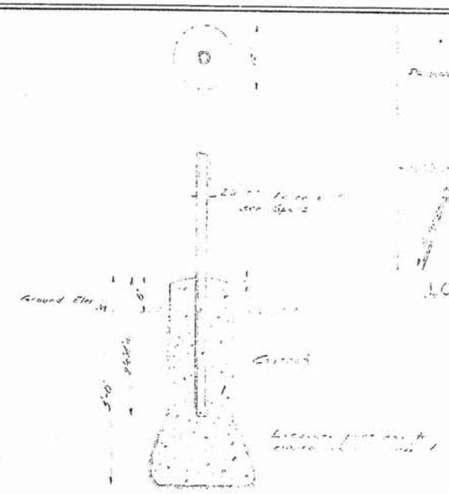


Remove existing brick wall. Replace with woven wire fence or equal. approximately 852 ft.
Existing sections of wall are in varying states of disrepair.

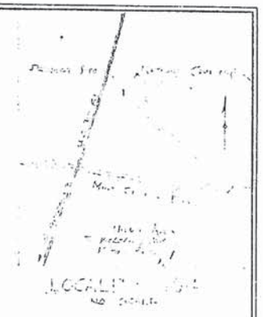
PLAN OF WALL AND FENCE CONSTRUCTION
Scale 1" = 50'

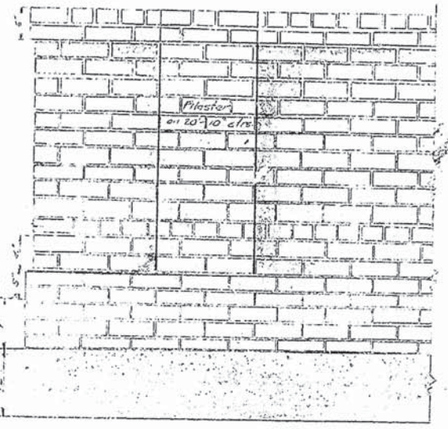


ELEVATION OF FENCE
Scale 1/2" = 1'-0"

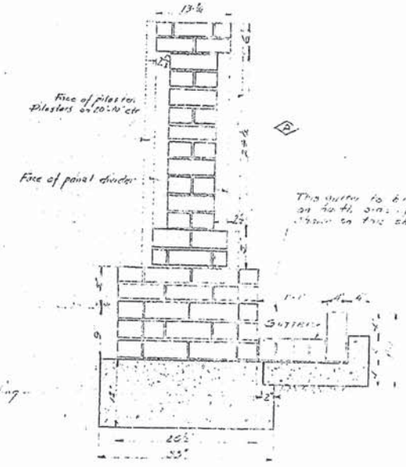


FENCE POST ANCHOR DETAIL
Scale 1" = 1'-0"





SECTION OF BRICK WALL
See Sheet 2 for Details
Scale 1" = 1'-0"



General Note

NO.	DESCRIPTION OF CHANGE
1	Dimensions and notes revised

HALF SIZE REPRODUCTION
OFFICE COPY
PRELIMINARY

SCALE 1/4" = 1'-0"

RECOMMENDED: Chief, Eng. D.C. — Date
APPROVED: Superintendent — Date

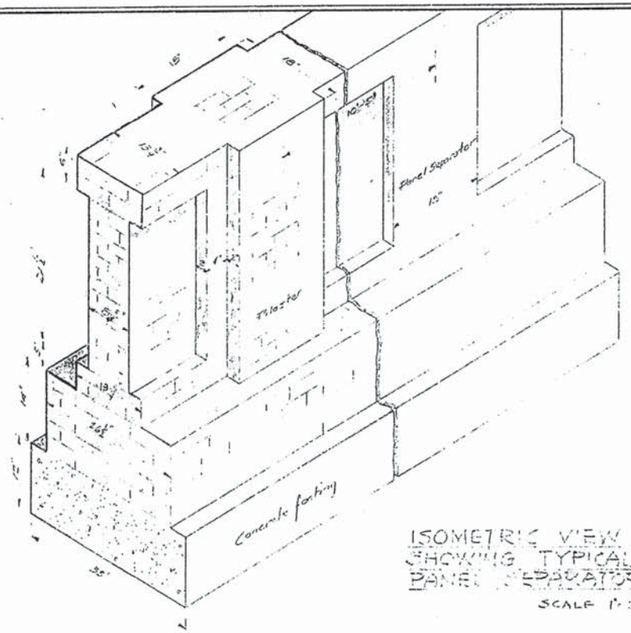
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DIVISION OF DESIGN AND CONSTRUCTION
PREPARED BY EASTERN Office

BOUNDARY WALL AND FENCE CONSTRUCTION — TITLE OF DRAWING
NATIONAL CEMETERY — LOCATION WITHIN AREA
VICKSBURG NATIONAL MILITARY PARK — NAME OF AREA

BASIC DATA
Supt McConaghie's letter and sketch of Sept 6, Oct 11, Dec 19, 1957

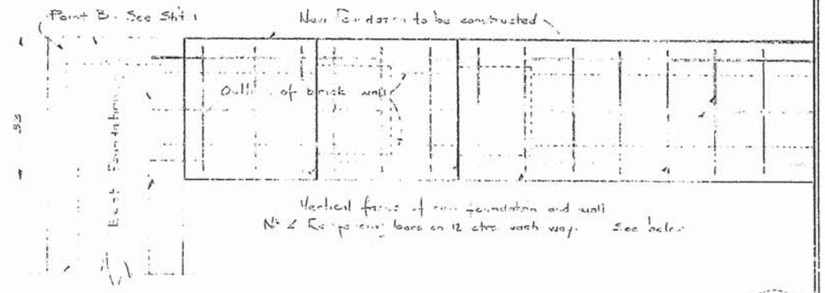
ORIENTATION REVIEWED

OPERATIONS REGION	
WASHINGTON	
INTERP. REGION	
WASHINGTON	
COOP. ACTV. REGION	
WASHINGTON	
DES. & CONST.	STEIN
WASHINGTON	A. E. L.A.
OTHER	
PREPARED	DESIGNED, DRAWN, CHECKED
REVISED DATE / INITIAL	1. 6-8-59
REGION	OVF
PCP #	
SHEET	1 of 2
DRAWING NO.	NMT VIC 3007A
DATE	Dec. 57



ISOMETRIC VIEW OF BRICK WALL SHOWING TYPICAL WALL, PILASTER, PANEL SEPARATOR SECTIONS

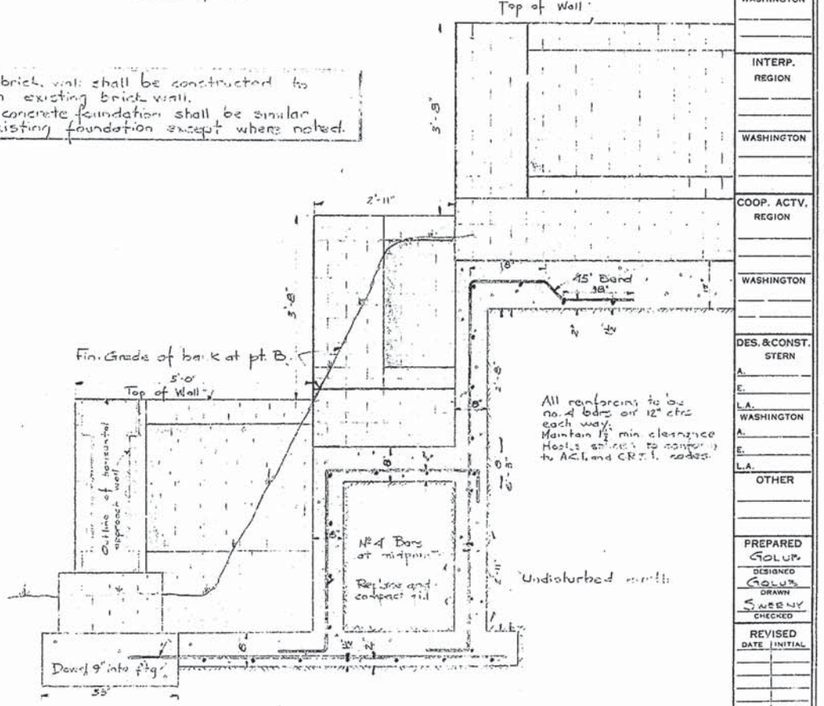
SCALE 1"=1'0"



FOUNDATION AND WALL DETAILS AT POINT "B"

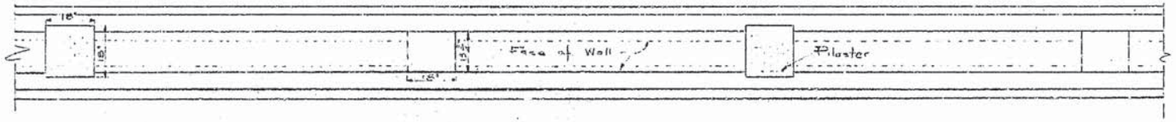
SCALE $\frac{3}{4}$"=1'-0"

New brick wall shall be constructed to match existing brick wall.
New concrete foundation shall be similar to existing foundation except where noted.



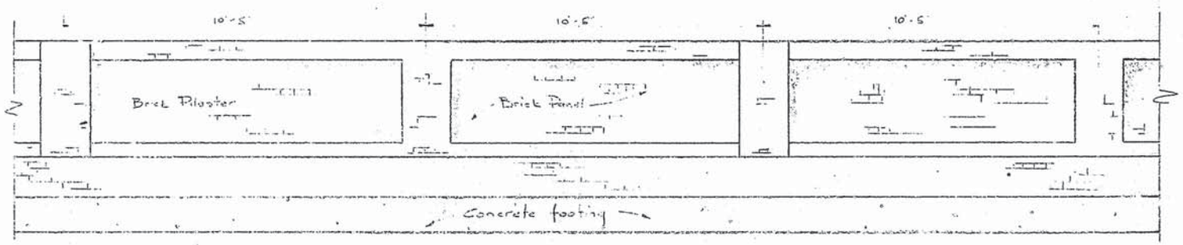
PRELIMINARY DRAWING

SCALE As shown



PLAN OF WALL - TYPICAL

SCALE $\frac{1}{2}$"=1'-0"



ELEVATION OF WALL - TYPICAL

SCALE $\frac{1}{2}$"=1'-0"

BASIC DATA

ORIENTATION REVIEWED

OPERATIONS REGION
WASHINGTON
INTERP. REGION
WASHINGTON
COOP. ACTV. REGION
WASHINGTON
DES. & CONST. STERN
A.
E.
L.A.
WASHINGTON
A.
E.
L.A.
OTHER

PREPARED Golub
DESIGNED Golub
DRAWN Sweeny
CHECKED
REVISED
DATE | INITIAL

RECOMMENDED DATE
APPROVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DIVISION OF DESIGN AND CONSTRUCTION
PREPARED BY EASTERN OFFICE

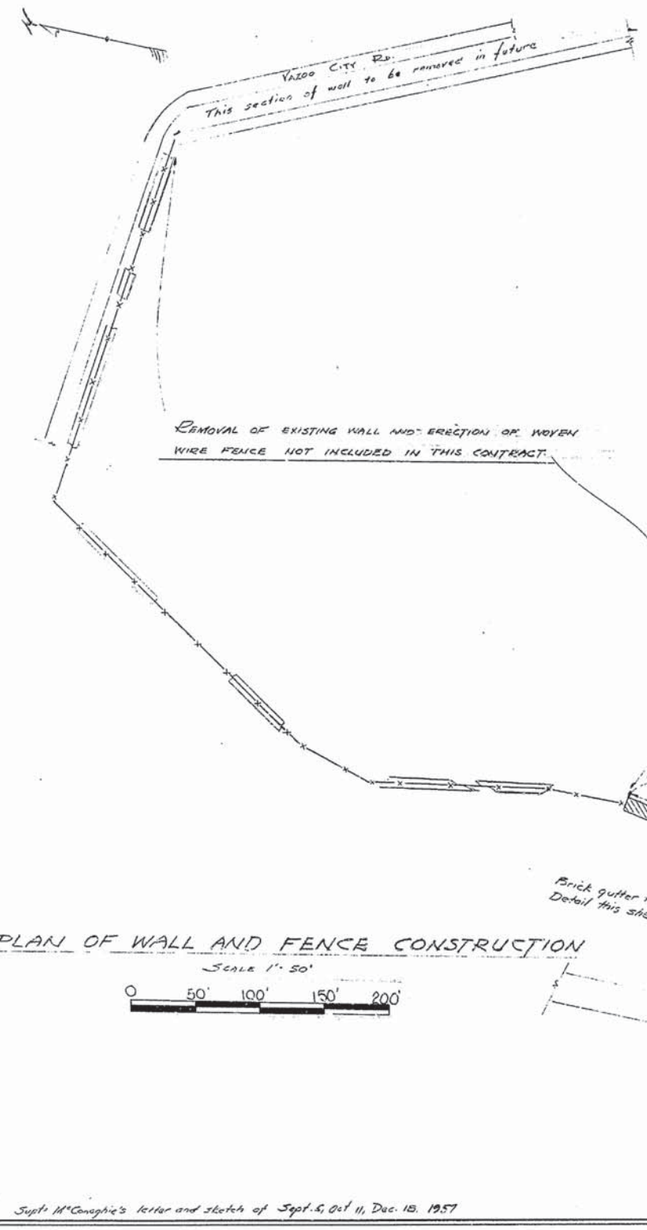
REGION ONE
PCP M-53-3
SHEET 2 OF 2
DRAWING NO. NMP VK 3007 A
DATE Jan. 58

TITLE OF DRAWING: BOUNDARY WALL AND FENCE
LOCATION WITHIN AREA: NATIONAL CEMETERY
NAME OF AREA: VICKSBURG NATIONAL MILITARY PARK

ITEMS OF WORK

ITEM	DESCRIPTION	QUANTITY
1	Construct brick wall and foundation	210 lin. ft.
2	Construct brick wall on existing foundation	190 lin. ft.

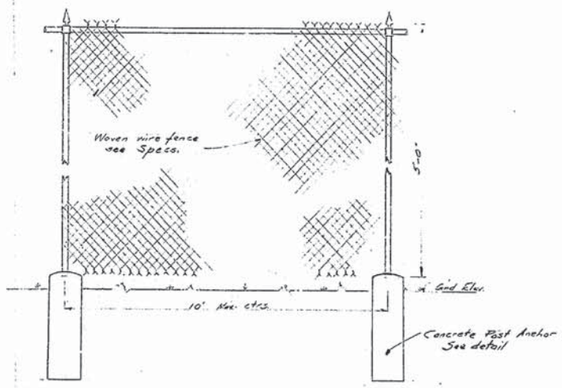
Note. Items include 11½" brick gutter and reinforced concrete step foundation



PLAN OF WALL AND FENCE CONSTRUCTION

Scale 1" = 50'

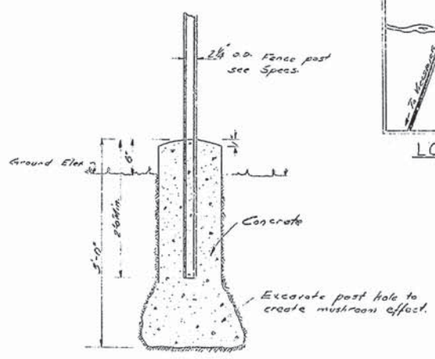
0 50' 100' 150' 200'



ELEVATION OF FENCE

Scale ½" = 1'-0"

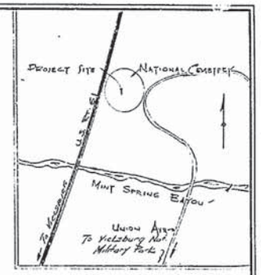
NOT THIS CONTRACT



FENCE POST ANCHORAGE DETAIL

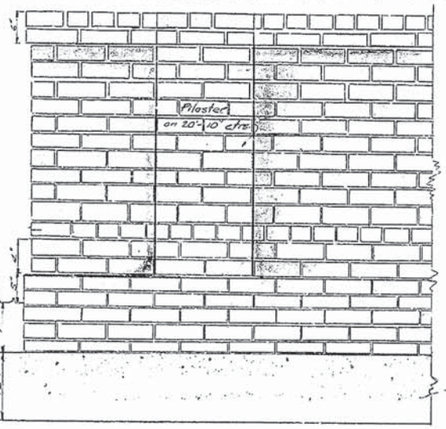
Scale 1" = 1'-0"

NOT THIS CONTRACT



LOCALITY MAP

NO SCALE



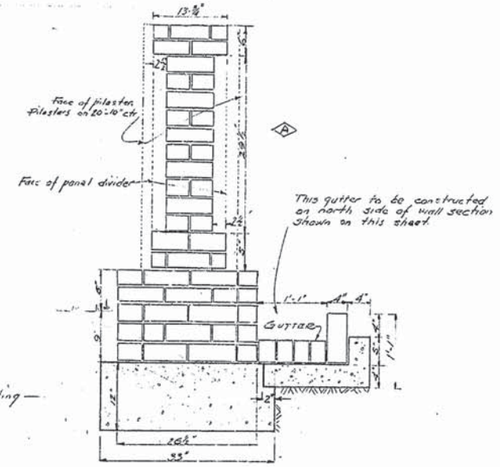
SECTION OF BRICK WALL

See Sheet 2 for Details

Scale 1" = 1'-0"

0 1' 2' 3' 4'

HALF-SIZE REPRODUCTION



General Note
Brick wall to match existing wall in color, character, material, jointing, and mortar color.

MARK	DESCRIPTION OF REVISION
A	Dimensions and notes revised

BASIC DATA

Supt. McConaghie's letter and sketch of Sept. 6, Oct 11, Dec. 18, 1957

This drawing has been prepared in compliance with Preliminary Drawing No. NMP-VIC-3007A approved by H. Reese Smith, Chief Arch. Planning on Jan 16-58 Date

John P. Cabot 1/21/58 Date
Chief, EODC & Title

RECOMMENDED Edward A. [illegible] DATE 1-31-58
CHIEF, EODC

APPROVED James R. McConaghie by letter dated SUPERINTENDENT

WORKING DRAWING

SCALE Noted

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DIVISION OF DESIGN AND CONSTRUCTION
PREPARED BY EASTERN OFFICE

TITLE OF DRAWING
BOUNDARY WALL AND FENCE CONSTRUCTION
LOCATION WITHIN AREA
NATIONAL CEMETERY
NAME OF AREA
VICKSBURG NATIONAL MILITARY PARK

DATE Dec. 57

ORIENTATION REVIEWED

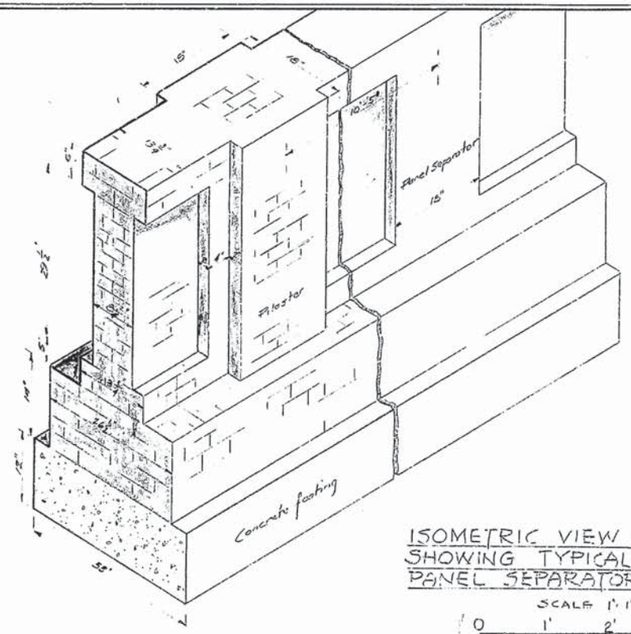
OPERATIONS REGION
WASHINGTON
INTERP. REGION
WASHINGTON
COOP. ACTV. REGION
WASHINGTON
DES. & CONST. EASTERN
Approved for Office Chief
R. Neal 12-9
WASHINGTON
A.
E.
L.A.
OTHER

PREPARED N.E. GOLUB
DESIGNED M.S. GOLUB
DRAWN R. SWEENY
CHECKED

REVISED DATE | INITIAL
1-29-58 abg

REGION ONE
FCP 16.53-3
SHEET 1 OF 2
DRAWING NO. NMP-VIC 3007B

OGILVIE PRESS INC. BROOKLYN 17, N. Y.



ISOMETRIC VIEW OF BRICK WALL SHOWING TYPICAL WALL, PILASTER, PANEL SEPARATOR SECTIONS

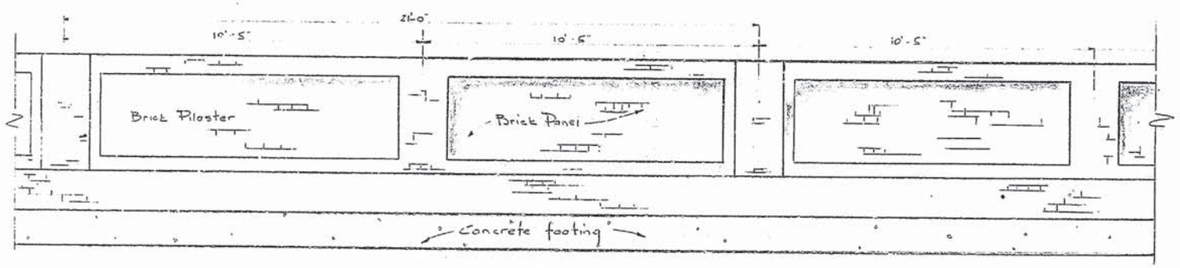
SCALE 1" = 1'-0"

0 1' 2' 3' 4'



PLAN OF WALL - TYPICAL

SCALE $\frac{1}{2}$" = 1'-0"

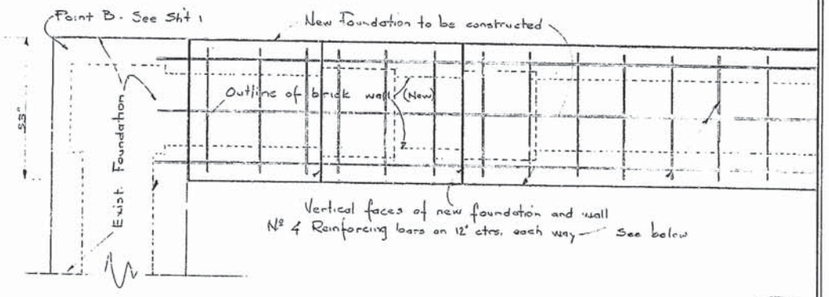


ELEVATION OF WALL - TYPICAL

SCALE $\frac{1}{2}$" = 1'-0"

0 2' 4' 6' 8'

BASIC DATA

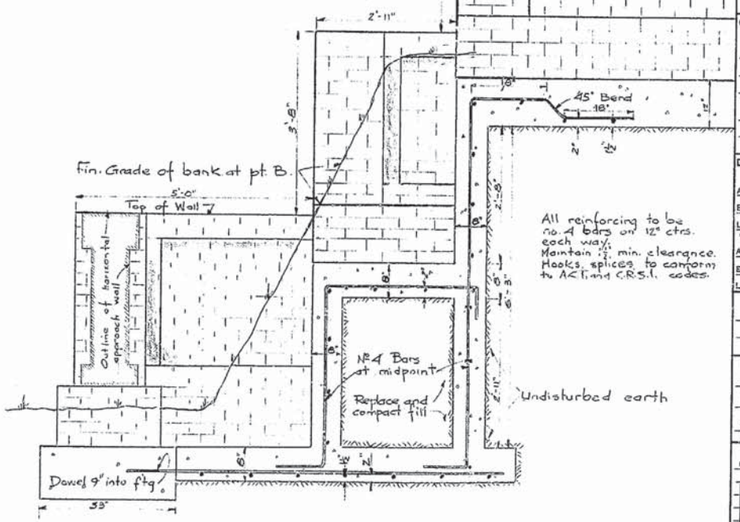


FOUNDATION AND WALL DETAILS AT POINT "B"

SCALE $\frac{3}{4}$" = 1'-0"

0 1⅓' 2⅔' 4' 5⅓'

New brick wall shall be constructed to match existing brick wall.
New concrete foundation shall be similar to existing foundation except where noted.



ORIENTATION REVIEWED

OPERATIONS REGION	
WASHINGTON	
INTERP. REGION	
WASHINGTON	
COOP. ACTV. REGION	
WASHINGTON	
DES. & CONST. STERN	
A.	
E.	
L.A.	
WASHINGTON	
A.	
E.	
L.A.	
OTHER	
PREPARED	GOLUB
DESIGNED	GOLUB
DRAWN	SWEENY
CHECKED	
REVISED DATE	INITIAL

RECOMMENDED _____ DATE

APPROVED _____

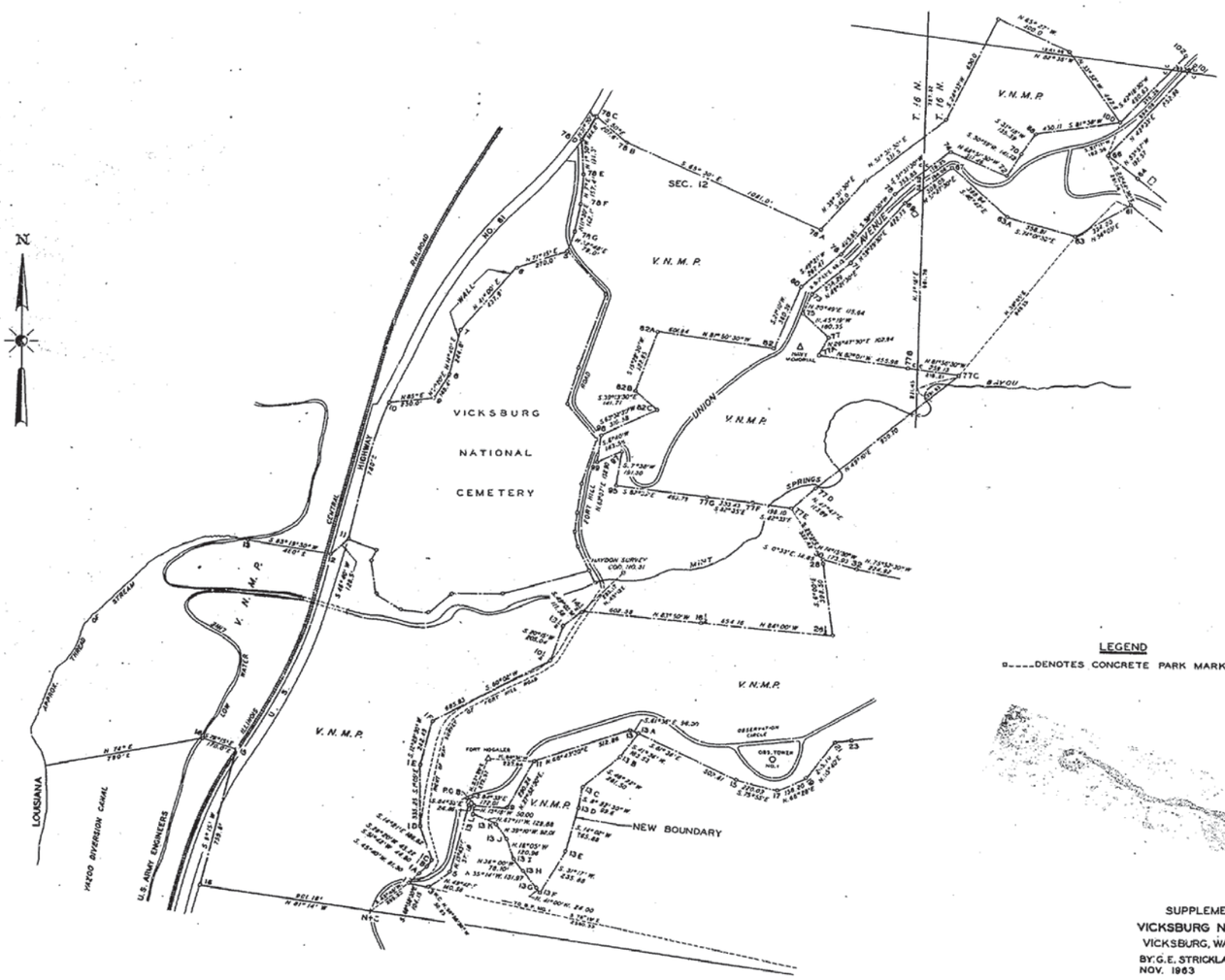
SCALE As shown

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DIVISION OF DESIGN AND CONSTRUCTION
PREPARED BY EASTERN OFFICE

TITLE OF DRAWING
BOUNDARY WALL AND FENCE
NATIONAL CEMETERY
LOCATION WITHIN AREA
NAME OF AREA VICKSBURG NATIONAL MILITARY PARK

REGION SE
PCP M-53-3
SHEET 2 OF 2
DRAWING NO. N.M.P. VK 3007 A
DATE Jan. 56

OSWALD PRESS, INC., BROOKLYN 17, N. Y.



LEGEND

o----DENOTES CONCRETE PARK MARKER

SUPPLEMENTARY SHEET NO. 6-A

VICKSBURG NATIONAL MILITARY PARK

VICKSBURG, WARREN COUNTY, MISSISSIPPI

BY: G.E. STRICKLAND - REG. SURVEYOR NO. L.S. 1056

NOV. 1963 SCALE 1" = 400'

306/30001

SHEET 1 of 1

HALF-SIZE REPRODUCTION

30001

THIS PROJECT

Old Mississippi River Bed

Old Mississippi River (Yazoo Canal)

Yazoo City Road

NATIONAL CEMETERY

Connecting Avenue

8 Cairo Site (proposed)

7 Battery Selfridge

4th Ohio

9 Fort Hill

61

City of Vicksburg

Lover's Lane

ROAD

Sky Farm Avenue

Louisiana Redoubt

26th Confederate Louisiana

6 Thayer's Approach

Southern RR of Mississippi

Baldwin Ferry Road

City Mission 66 Road

Proposed East Main Street

Clay Street

Grove Street

Openwood Street

Graveyard Road

10 Stockade Redan

Stockade Redan Attack

5

Ransom's Gun Path

4

Grant's Headquarters

14 Fort Garrott

Hovey's Approach

15

monument walk

13 Railroad Redoubt

12 Second Texas Lunette

CONFEDERATE AVENUE

11 Great Redoubt

Hebrew Cemetery

Visitor Center

Memorial Arch

Third Louisiana Redan

Illinois Monument

3

Pemberton Avenue

Shirley House

2

1 Battery DeGolyer

Old Jackson Road

UNION AVENUE

80

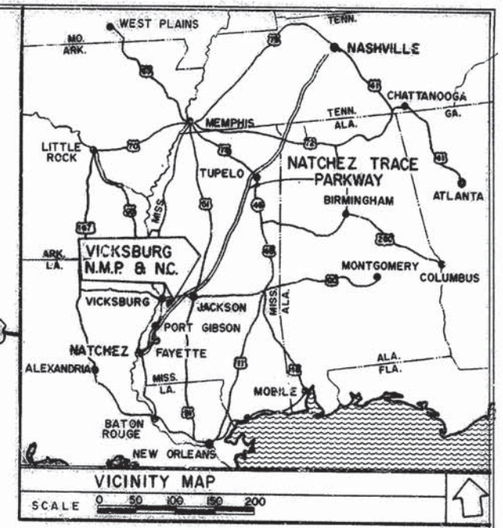
20

N

400 0 400 1600 feet

Legend

- Proposed Hiking and Bicycle trail
- Park Boundary
- Railroad
- Frontage road
- 1 → 16 Major Tour stop
- One—way
- Two—way



RECOMMENDED

Team Manager — 7-30-75

Superintendent — 8-4-75

APPROVED ROBERT STANTON, Director, Region — 8-21-75

CONSTRUCTION DRAWINGS

UNITED STATES DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

PREPARED McLEOD
DESIGNED STANDARD
DRAWN
CHECKED
DATE

TITLE OF DRAWING
ROAD BANK STABILIZATION
LOCATION WITHIN PARK
NATIONAL CEMETERY
NAME OF PARK
VICKSBURG N.M.P. & N.C.
SOUTHEAST REGION | WARREN COUNTY | MISSISSIPPI STATE

DRAWING NO. 306 41,009
PKG. NO. 126
SHEET 1 OF 4

CONSTRUCT DOWNDRAIN
SEE SHT. 4 FOR DETAILS

HUB
180.88

HUB 7
164.28

SCARIFY AND REGRADE AS SHOWN
PLACE TOPSOIL & SODDING
ON OLD ABANDONED ROADBED

SLOPE INTO EXISTING GRADE

8-10% SLOPE

2% SLOPE

ROAD BED

GUTTER EXIST GRADED

CONSTRUCT 110' L.F. OF ASPHALT PAVED GUTTER

CONSTRUCT DROP INLET
SEE SHT. 3
FOR DETAILS

10 FT.

CONNECT PAVED GUTTER TO EXIST. GRADED GUTTER

SLOPE AS SHOWN
PLACE TOPSOIL & SODDING
ON ROAD SHOULDER

HUB 4
190.45

HUB 5
185.01

INTERPRETATIVE
PLAQUE SIGN

SCARIFY AND REGRADE AS SHOWN
PLACE TOPSOIL & SODDING
ON OLD ABANDONED ROADBED

HUB 6
164.25

CONSTRUCT 130 L.F.
OF ASPHALT PAVED
GUTTER

SLOPE INTO EXIST.
GRADE

8-10% SLOPE

2% SLOPE

ROAD BED

SEAL COAT & CHIPS

GUTTER

MOD SONC CURB & GUTTER

25' TRANSITION CURB & GUTTER

10' PIPE CULVERT (TRENCHED)

CONSTRUCT DROP INLET & JUNCTION BOX SEE SHT. 3
RAISE GUTTER 12" ON NORTH SIDE & SLOPE TO D.I.

CONSTRUCT DOWNDRAIN (CMP) SEE SHT. 4 FOR DETAILS

0+00 BEGIN ALIGNMENT
ELEVATION 180.4

STA. 0+05
CONSTRUCT DROP INLET AND JUNCTION BOX SEE DETAIL SHEET 3

HUB 10
211.81

ROAD SHOULDER

PARKING

ROAD

GUTTER

6" MOD CONC. CURB & GUTTER

BITUMINOUS PAVEMENT

40' TRANSITION CURB & GUTTER

TREND REALIGNMENT

CONSTRUCT 6" PIPE UNDERDRAIN
500 SQ. YDS. DISTURBED AREA

END CAP
STA. 2+10

CONC GURB AND GUTTER

22" MAGNOLIA

ARBOR

GRAVE SITES

TERRACE

TERRACE

TERRACE

EXIST GRADED GUTTER

30" TULIP

8" ARBORVITAE

STA.	Δ	RADIUS	L.C.
0+00			
	71°	35'	43.37'
0+43.37			
	40°	80'	55.85'
0+99.22			
	40°	35'	24.43'
1+23.65			
	29°	135'	68.24'
1+91.98			

scale 10 0 10 20 feet

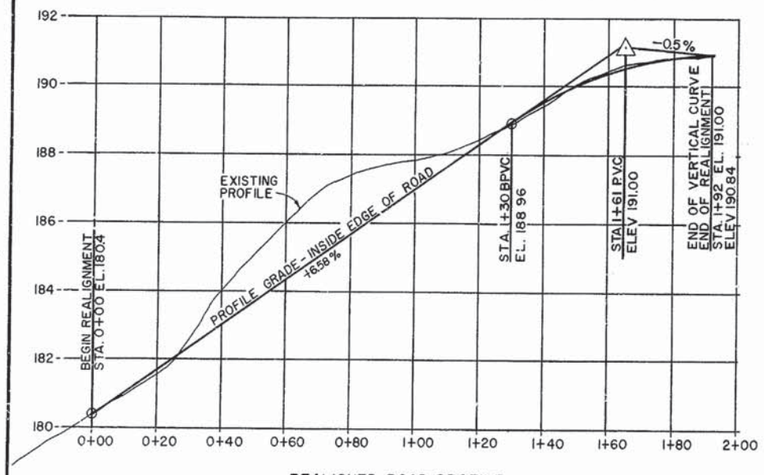
ROAD BANK STABILIZATION

NATIONAL CEMETERY
VICKSBURG N.M.P. & N.C.

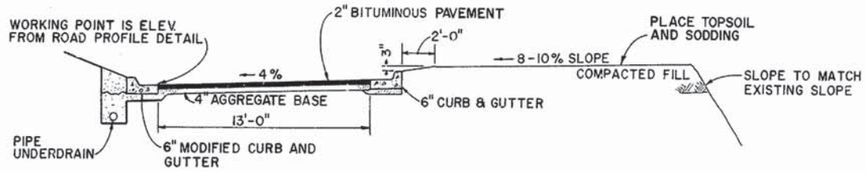
SOUTHEAST WARREN MISSISSIPPI

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McLEOD	306
DESIGNED CALDERONE	41,009
STACKS DRAWN	PKG. NO. 122 / SHEET 2
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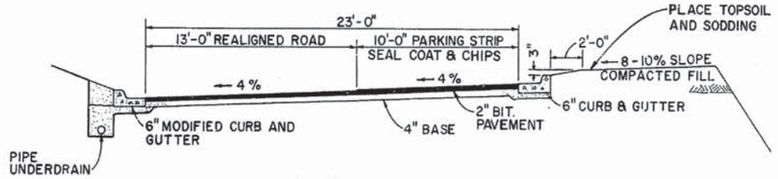
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REALIGNED ROAD PROFILE

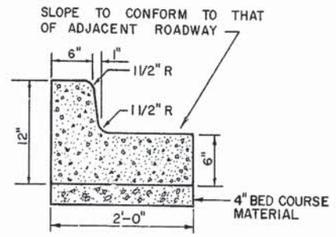


SECTION "A-A"



SECTION "B-B"

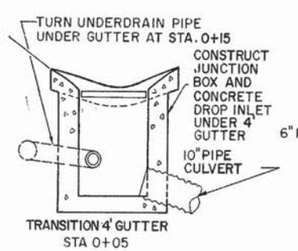
SCALE 4 2 0 4 8 FEET



6" CONCRETE CURB AND GUTTER

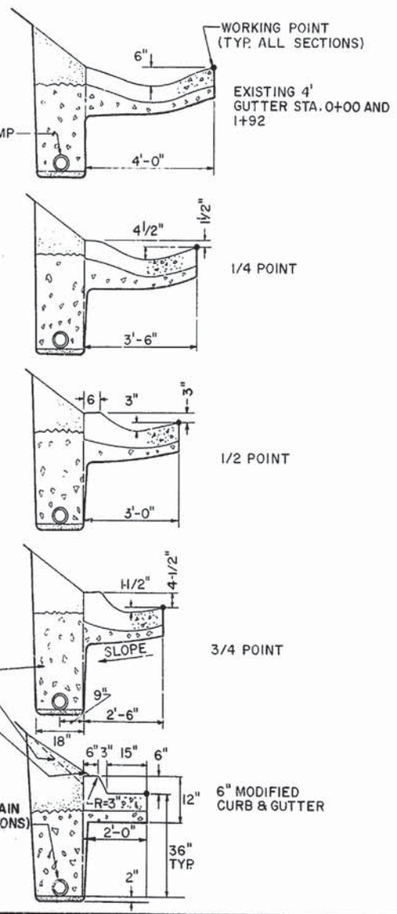
DETAIL

NOT TO SCALE

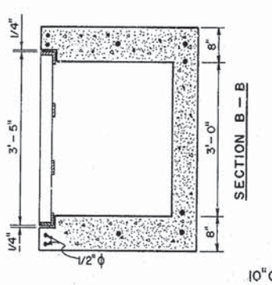


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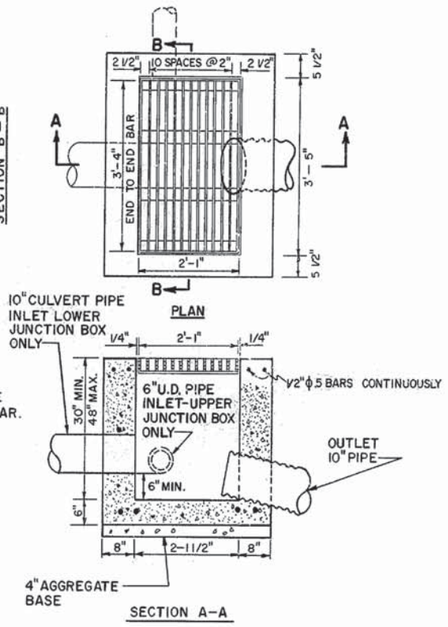
1. WORKING POINT IS ELEV. FROM ROAD PROFILE DETAIL.
2. MIN. THICKNESS OF GUTTER = 6".
3. MIN. THICKNESS OF BASE = 4".
4. SLOPE SUB-BASE UNDER CURB & GUTTER TOWARDS UNDERDRAIN
5. SEE PIPE UNDERDRAIN DETAILS FOR MATERIAL & PLACEMENT.



TRANSITION SECTION FROM EXISTING 4 FT. GUTTER TO MODIFIED 6" CURB & GUTTER - WITH PIPE UNDERDRAIN



NOTE:
STRUCTURAL STEEL REQUIRED
13 BARS 3"X 1/2" X 3'-4"
6 BARS 3"X 1/2"X 2'-1"
ALL CONNECTIONS TO BE MADE BY WELDING EACH SIDE OF BAR.



DROP INLET
OR
DROP INLET AND JUNCTION BOX
NOT TO SCALE

IMPERVIOUS MATERIAL SHALL CONTAIN SUFFICIENT GRANULAR MATERIAL TO BE STABLE WHEN WET & SHALL BE COMPACTED IN PLACE. (WHEN TRENCH IS UNDER ROADBED, PAVED PATCH OR OTHER STRUCTURE, CARRY PERVIOUS BACKFILL TO TOP OF TRENCH.)

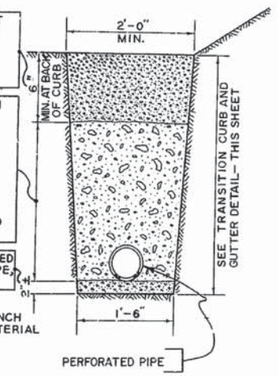
PERVIOUS, GRANULAR BACKFILL (AS COARSE, CLEAN CONCRETE SAND):

PASS 3/8" SIEVE	100 %
PASS #4 SIEVE	50% MIN.
GRADING OF FRACTION PASSING #4	
PASS #50	10-30%
PASS #100	0-10%
PASS #200	0-2%

TAMP BACKFILL INTO PLACE WHERE TRENCH IS UNDER ROADBED OR STRUCTURE. IF NECESSARY TO PREVENT SEGREGATION, DAMPEN BEFORE PLACING.

BEDDING OF PERVIOUS BACKFILL, OR WHERE DIRECTED BY CONTRACTING OFFICER TO CONFINE FLOW TO PIPE, A BEDDING OF TAMPED IMPERVIOUS MATERIAL.

WORK GRANULAR MATERIAL INTO SOFT MUCKY TRENCH BOTTOMS FOR STABILIZATION PRIOR TO PLACING MATERIAL BEDDING MATERIAL.



6" PIPE UNDERDRAIN

NOT TO SCALE

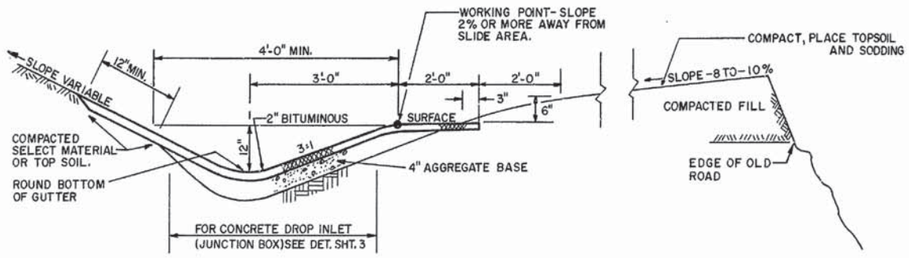
DETAILS

NATIONAL CEMETERY

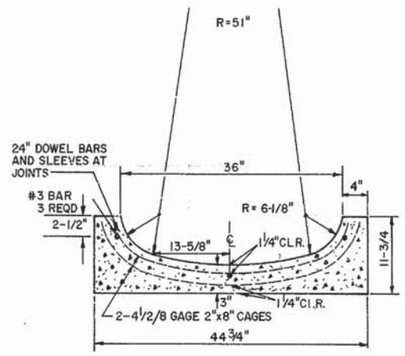
VICKSBURG N.M.P.

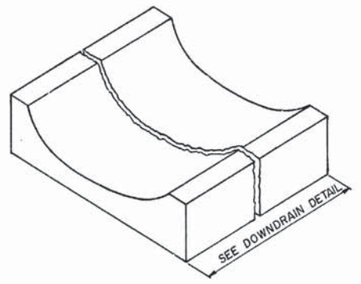
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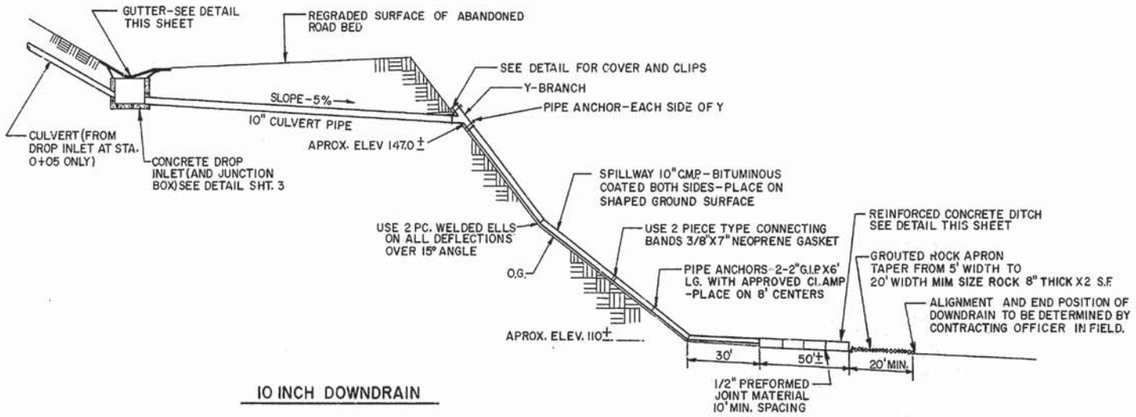


OLD ROAD BED REGRADING AND PAVED GUTTER

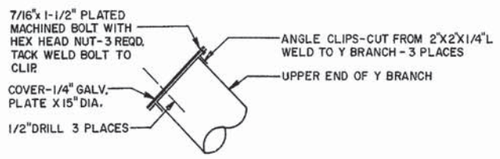




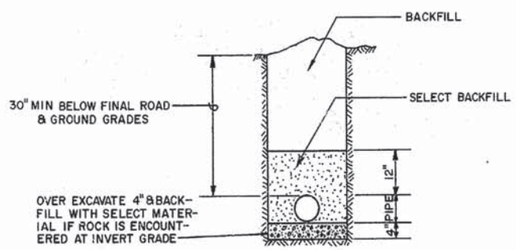
CONCRETE DITCH



10 INCH DOWNDRAIN



Y-BRANCH CLEAN-OUT COVER



PIPE TRENCH DETAIL

DETAILS

NATIONAL CEMETERY

VICKSBURG N.M.P.

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Appendix C: Replacing Trees in Cultural Landscapes

National Park Service, Olmsted Center for Landscape Preservation. "Replacing Trees in Cultural Landscapes." *Clippings: Concepts and Techniques for Maintaining Cultural Landscapes*.

Massachusetts Department of Conservation and Recreation. *Terra Firma: Putting Landscape Preservation on Solid Ground, 2: Caring for Mature Trees in Historic Landscapes*.

National Park Service
U.S. Department of the Interior



clippings

Concepts and Techniques for Maintaining Cultural Landscapes

IN THIS ISSUE

1 INTRODUCTION

2 REMOVING A TREE STUMP

Promoting a Stump to Decay

3 Grinding a Stump

Extracting a Stump with a Tree Spade

4 Excavating a Stump with a Backhoe

5 REPLANTING A TREE

6 Root Sprout

Planting into a Decayed Stump

7 Mound Planting

Reduced Tree Pit

8 FIELD NOTES

10 RECORD KEEPING

12 FROM THE ARCHIVES

13 REFERENCES

Replacing Trees in Cultural Landscapes

Trees in cultural landscapes are living resources that have determinate life spans. Similar to other living organisms, trees progress through juvenile, mature and senescent stages. Eventually, even with the best of care, they will inevitably deteriorate and die. Field conservation techniques can extend the lifespan of individual trees, but, ultimately specimens will need to be removed from the landscape.

As tree condition deteriorates, structural instability and associated issues of potential failure and safety become more prevalent. Trees that present hazardous situations or no longer effectively contribute to the desired character of a cultural landscape need to be removed and replaced.

Removing and replacing a tree, especially a large older specimen, can be a very invasive procedure. Oftentimes, heavy equipment is needed to cut, dig, pull and haul materials to and from the work site. These activities often cause major disturbance to the landscape. Irreversible damage to important archeological resources, adjacent historic plants, and other important features can occur. In a cultural landscape, these adjacent resources may be irreplaceable or extremely costly to repair. Field techniques that effectively integrate traditional horticulture practice with preservation objectives can ensure that important resources are protected and landscape character is preserved over time.

This publication provides guidance on replacing trees in cultural landscapes using methods that respect the sensitivity and importance of the site and its features. Information is provided sequentially, beginning with removing a tree stump, continuing with procedures for planting a replacement as close to the original location as possible and concluding with a record keeping system to document work accomplished. The goal of these recommendations is to help guide field practices that minimize adverse impacts to the site, prevent damage to important resources and protect the character and integrity of the cultural landscape.

REMOVING A TREE STUMP

When replacing a tree in a cultural landscape, it is often important to plant the new tree as close as possible to the location of the original. By doing so, the historic design and landscape character can be effectively perpetuated. Before replanting, the remaining tree stump must first be removed. This procedure can cause significant damage to the site, archeological resources and adjacent features such as historic plants and structures. When determining the best alternative to use, it is important to consider the vulnerability of adjacent resources, site constraints, landscape management goals and the feasibility of implementation.

Considerations:

1. Site Management

- Is the stump in a location that could cause a safety hazard? If so, does it need to be removed quickly or would a slower method be acceptable?
- How soon after stump removal does a replacement tree need to be replanted?
- Will the removal and replacement procedures adversely affect or impede other site activities such as visitor access, special events, etc.?

2. Proximity of Resources

- Are there archeological resources that need to be studied or documented before disturbing the soil?
- How close are other important resources such as plantings, built landscape features (walls, fences, walkways, sculpture, etc.), structures, roads, etc?
- Can adjacent historic resources be protected during the stump removal process? If damage occurs to adjacent resources can effective repairs be made?

3. Feasibility of Implementation

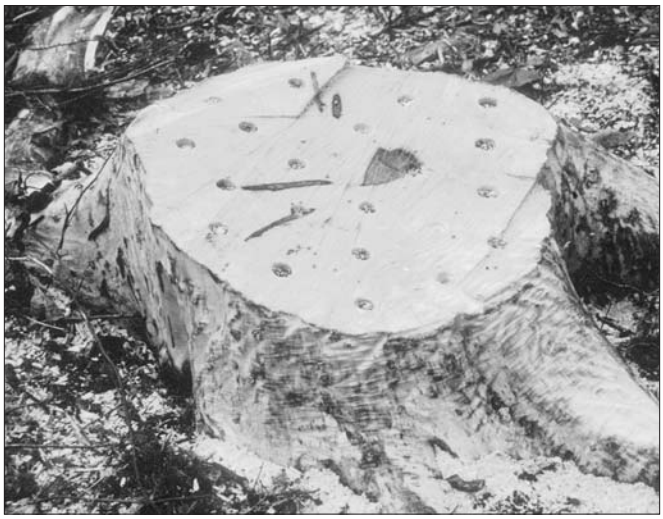
- Is there adequate funding and staffing to accomplish the project?
- Is the needed equipment locally available?
- Is there adequate space available to access the project area and effectively maneuver equipment? How susceptible is the site to equipment damage such as soil compaction or ground disturbance?
- Are there any underground utilities that could be damaged during the process?

PROMOTING A STUMP TO DECAY

Encouraging a stump to decompose is the least invasive method for removal; it is highly localized and causes negligible disturbance to the surrounding area. Because it causes very little ground disturbance, this technique is ideal for removing stumps that are in landscapes with rich archeological resources or other significant features that are susceptible to damage. The process can take 12 to 36 months to be effective, depending on the tree species and local conditions, so, it is best for situations where immediate replanting is not necessary.

Procedures:

- Flush cut the tree trunk as close to the ground as possible and remove bark from the stump.
- Drill a series of holes 3/4 inch to 1 inch in diameter, 6 inches deep and 2 to 3 inches apart into the stump.
- Fill holes with a mixture of 1 part screened compost, 1 part screened topsoil, and 1 part slow release organic high-nitrogen fertilizer such as feather-meal or cottonseed-meal.
- Keep the stump moistened during dry periods and re-fill holes as needed with compost/soil/nitrogen mix.



Promoting decomposition is ideal for removing stumps where site disturbance must be avoided to protect fragile resources.

- Within 12 to 36 months, the stump should be adequately decayed to remove remaining material with hand tools. After removal, backfill the hole with soil that matches the texture and composition (sand:silt:clay) of the original soil as closely as possible.

GRINDING A STUMP

A stump grinder can quickly remove an existing stump and cause limited disturbance to adjacent resources. The operator uses the equipment to remove the tree stump and large roots to a desired depth. The machine's range of motion is not precise enough to follow the exact outline of a stump and will result in some adjacent ground disturbance. This can result in damage to archaeological features or roots of nearby plants. Using a stump grinder is best for situations that require immediate replanting and in locations where important resources are not directly adjacent to the worksite.



Using a grinder to remove tree stumps causes minimal site disturbance and allows replanting in the same location.

Procedures:

- Determine if there are any adjacent resources that may be adversely impacted by the use of the equipment.
- Select the smallest equipment possible that will remove the stump to the desired depth. If immediate re-planting is necessary, the depth of the ground stump should be at least six inches more than the height of the replacement plant root ball to allow for adequate backfilling of the planting hole.
- Protect adjacent plants by tying back branches and placing guards, such as plywood sheets, against nearby tree trunks to shield them from possible damage.
- Lay 1 inch plywood sheets or construction matting on the ground where the machine will be operated to minimize soil disturbance and compaction. A double layer of sheeting laid in a criss-cross pattern provides the best protection. In addition, lay planking or matting on the soil along the route the equipment will use to gain access to the work site.
- Grind the stump to a width and depth necessary to plant a replacement. Remove resulting wood chips and debris using hand tools.
- Backfill the hole with soil that matches the texture and composition (sand:silt:clay) of the original soil as closely as possible.

EXTRACTING A STUMP WITH A TREE SPADE

A tree spade uses hydraulically driven blades that cut through the ground to form and extract a core of soil, stump and roots. While the mechanical action of a tree spade is highly localized and causes minimal site disturbance, the equipment is usually large and can remove a substantial volume of soil. As a result, soil compaction, damage to nearby plantings and loss of archeological resources can occur. Use this method in areas where there are no significant archeological resources and there is adequate space for the equipment to access and maneuver within the site.

Procedures:

- Determine if there are any adjacent resources that may be adversely impacted by the use of the equipment.
- Select the smallest tree spade that can effectively remove the stump. The lifting capacity of the equipment needs to be adequate to pull the stump from the ground.
- Protect adjacent resources by tying back branches of plants and placing guards, such as 1 inch plywood sheets, against nearby tree trunks and structures to shield them from possible damage.
- Lay 1 inch plywood sheets or construction matting on the ground where the machine will be operated to minimize soil disturbance and compaction. A double layer of sheeting laid in a criss-cross pattern provides the best protection. In addition, lay planking or matting on the soil along the route the equipment will use to gain access to the work site.



A tree spade can be used to remove stumps in locations where the use of larger equipment will not damage resources.

- Adjust blades to be as close to the stump as possible for removal. Localizing the mechanical action close to the stump will result in less damage to the surrounding area.
- Extract the stump and soil core and remove from the site. Backfill the hole with soil that matches the texture and composition (sand:silt:clay) of the original soil as closely as possible.

EXCAVATING A STUMP WITH A BACKHOE

Using a backhoe requires substantial digging around and under a stump in order to remove it. This causes significant disturbance to the site and can result in extensive damage to adjacent archeological resources, structures and plants. Only use this method where there is at least fifteen feet clearance from the work site to the nearest resource that could be damaged.

Procedures:

- Determine if there are any adjacent resources that may be adversely impacted by the use of the equipment.
- Select the smallest backhoe that can effectively remove the stump. The equipment must be large enough to dig around and under the stump (a 3 foot diameter stump may extend 4 or 5 feet down into the ground). In addition, the lifting capacity of the equipment needs to be adequate to pull the stump from the ground.
- Protect adjacent resources by tying back branches of plants and placing guards, such as 1 inch plywood sheets, against nearby tree trunks and structures to shield them from possible damage.
- Lay 1 inch plywood sheets or construction matting on the ground where the machine will be operated to minimize soil disturbance and compaction. A double layer of sheeting laid in a criss-cross pattern provides the best protection. In addition, lay planking or matting on the soil along the route the equipment will use to gain access to the work site.
- Use the backhoe to excavate a 2 foot wide trench around the stump. The trench should be deep enough to under cut the stump with the backhoe, typically this will be at least 1.5 times the diameter of the stump. For example a 2 foot diameter stump would typically require at least a 3 foot deep trench to successfully undercut.
- Use a hand or chain saw to cut large roots (2 inches in diameter or larger) as they are exposed by the digging.
- Using chains, slings or other rigging devices, pull the stump from the excavated hole and remove from site. Back fill hole and regrade area with soil that matches the texture and composition (sand:silt:clay) of the original soil as closely as possible.



Use of a backhoe to remove a tree stump can cause significant site disturbance and should be used only in locations where adjacent resources can be well protected.

REPLANTING A TREE

Replacing trees that have been removed from cultural landscapes is an important part of preserving historic character. The procedures used to replant trees, however, if not carefully planned, can be disruptive and damaging to resources adjacent to the planting site.

Selecting planting techniques for replacing trees in cultural landscapes begins with considering many of the same factors used in choosing procedures for stump removal. For example, are there fragile resources near the planting site that will limit equipment access; will the planting process impede other site activities; and, is there adequate funding available to replace the plant using the desired procedure?

Considerations:

1. Site Management

- Do current planning and preservation objectives support the replacement of the tree?
- Does replacement of the tree support contemporary use and activities at the site?

2. Planting Location

- What size does the replacement tree need to be?
- Will preparing the planting hole require moving soil where it has not been previously disturbed?
- Has the stump and root system been adequately removed to prepare for planting a replacement?
- Since the removal of the original plant, have there been any changes to the site or environment that may adversely affect the replacement tree?
- Is there adequate light exposure, water for irrigation and space for the replacement tree to establish and grow?
- Did the previously removed tree have a root disease that could infect the replacement tree?
- Will the newly planted tree require staking or guying that could impede site circulation or activities?

3. Feasibility of Implementation

- Is there adequate funding and staffing to replace and maintain the replacement tree?
- Are there nursery sources available for the replacement plant or is it a unique type that is not commercially available?
- Are there any local, state or federal policies regarding the particular species to be planted?



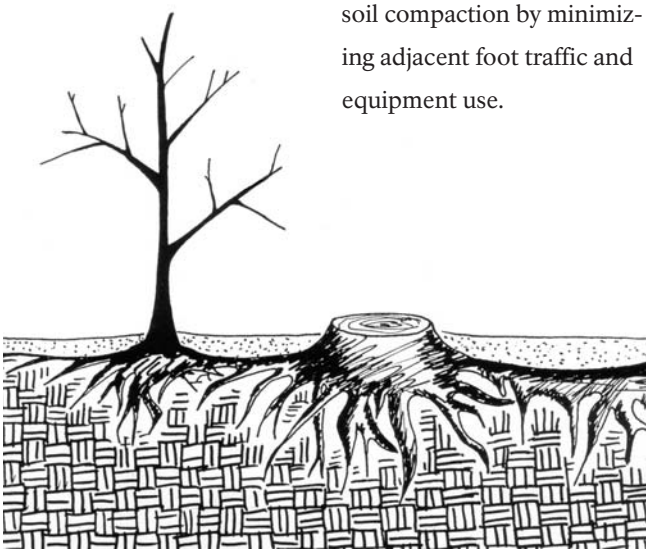
Using a horse drawn wagon to move a large tree for planting, c. 1860.

ROOT SPROUT

Encouraging growth of a healthy root sprout can be an ideal strategy for replacing deteriorated historic trees. The procedure retains the genetic authenticity of the original plant and requires no soil or site disturbance to implement. Before implementing this strategy, determine that the tree is not a grafted specimen. A tree that has been grafted will have a root system that is genetically different from the rest of the plant. A root sprout from a grafted tree may grow to be a completely different plant than desired. Grafted trees can often be determined by an enlarged "graft union" at the base of the trunk.

Procedures:

- Select a vigorous root sprout that has strong growth characteristics and is well anchored into the soil and connecting root system of the original tree. If possible, allow the original tree to remain in place until the root sprout is well established. This may take 2 to 4 years.
- After removing the original tree, allow the stump to remain and naturally decompose. Removal of the stump may cause damage to the root sprout.
- Mulch around the base of the root sprout to prevent weeds from growing and competing with the root sprout and to maintain soil moisture for optimum growth. Keep mulch 6 to 12 inches away from the trunk and bark of the root sprout.
- Protect the root sprout from problems associated with soil compaction by minimizing adjacent foot traffic and equipment use.



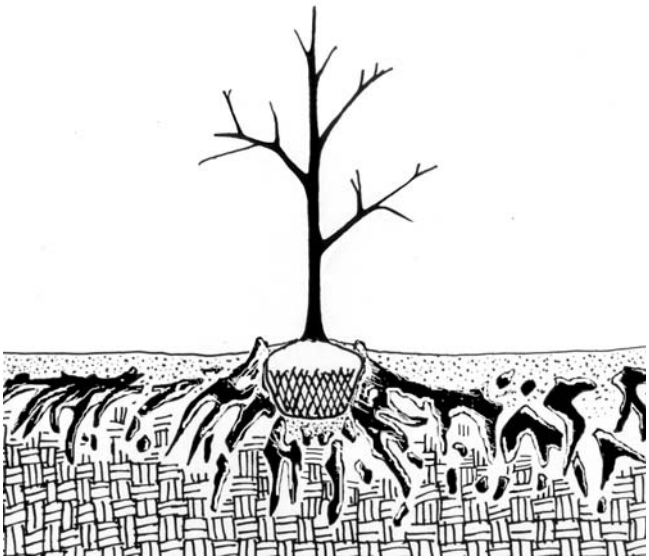
Encouraging the growth of a root sprout is ideal for replacing a tree in locations where site disturbance must be avoided.

PLANTING INTO A DECAYED STUMP

A tree can often be replanted in the location of a decayed stump. This can be an ideal method for replacing trees in areas that have rich archeological resources because it causes very minimal site disturbance. Replacement plants with small rootballs are best suited for this approach because preparation of a smaller hole is needed for planting.

Procedures:

- Assess the extent of decay within the stump. Replanting in the same location will only be effective if the decomposition is well advanced.
- Select the smallest acceptable plant size for replacement. The rootball must be small enough to fit into the decomposed area of the stump with at least 6 to 8 inches of additional space around the roots to backfill with soil.
- Using hand tools, break up and remove the decayed wood remaining from the stump. Create adequate space for planting the rootball and backfilling with soil.
- When planting, elevate the top 2 to 3 inches of the rootball above the surrounding grade.
- Backfill the hole with soil that matches the texture and composition (sand:silt:clay) of the original soil as closely as possible.



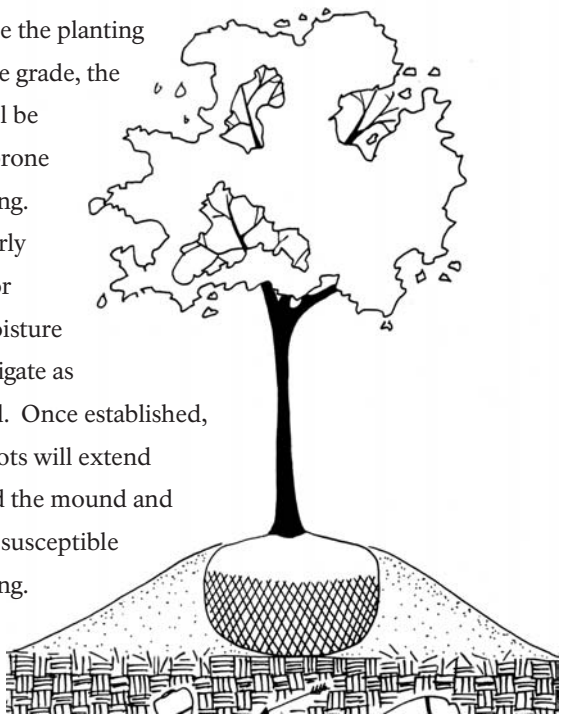
Planting in the same location as a decayed stump allows replacing trees in the exact location as the original.

MOUND PLANTING

Mound planting can be a very effective method for replacing a tree where it is necessary to minimize ground disturbance. This technique mounds soil around a root ball that is placed on the existing grade. The method does not affect underground resources, such as archeological materials or roots of adjacent plants; however, it alters site grading and can change the visual character of the landscape. It is best to use replacement plants with small root balls in order to reduce the amount of soil mounding needed for planting.

Procedures:

- Using a rake, scarify the parent soil to a depth of 2 inches.
- Place tree so that its rootball rests solidly on the ground and the trunk stands upright.
- Mound soil around rootball using fill that matches the texture and composition (sand:silt:clay) of the original soil as closely as possible.
- Taper the mound into the surrounding grade a minimum distance of five times the width of the rootball. Using a replacement tree with the smallest acceptable rootball will minimize the size of the mound required. Mulch to prevent soil erosion.
- Because the planting is above grade, the soil will be more prone to drying. Regularly monitor soil moisture and irrigate as needed. Once established, tree roots will extend beyond the mound and be less susceptible to drying.



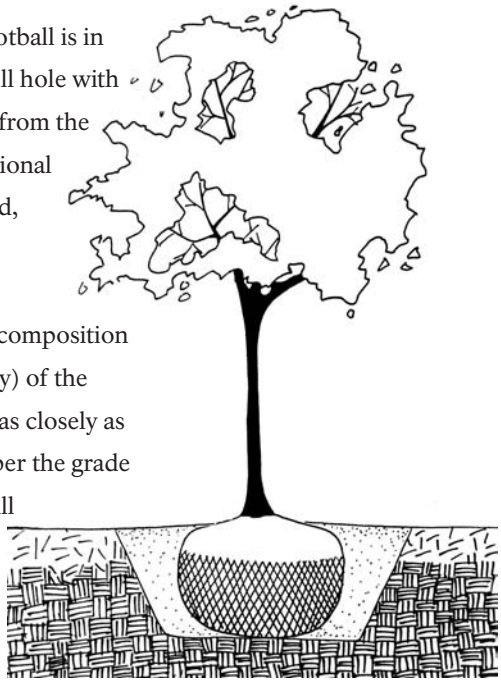
Mound planting is highly effective to minimize disturbance of archeological resources or roots of adjacent plants.

REDUCED TREE PIT

Preparing a smaller planting hole causes less disturbance to the site and adjacent resources as compared to the damage that can be caused by digging a larger planting pit. Traditional horticultural recommendations for planting a tree involve preparing a bowl shaped hole 2 to 3 inches shallower than the depth of the rootball and 3 to 5 times the width of the rootball to be planted. This approach, while good for the plant, can cause significant soil disturbance that damages archeological features, nearby plants, and other adjacent cultural resources. Preparing a planting hole with a reduced width combined with the traditional horticultural recommended bowl shape and shallow depth can significantly reduce disturbance to the site and adjacent cultural resources. Use this method when planting within the root zones of other important vegetation or where the preparation of a larger planting hole would damage adjacent resources.

Procedures:

- Select a replacement tree with the smallest acceptable rootball size.
- Prepare the planting site by digging a hole twice the width of the rootball at the grade surface, tapered slightly to the hole bottom in a bowl-like shape. The depth of the hole should allow for 2 to 3 inches of the top of the rootball to extend above the surrounding grade.
- Once the rootball is in place, backfill hole with original soil from the site. If additional soil is needed, use fill that matches the texture and composition (sand:silt:clay) of the original soil as closely as possible. Taper the grade of the backfill soil to the top of the rootball.



Reducing the size of the planting hole can help protect adjacent resources.

field notes

In most Olmsted designs, mature trees serve a vital role in establishing the landscape's character. When initially constructed, large trees were often transplanted from other locations in order to create a landscape where the design intent was immediately achieved with sizeable plants.

Transplanting large trees, as practiced by the Olmsted firm, required extensive excavation in order to retain and protect as many existing roots as possible and ensure survival of the tree. Nevertheless, transplanting of larger plants was a technique that was successfully implemented to achieve a desired design effect on many projects.



Culyer's tree moving machine.

Frederick Law Olmsted, Sr. had large trees successfully transplanted on some of his most important design projects. During the 1850's while working on New York's Central Park in collaboration with Calvert Vaux, F.L. Olmsted Sr. endorsed the use of "extra sized trees" to establish the look and feel of a mature landscape. In their "Greensward Plan" for the park, F.L. Olmsted specified large American elms along the park's promenade. In his opinion, this species had "the vigor and vitality of a young tree until it has grown to be of large size, and will, therefore, bear to be successfully transplanted for immediate effect."[1] In the early 1870's, at Brooklyn's Prospect Park, F.L. Olmsted once again relied on the planting of mature trees. Olmsted and Vaux intended to "augment the existing landscape" with the planting of large trees and with groves and shrubbery.[2] To facilitate this vision, F.L. Olmsted directed workers to transplant many existing large trees and shrubs from within the property. Much of this work was performed with the aid of a tree moving machine invented specifically for the job by the park's assistant engineer John Culyer. With the use of Culyer's invention, crews transplanted 284 trees during 1872, most of them mature specimens.

Despite proven successes, there were problems associated with large tree moving. Generally, the Olmsted Brothers and other members of the firm refrained from recommending this practice to


Mature trees ready for transporting by barge, c. 1900.



Field team after preparing a mature tree for transplanting, c. 1920.



Moving a mature bare root tree. Isaac Hicks and Son Nursery, c. 1860.

clients in later years. The procedure was inherently expensive, required significant planning and site preparation, a highly skilled field team, caused major site disturbance and often resulted in high tree mortality with most survivors achieving only stunted growth in subsequent years. In several writings, John Charles Olmsted indicated that "the consensus of opinion of all experts is to the effect that it is preferable to plant trees of nursery sizes," and landscape architects should discourage clients from planting large trees whenever possible to minimize adverse impacts to the landscape and "avoid the waste of money and lack of success."[3]

However, despite his misgivings, the Olmsted firm did continue, on occasion, to plant large trees. John Charles Olmsted conceded it could be considered "good policy" in special cases where an immediate impact was desired, including his father's previous use of the American elms on the Central Park promenade, a case he believed where "the result justifies the disregarding of the general rule."[4]

Perhaps the most important factor in ensuring the continued use of this technique by the firm was John Olmsted's deference to a well-informed client. He believed in a professional setting, whatever the landscape architect's personal views, the client's wishes and resources were often the deciding factor in determining how a job was to be implemented. If clients "were willing to pay what it costs to move trees in the best possible manner," which included the use of skilled workers supervised by an experienced landscape architect, then Olmsted conceded "there is no sufficient reason why they should not have what they are willing to pay for."[5]

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[1] Charles E. Beveridge and David Schuyler, editors, *The Papers of Frederick Law Olmsted: Volume III Creating Central Park, 1857-1861* (Baltimore, Maryland: The Johns Hopkins University Press, 1983), p. 154.

[2] Richard J. Berenson and Neil deMause, *The Complete Illustrated Guidebook to Prospect Park and the Brooklyn Botanic Garden* (New York: Silver Lining Books, 2001) p. 27.

[3] James L. Greenleaf, *Large Tree Planting, March 4, 1905, from Transactions of the American Society of Landscape Architects, 1899-1908* (Source: ASLA, Washington, DC).

[4] *Moving Large Trees, 1861.* Courtesy of the National Park Service, Frederick Law Olmsted National Historic Site (Olmsted NAB NAC Collection, NAB 1861).

[5] Ibid.

RECORD KEEPING

Recording information about the removal and replacement of trees in cultural landscapes can provide valuable documentation for future reference. As years pass and personnel changes, records of previously accomplished work can inform current preservation and management decisions.

Detailed information related to work performed, changes in condition and sources of materials should be recorded. A record keeping form, such as the one illustrated, can be used to document information. If time for recording information is limited, at a minimum, receipts, field notes and other documentation related to tree removal and planting should be retained until such time that it can be transferred to a more permanent format.

Information that should be collected and recorded includes:

- Date the work was performed and weather conditions
- Location of planting including a map and photographs
- Information regarding the protection of adjacent resources
- Size of the tree removed and/or replanted
- Method used to remove the stump and replant the tree
- Source of replacement materials including the tree, backfill soil, mulch, etc.
- Recommendations or observations from cultural resource specialists such as archeologists, landscape architects, etc.
- Additional information that future landscape staff would find useful to understand the history and scope of work accomplished

Statue of Liberty National Monument

RECORD KEEPING - FEATURE: LONDON PLANE TREE

Record notes on measurements, conditions, work performed, reason for removal, replacement or installation, propagation method and growing location, status of feature, or reference to a related report, etc.	Measurement	Condition/ Problem	Major Work/ Change	Removal	Replacement	Installation	Propagation	Other	Date and Initials Also note references for any additional information
All deadwood and watersprouts removed by Arboriculture class from University of Massachusetts.			X						AF 8/92
Replaced tree #4-0-26 with London Plane Tree, anthracnose-resistant cultivar 'Columbia'. Installed through Gardener Intake Project.					X				AF 4/93
#4-0-26 damaged by vandalism, re-set and restaked.		X							AF 5/93
Removed and replaced #4-0-37 with London Plane Tree, anthracnose resistant cultivar 'Liberty' in order to compare with 'Columbia'.					X				AF 5/93
#4-0-26 'Columbia' and #4-0-37 'Liberty' both in fairly good condition. Both received water by gator bag 1x a week during July and August.		X							XAF 8/93

Sample record keeping form documenting field work accomplished.

OLMSTED CENTER *for* LANDSCAPE PRESERVATION

RECORD KEEPING - FEATURE: _____

Record notes on measurements, conditions, work performed, reason for removal, replacement or installation, propagation method and growing location, status of feature, or reference to a related report, etc.	Measurement	Condition/ Problem	Major Work/ Change	Removal	Replacement	Installation	Propagation	Other	Date and Initials

from the archives











Photo captions:

1. Isaac Hicks and Son Nursery transporting a large tree for planting, c. 1860.
2. Tree planting crew, Lincoln Memorial, Washington, D.C., c. 1915.
3. Preparing a large tree for transplanting, c. 1860.
4. Removing a tree in preparation for transplanting, c. 1870.
5. Preparing to plant a large tree at Lincoln Memorial, Washington, D.C., c. 1915.

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United States Department of the Interior
http://www.nps.gov

Olmsted Center for Landscape Preservation
National Park Service
United States Department of the Interior
http://www.nps.gov/oclp

National Association for Olmsted Parks
http://www.olmsted.org/

Historic Landscape Initiative
Heritage Preservation Services
National Park Service
United States Department of the Interior
http://www.cr.nps.gov/hps/hli/

The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes
National Park Service
United States Department of the Interior
http://www.cr.nps.gov/history/online_books/hps/contents.htm

Links to the Past
National Park Service
United States Department of the Interior
http://www.cr.nps.gov/landscapes.htm

Credits:

Courtesy of the *National Park Service, Frederick Law Olmsted National Historic Site*:
Historic photographs on pages 1 (masthead, left and right), 5, 8, 9, and 12.

Courtesy of the *National Park Service, Olmsted Center for Landscape Preservation*:
Photographs on page 1 (masthead, middle, and background), 2, 3, and 4.
Line drawings on pages 6 and 7.
Forms on pages 10 and 11.

Clippings is a series produced by the United States Department of the Interior, National Park Service, Olmsted Center for Landscape Preservation in partnership with the National Association for Olmsted Parks. This series, published periodically, addresses cultural landscape preservation maintenance and stewardship topics. Comments on the content of this publication may be sent by email to the Olmsted Center for Landscape Preservation *(FRLA_olmsted_center@nps.gov)*.

OLMSTED CENTER
for LANDSCAPE PRESERVATION

The Olmsted Center for Landscape Preservation, a program of the Northeast Region, National Park Service, promotes the stewardship of cultural landscapes through research, planning, sustainable preservation maintenance and education. The center perpetuates the tradition of the Olmsted Landscape Architecture Firm and Frederick Law Olmsted Sr.'s lifelong commitment to people, parks and public spaces.

The National Association for Olmsted Parks (NAOP) advances Olmsted principles and the legacy of irreplaceable parks and landscapes that revitalize communities and enrich people's lives. Established in 1980, NAOP is a coalition of design and preservation professionals, historic property and park managers, scholars, municipal officials, citizen activists and representatives of numerous Olmsted organizations around the United States.



TERRA FIRMA

PUTTING HISTORIC LANDSCAPE PRESERVATION ON SOLID GROUND

"The best friend on Earth of man is the tree: when we use the tree respectfully and economically we have one of the greatest resources of the earth." Frank Lloyd Wright

2

CARING FOR MATURE TREES IN HISTORIC LANDSCAPES

WHAT MAKES A TREE HISTORIC?

TREE CARE WITH A PRESERVATION PERSPECTIVE

PLANNING FOR THE FUTURE: TREE REMOVAL AND REPLACEMENT

TREES IN HISTORIC BURIAL GROUNDS: SPECIAL CONSIDERATIONS

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION



1

Littleleaf linden tree, Marshfield

CARING FOR MATURE TREES IN HISTORIC LANDSCAPES

Massachusetts is filled with historic landscapes - places that, through a combination of natural and human-made features, help tell the story of a historic event, activity or person, or reflect a community's historical development or traditions. Trees greatly enhance many historic landscapes, such as town commons, public parks and cemeteries; in many cases, it is nearly impossible to imagine these places without trees. Along with other vegetation, trees affect the scale, light, color palette and even the smell of a landscape - in short, how we experience and remember these important places. The protection and thoughtful treatment of trees is therefore a critical element of almost any historic landscape preservation effort.

This issue of Terra Firma focuses on the care of mature trees, with a special focus on the treatment of trees in historic landscapes. It provides information on identifying trees that are historically significant, providing basic care for mature trees and selecting an appropriate replacement when a tree must be removed. It is not a comprehensive guide to tree care and does not address all issues related to vegetation in historic landscapes. Resources that provide further guidance are noted throughout the text and on the back cover.



For general information on the identification and preservation of historic landscapes, see Issue No.1 of Terra Firma, available at www.mass.gov/dcr/stewardship/histland/histland.htm or (617) 626-1250.

HISTORIC TREES

Allée, North Andover



2

Council Oak, Dighton — after lightning strike



3

"Each generation takes the earth as trustees. We ought to bequeath to posterity as many forests and orchards as we have exhausted and consumed." J. Sterling Morton

WHAT MAKES A TREE HISTORIC?

Many people recognize trees as important natural resources - they clean our air, cool our city streets and protect our watersheds. But many trees are also significant as historic resources, either individually or by contributing to the overall character of a historic landscape. While a majestic oak may mark the site of an important event, an apple orchard may reflect regional agricultural traditions. Ornamental trees in a historic garden may tell us not only about the intent of the landscape designer but also about the aesthetics of a certain time period. Trees in less formal settings, dotting a town common, for example, may not have been planted according to an overall plan, but are no less important in establishing the character of the landscape.

The Commonwealth's rich collection of historic landscapes incorporates an equally important collection of historic trees.

1 Littleleaf linden tree, Marshfield This massive linden tree on the Thomas-Webster Estate in Marshfield is historic not only in its size and placement within the estate, but for its association with Daniel Webster.

2 Allée, North Andover Two rows of evenly planted trees, usually of the same species, create a walk known as an allée, a frequent feature of designed landscapes. This allée along the main drive into the Brooks School in North Andover is flanked by mature London plane trees.

3 Council Oak, Dighton (after lightning strike) Located in present-day Dighton, the Council Oak (see cover) has been a significant meeting place for the Wampanoag Federation for centuries. By 2002 the tree died, having been severely damaged by lightning and a severe windstorm; today only a portion of the trunk survives.

4 Hopkinton Town Common Town commons, like this one in Hopkinton (historic photo), are often dotted or edged with historic trees which are usually intentionally planted and contribute to a community's character.

5 Orchard, Pepperell Orchards, like this example in Pepperell, may reveal the historic use of a property or the agricultural practices of a region. While no one tree may be individually significant, they collectively comprise a rural vernacular landscape.

6 American sycamore, Sunderland This American sycamore in Sunderland is over 112 feet tall, has a circumference of nearly 25 feet, and was standing in 1789 – though it may be much older. It is the largest of its species in the state, and is a Massachusetts "champion tree", a designation based on a tree's trunk circumference, height and crown spread.

American sycamore, Sunderland



Hopkinton Town Common



Orchard, Pepperell



TREE CARE WITH A PRESERVATION PERSPECTIVE

Historic trees, whether they are significant in their own right or as components of a significant landscape, may demand a level of care beyond that provided to other trees. Where the loss of a tree would have a negative impact on a historic landscape, preventive care such as fertilization, mulching, and disease control, is critical to ensure that the tree survives for as long as possible. Similarly, it may be wise to extend the life of a mature tree that has historic value through pruning, cabling or other methods, while in another context a tree in similar condition might be removed. In other words, historic trees should be treated not just from an arboricultural perspective, but also from a preservation perspective.

Well-established trees may not appear to require much care. For example, while new plantings must be regularly watered, natural rainfall may be sufficient for mature trees. However, proper care will increase the health and extend the life of a mature tree. Some tasks may be performed by municipal staff or volunteers, while others are best left to a professional arborist - someone who is specially trained in the care of trees. Selecting an arborist who is certified can offer additional assurance that the job will be done well. Arborists who are certified by the International Society of Arboriculture (ISA) or who have passed the Massachusetts Certified Arborists (MCA) examination must demonstrate a minimum level of knowledge and complete ongoing training in order to maintain their certification.

Basic tree care practices include:

REGULAR INSPECTIONS will help you assess the vitality of your trees and identify any problems, such as dead limbs, signs of disease, detrimental insects or trunk decay.

MULCHING keeps the soil around the tree cool and moist, discourages the growth of weeds and eliminates the need to mow near a tree's base, which can cause damage. Organic mulch should be spread at a depth of 2"-4" and cover as much of the tree's root system as possible. Root systems can extend up to 2-3 times the diameter of a tree's branch spread; when mulching to that extent is not practical or desirable, apply mulch to as much of the area under the tree's drip line as possible. It is very important that mulch not cover any part of the tree trunk, as this can encourage disease and the development of girldling roots; it is best to maintain a mulch-free area for several inches around the tree base.

AERATION can address problems caused by compacted soil by increasing a tree's oxygen supply, root growth and water uptake. Aeration typically involves the drilling of holes in the ground throughout the tree's root zone, and should be performed by a certified arborist.

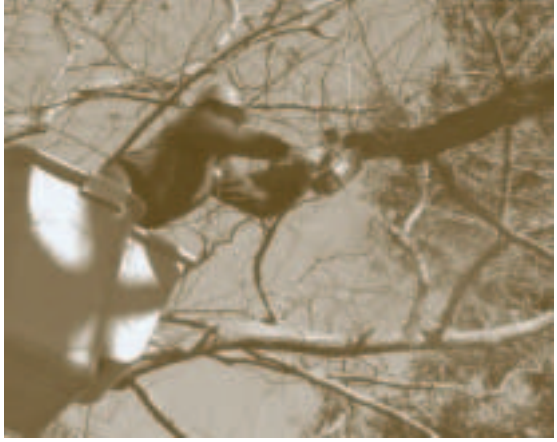
Aeration



Michael Davidsohn, LARP



Cabling



Pruning

INSECT AND DISEASE control methods vary considerably. Depending on the situation, treatment might involve application of insecticides or horticultural oils, or removal of an infected limb, among other solutions. A certified arborist can assist with identifying the nature of the problem and devising a treatment.

CABLING involves the installation of steel cables, attached to screws or bolts that are placed in the tree's limbs, to provide support or limit a tree's movement. Cabling can help prevent the large limbs of a mature tree from breaking during storms or heavy wind, thereby extending the life of a tree. Cabling is a specialized job that should be performed only by a certified arborist. In addition, follow-up inspections by a certified arborist are essential to assess the effectiveness of the cable system.

PRUNING may be necessary to remove dead or diseased limbs, to improve the overall tree structure or to influence the growth of the tree by increasing light and air penetration. Pruning involves the removal of foliage and therefore affects photosynthesis; consequently, over-pruning can limit the tree's ability to grow and can even result in the tree's death. Mature trees must be pruned carefully as they will not tolerate as aggressive a pruning as young trees and the job may require climbing and the use of special equipment. So that the health of the tree and safety of the public is maintained, only a certified arborist should prune mature trees. "Topping" - the removal of branches at the tree's crown to reduce overall height - is never recommended. Topping causes severe stress on the tree and can create hazards. If a tree's height must be reduced, consult an arborist for alternatives to topping.

GIRDLING ROOTS are tree roots that encircle the base of the tree trunk usually as a result of planting the tree too deeply or raising the grade, which may compromise the tree's vascular system and, ultimately, result in death. If detected early, girdling roots may be removed by a certified arborist, thereby extending the life of the tree.



The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes defines nationally-accepted preservation principles and includes recommendations about the treatment of trees in historic landscapes. To purchase, go to http://bookstore.gpo.gov/ or call (866) 512-1800. View an excerpt at www.cr.nps.gov/hps/hli/introguid.htm.

For more information on mature tree care, consult the brochures produced by the International Society of Arboriculture (ISA), available for download at www.treesaregood.com/treecare/treecareinfo.asp or for order at (888) 472-8733.

For tips on how to select an arborist in your area, consult the ISA at www.treesaregood.com/treecare/hire_arborist.asp or (888) 472-8733 or the Massachusetts Arborists Association (MAA) at www.massarbor.org/arborists/index.htm or (508) 653-3320.



Mount Wollaston Cemetery, Quincy

The lack of leaves on the upper branches of this tree indicates that the limbs have died, and may be a sign of poor tree health. Dead limbs have the potential to fall and cause damage – in this case to cemetery visitors and grave markers.

HAZARDOUS TREES: BALANCING PRESERVATION WITH PUBLIC SAFETY

A tree is considered hazardous if it has a defect, such as a decaying trunk, dead limbs or a damaged root system that may cause it to break apart or fall, or if there are targets such as people, buildings, or landscape features that could be harmed if the tree were to fail. Hazardous trees represent a genuine risk to public safety and must be taken very seriously. Regular inspections and maintenance can help identify and prevent problems before they cause harm, thereby reducing liability concerns. Some trees should be watched especially carefully; large, aging trees pose a greater threat than small, young trees and certain species have inherently weaker wood, making them particularly susceptible to stress.

Sometimes, the only way to address a tree hazard is to remove the tree. But some hazards can be rectified through less aggressive means. Removing large, dead branches and cabling weak crotches may adequately reduce the risk of falling limbs. Installing a lightning protection system may prevent a large tree from being struck and killed. A certified arborist should be consulted to help identify tree hazards and determine the best course of action. When dealing with a historic tree - one that is significant in its own right or as part of a historic landscape - it is important to explore all options for addressing hazards before taking the most radical course. When total removal is the most appropriate action, consider carefully what type of tree to plant in its place (see discussion on replacement on page 8).



For more on hazardous trees, consult the ISA's brochure, "Recognizing Tree Hazards" at www.treesaregood.com/treecare/hazards.asp or (888) 472-8733 or the DCR's Homeowner's Guide to Hazardous Trees, available at (413) 256-1601.

Memorial Drive, Cambridge

Although a tree may appear healthy in the upper branches, the trunk is oftentimes weak. This tree trunk along Memorial Drive was originally scarred by cars, and subsequent rot and insect infestation created a major hazard along a busy urban parkway. This tree has since been removed.



PLANNING FOR THE FUTURE: TREE REMOVAL AND REPLACEMENT

Trees are organic - they grow, mature and ultimately decline. With proper care and maintenance, a tree's death can be delayed, but should nonetheless be planned for as an eventuality. It is especially important to plan an appropriate approach to the removal and replacement of trees that have historic value. Removal techniques should be designed to have minimal impact on other historic features, and decisions about replacement trees should be made from a landscape preservation perspective.

MINIMIZING IMPACTS

Removing a mature tree can be dangerous and should only be undertaken by a professional. In addition, removal can involve substantial excavation, as tree roots may extend 2-3 times the diameter of the branch spread. In a historic landscape, it is generally best not to attempt to remove a tree's root system but, rather, to cut the trunk to grade and either allow it to decay over time, or perform limited grinding that does not extend beyond the diameter of the trunk. This prevents the disturbance of other landscape features that may be in the vicinity of the tree - such as additional vegetation, turf, walkways or fences. It also lessens the risk of disturbing archaeological remains located below ground as many historic landscapes are considered "archaeologically sensitive" sites; that is, they have the potential to contain prehistoric or historic artifacts that, if disturbed, could lose much of their historic value. The removal of trees in burial grounds, in particular, must be approached very carefully (see discussion page on 10).

Planting a tree, which requires digging a hole as much as three times the diameter of the root ball, also has the potential to disturb other landscape features and archaeological artifacts. Locating the new tree in the same location as or next to a previous planting (interplanting) may minimize the impact, since the soil in that area has already been disturbed. In any landscape that is potentially archaeologically sensitive, consult with the archaeological staff at the Massachusetts Historical Commission (MHC) for guidance prior to removing an old tree or planting a new one. Depending on the source of funding for the work, for example if the tree work is part of a project that received a state or federal grant, you may be required to consult with the MHC. In this case, MHC staff would review the project to assess its potential impact on any historic resources, archaeological or otherwise. MHC staff can also help determine the sensitivity of the site, if you are unsure.

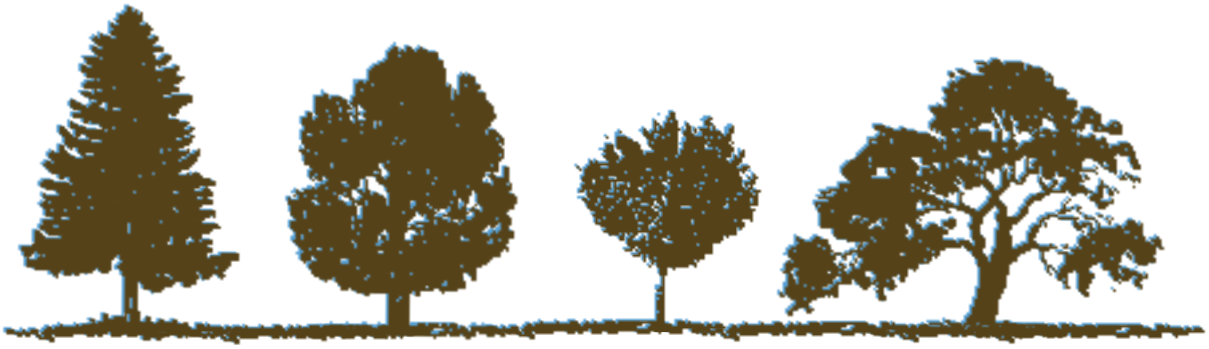


Longwood Mall, Brookline

Interplanting, or the practice of planting young trees among mature trees, anticipates the loss of older trees and insures the establishment of new trees. This young European beech has been appropriately placed among the surrounding grove of 170-year-old trees.

"Trees are the best monuments that a man can erect to his own memory. They speak his praises without flattery, and they are blessings to children yet unborn." Lord Orrery

A man does not plant a tree for himself, he plants it for posterity. Alexander Smith



CHOOSING APPROPRIATE REPLACEMENT TREES: WHAT'S IN A SPECIES?

Many important factors come into play when choosing what type of tree to plant. Trees in dense, urban settings may be selected based on their mature height and maintenance requirements as well as the site's physical constraints and soil quality. It is best to choose a tree that is appropriate to the existing environmental conditions and that the managing agency has the resources to maintain. In a historic landscape, however, additional factors must be considered. The types of trees in a historic landscape have an enormous impact on the site's character. The designer of a historic garden likely chose tree species and varieties very deliberately for their size, shape, leaves and flowers, among other factors. The types of trees in landscapes that were not professionally designed may be equally important. For example, a rural road lined with deciduous trees that provide a shady summer canopy, such as white oaks, will have a different quality than a road lined with an upright, coniferous species, such as eastern white pine.

Ideally, decisions about the treatment of historic trees and the selection of appropriate replacement species are made in the context of an overall landscape preservation plan. A preservation plan includes: information about the historic development of the landscape, an assessment of the site's overall condition, an assessment of the condition of individual features including vegetation; and the identification of a preservation treatment approach. A thorough plan will specify certain species and varieties of trees for the landscape, ideally based on historic plans and photographs. Tree replacement selection should be consistent with the recommendations of existing planning documents. If the landscape is municipally owned, the local historical commission should know if a preservation plan has been completed for the landscape.

Sometimes, it may be necessary to make a decision about a replacement species without the benefit of a landscape preservation plan. In these cases, ask the following questions before making a species selection:

Is the tree to be planted replacing an existing tree? When was the existing tree planted – is it historic and does it add to the character of the site?

Is the site a designed landscape and laid out according to a specific plan? If so, what type of tree was specified in the plan? If plans do not survive, are there historic photographs of the landscape? Is the historic species and variety still available and matching in form, texture, and color?

Is the site a vernacular landscape (not laid out by a landscape designer or according to a design tradition)? Has the landscape traditionally contained certain species of trees?

In many cases, replacement in kind – that is, planting the same type of tree that was historically planted – is the most appropriate action. But replacement in kind is not always possible, practical or desirable. The exact variety of tree specified for a formal garden may no longer be readily available. While the town park may once have been planted with just one or two species of trees, it may be best to choose several different types to reduce the chances of a species-specific disease decimating large numbers of trees at once (in the mid-1900s, Dutch elm disease claimed countless American elms throughout the United States). Changing environmental conditions – such as the prevalence of cars, carbon monoxide and road salt – may necessitate the selection of a particularly hardy species of street tree. It is important to make the best selection from a landscape preservation standpoint, but to balance those considerations with practical factors. A certified arborist may be able to recommend appropriate species substitutions. A landscape architect who has experience with historic properties could assist with species selection and, if needed, develop an overall preservation plan for the landscape.

A variety of factors must be considered when choosing appropriate substitute species. However, it is generally best to choose a replacement species that resembles the historic species. Consider the following characteristics of both the historic species and possible replacements before making a final selection:

SIZE – How tall is the tree when fully grown? How far do its branches extend?

SHAPE/FORM – What is the natural shape of the tree? Is it pyramidal, full-crowned, vase-shaped or spreading?

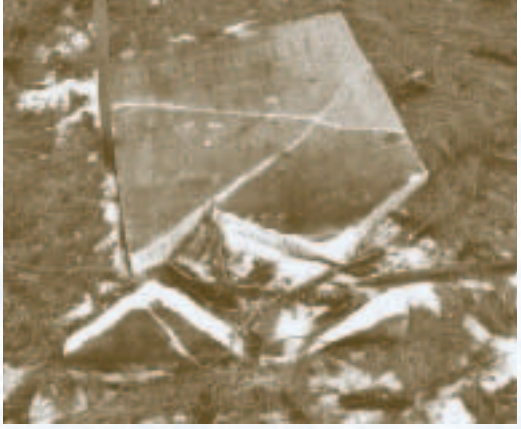
TEXTURE – Is the tree evergreen or deciduous? What shape are its leaves or needles? Does it produce cones?

COLOR – What color are the leaves or needles? Does the color change according to season? Does the tree produce fruit, flowers or berries?



For information about landscape preservation plans, consult *Preservation Briefs #36: Protecting Cultural Landscapes*, available for free atwww.cr.nps.gov/hps/tps/briefs/brief36.htm or for purchase at http://bookstore.gpo.gov/ or (866) 512-1800. Also see Issue No.1 of Terra Firma, available at www.mass.gov/dcr/stewardship/histland/histland.htm or (617) 626-1250.

For general information on how to choose a tree, consult the ISA's brochure on tree selection at www.treesaregood.com/treecare/tree_selection.asp or (888) 472-8733.



Limb damage, New Marlborough
Falling tree limbs can do permanent damage to grave markers and other historic artifacts within a burial ground.



Tree trunk damage, Chelsea Garden Cemetery
Trees that are located too close to a grave marker may topple or even grow around the stone.



Root damage, First Church of Jamaica Plain Cemetery
Roots can often cause more damage than trunks or limbs by destroying tomb walls and displacing stonework.

TREES IN HISTORIC BURIAL GROUNDS: SPECIAL CONSIDERATIONS

Burial grounds may simultaneously be resting places for the dead, outdoor museums of funerary art, or valuable parcels of open space as well as significant historic landscapes. A cemetery's layout, topography, circulation systems, gravemarkers, tombs, mausoleums, fences and vegetation all contribute to the site's character. A burial ground will suffer if its gravemarkers are broken or damaged; similarly, the decline or inappropriate treatment of a cemetery's vegetation will also detract from the landscape's integrity.

The presence and extent of vegetation in burial grounds has varied over time. In the seventeenth and eighteenth centuries, cemeteries were austere and, for the most part, contained no ornamental plantings. In contrast, the rural cemetery movement of the early nineteenth century advocated for the establishment of expansive, extensively planted grounds. In the late-1800s, many earlier burial grounds were updated with elaborate, Victorian-style plantings. Despite their not being original to the site, such alterations may warrant preservation. Trees and shrubs may contribute to the site's visual character, screen undesirable views and, by representing different periods of cemetery development, serve as evidence of changing attitudes toward death and burial.

Nonetheless, trees sometimes have an uneasy relationship with other elements of a burial ground, most notably grave-markers. If a tree falls or loses a large limb, it can easily destroy an ancient headstone – an irreplaceable historic artifact. If it lacks adequate space to grow, a tree can damage nearby landscape elements; its trunk may grow around a gravemarker or its roots may displace a fence at a family plot. Volunteer trees or shrubs can grow to the point of obscuring a gravemarker from view which may, in turn, prevent proper air circulation and encourage damaging biological growth on the stone. These problems are largely preventable with basic maintenance and thoughtful intervention. Regular inspections of a cemetery's trees will help identify hazardous trees and other issues. Pruning and cabling can extend the life of a tree while reducing its threat to other landscape features. Frequent removal of "volunteer" vegetation will prevent the growth of trees in inappropriate locations.

Sometimes, a tree may be dying or sufficiently hazardous as to require removal. As noted on page 7, removal of a mature tree in a historic landscape must be approached very carefully, due to the potential to harm other landscape elements or disturb archaeological artifacts. This is particularly true in cemeteries, where a tree's root system may extend into burial plots and excavation could disturb human remains. Don't rely on cemetery records or existing gravemarkers to provide definitive locations of all the graves in a cemetery;

records are often incomplete, markers may have disappeared over time or the burial ground may have included a potter's field for the burial of the poor, where graves were often unmarked. When removing a tree in a cemetery, it is generally recommended that its trunk be cut to grade and either left to decay naturally or ground down to its full diameter. Chemicals that may speed the decay process are generally not recommended, due to their potential to harm gravemarkers; a stone conservator can provide advice for specific situations.

Similarly, planting a new tree in a cemetery must be done with caution. Substantial digging may be required, and the possibility of disturbing archaeological resources is great. It is often best to plant a new tree in the location of a former tree, where the soil has already been disturbed. Also bear in mind the size of the tree and extent of its root system when it is fully grown, so as to minimize the chance of the tree interfering with or damaging graves or other landscape features. Lastly, carefully consider the species of tree to be planted (see page 8). In addition to choosing a historically appropriate type, it is wise to consider a species' unique characteristics and maintenance demands. Some trees, such as poplar, red maple and willow, are particularly susceptible to storm damage and breakage, and should generally be avoided. Prior to planting a tree in a cemetery, contact the Massachusetts Historical Commission to discuss proposed tree locations so that MHC staff can assess the potential for disturbing archaeological artifacts or unmarked burials.

If, when removing or planting a tree, human remains are discovered, Massachusetts law requires that you cease all work immediately, contact the state medical examiner and, if the bones are likely to be 100 years old or older, contact the state archaeologist (Massachusetts General Laws Chapter 38, Section 6B and Chapter 9, Section 27C).



More information on the care, removal and replacement of trees in historic cemeteries may be found in the DCR's Preservation Guidelines for Municipally Owned Historic Burial Grounds and Cemeteries, free and available for order at www.mass.gov/dcr/stewardship/histland/histland.htm or (617) 626-1250.

To insure that tree planting does not disturb archaeological artifacts or human remains, contact the MHC archaeological staff at (617) 727-8470 before work begins.

If a tree removal or planting project uncovers human remains, cease work immediately and contact the state medical examiner at (617) 267-6767 and the state archaeologist at (617) 727-8470.

BUILDING A TREE CARE TEAM

A variety of private individuals and municipal groups may have a stake in the treatment, removal or planting of trees in a historically significant landscape. Obtaining input from all parties at the start will minimize chances for misunderstanding, and can help lay the foundation for teamwork on future tree projects. Depending on the community and the landscape, decisions about the treatment of any given tree may fall to the tree warden, parks department or park commissioners. The Department of Public Works may be responsible for maintenance. The local historical commission should weigh in on the project from a preservation perspective; they may know of existing planning documents that address the landscape. If the tree is located in a burial ground, the town's cemetery commission should be involved. Some communities have an active garden club and some landscapes have a friends group – these advocates may have knowledge to share or volunteer services to offer.

Some situations call for outside expertise. If your town does not have a certified arborist on staff, you may need to retain a private contractor to devise treatment plans, undertake advanced work or suggest appropriate replacement species. If the tree in question is part of a larger landscape that requires a plan to guide its overall care and rehabilitation, a landscape architect with experience in historic properties may be hired to create a landscape preservation plan addressing all elements of the site, including vegetation.

A PUBLICATION OF THE MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION'S HISTORIC LANDSCAPE PRESERVATION INITIATIVE 251 CAUSEWAY STREET STE. 600 BOSTON, MA 02114 (617) 626-1250

TREE CARE RESOURCES

In addition to those referenced in the text, the following resources provide useful information on the care of historically significant trees.

Massachusetts Department of Conservation and Recreation
(617) 626-1250
Historic Landscape Preservation Initiative
www.mass.gov/dcr/stewardship/histland/histland.htm

Bureau of Forestry
www.mass.gov/dcr/stewardship/forestry/index.htm

The Massachusetts Urban and Community Forestry Program
(617) 626-1468
www.mass.gov/dcr/stewardship/forestry/urban/index.htm

The DCR and the University of Massachusetts Extension have collaborated on a series of publications, available at (413) 256-1601.
Guide to Common Insects and Diseases
Helping Trees Recover from Stress: A Homeowner's Guide
Homeowner's Guide to Hazardous Trees
Cultural Practice Problems of Trees and Shrubs in the Landscape and Nursery

USDA Forest Service
(202) 205-8333
www.fs.fed.us

Massachusetts Tree Wardens' and Foresters' Association
(781) 894-4759
http://masstreewardens.org

Massachusetts Arborists Association
(508) 653-3320
www.massarbor.org

International Society of Arboriculture
(888) 472-8733
www.isa-arbor.com/home.asp
Tree care brochures and other information for the general public may be found at www.treesaregood.com

American Society of Consulting Arborists
(301) 947-0483
www.asca-consultants.org
A useful glossary of terms may be found at www.asca-consultants.org/what_glossary.html

The National Arbor Day Foundation
(888) 448-7337
www.arborday.org
Tips on identifying trees may be found at www.arborday.org/trees/treeid.cfm

American Forests
(202) 955-4500
www.americanforests.org

Arnold Arboretum
(617) 524-1718
www.arboretum.harvard.edu/index.html

Scenic America – Model Tree Protection Ordinance
(202) 638-0550
www.scenic.org

Olmsted Center for Landscape Preservation
(617) 566-1689
www.nps.gov/oclp
Contains their publication: Replacing Historic Trees in Cultural Landscapes

Massachusetts General Laws
http://www.mass.gov/legis/laws/mgl/mgllink.htm
Information on state laws that specifically protect trees (Chapter 40: Section 15C-Scenic Roads and Chapter 87-Shade Trees)

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Cover Photo: Council Oak, Dighton, MA 1990s, Courtesy of Raven Littleriver
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Appendix D: Enabling Legislation Establishing Vicksburg National Military Park

30 Stat. 841

An Act to establish a national military park to commemorate the campaign, siege, and defense of Vicksburg, approved February 21, 1899 (30 Stat. 841)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

NATIONAL MILITARY PARK, VICKSBURG, MISS., established.

That in order to commemorate the campaign and siege and defense of Vicksburg, and to preserve the history of the battles and operations of the siege and defense on the ground where they were fought and were carried on, the battlefield of Vicksburg, in the State of Mississippi, is hereby declared to be a national military park whenever the title to the same shall have been acquired by the United States and the usual jurisdiction over the lands and roads of the same shall have been granted to the United States by the State of Mississippi;

LOCATION

that is to say, the area inclosed by the following lines, or so much thereof as the commissioners of the park may deem necessary, to wit: Beginning near the point where the graveyard road, now known as the City Cemetery road, crosses the line of the Confederate earthworks, thence north about eighty rods, thence in an easterly direction about one hundred and twenty rods, thence in a southerly direction, and keeping as far from the line of the Confederate earthworks as the purposes of the park may require and as the park commission, to be hereinafter named, may determine, but not distant from the nearest point on said line of Confederate earthworks more than one hundred and sixty rods at any part, to a point about forty rods south and from eighty to one hundred and sixty rods east of Fort Garrott, also known as the "Square Fort;" thence in a westerly direction to a point in the rear of said Fort Garrott, thence in a northerly direction across the line of the Confederate earthworks and to a point about two hundred feet in the rear of the said line of Confederate earthworks, thence in a general northerly direction, and at an approximate distance of about two hundred feet in the rear of the line of Confederate earthworks as the conformation of the ground may require, to the place of beginning. This to constitute the main body of the park. In addition thereto a strip of land about two hundred and sixty-four feet in width along and including the remaining parts of the Confederate earthworks, namely, from the north part of said main body of the park to and including Fort Hill or Fort Nogales on the high hill over looking the national cemetery, and from the south part of said main body of the park to the edge of the bluff at the river below the city of Vicksburg; and also in addition thereto a strip of land about two hundred and sixty-four feet in width, as near as may be, along and including the Federal lines opposed to the Confederate lines here-in and above named and not included in the main body of the park; and in further addition thereto such points of interest as the commission may deem necessary, for the purposes of the park and the Secretary of War may approve;

LIMIT OF COST

the whole containing about one thousand two hundred acres, and costing not to exceed forty thousand dollars.

SECRETARY OF WAR TO ESTABLISH PARK

SEC. 2. That the establishment of the Vicksburg National Military Park shall be carried forward under the control and direction of the Secretary of War; and the Secretary of War shall, upon the passage of this Act,

-TO ACQUIRE TITLE, ETC.

proceed to acquire title to the same by voluntary conveyance or under the Act approved August first, eighteen hundred and eighty-eight, entitled "*An Act to authorize the condemnation of land for sites of public buildings, and for other purposes,*" or under Act approved February twenty-second, eighteen hundred and sixty-seven, entitled

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"*An Act to establish and protect national cemeteries,*" as he may elect or deem practicable; and when title is procured to all of the lands and roads within the boundaries of the proposed park, as described in section one of this Act, he may proceed with the establishment of the park; and he shall detail an officer of the Engineer Corps of the Army to assist the commissioners in establishing the Park.

-TO MAKE LEASES TO OCCUPANTS OF THE LAND

SEC. 3. That the Secretary of War is hereby authorized to enter into agreements of leasing upon such terms as he may prescribe, with such occupants or tenants of the lands as may desire to remain upon it, to occupy and

-CONDITIONS

cultivate their present holdings upon condition that they will preserve the present buildings and roads and the present outlines of field and forest, and that they will only cut trees or underbrush under such regulations as the Secretary of War may prescribe, and that they will assist in caring for and protecting all tablets, monuments, or such other artificial works as may from time to time be erected by proper authority:

PROVISO. -RETAKING POSSESSION, ETC.

Provided, that the United States shall at all times have and retain full right, power, and authority to take possession of any and all parts or portions of said premises and to remove and expel therefrom any such occupant, tenant, or other person or persons found thereon whenever the Secretary of War or the commissioners shall deem it proper or necessary; and such right, power, and authority shall be reserved in express terms in all leases and agreements giving or granting such occupant or tenant the right to remain in possession as herein contemplated; and thereupon said occupant or tenant or other persons who may be required to vacate said premises shall each and all at once surrender and deliver up the possession thereof.

COMMISSIONERS

SEC. 4. That the affairs of the Vicksburg National Military Park shall, subject to the supervision and direction of the Secretary of War, be in charge of three commissioners, to be appointed by the Secretary of War, each of whom shall have served at the time of the siege and defense in one of the armies engaged therein, two of whom shall have served in the army commanded by General Grant and one in the army commanded by General Pemberton. The commissioners shall elect one of their number chairman; they shall also elect, subject to the approval of the Secretary of War,

SECRETARY

a secretary, who shall also be historian, and who shall possess the requisite qualifications of a commissioner,

and they and the secretary shall have an office in the city of Vicksburg, Mississippi, or on the grounds of the park, and be paid such compensation as the Secretary of War shall deem reasonable and just.

DUTIES OF COMMISSIONERS

SEC. 5. That it shall be the duty of the commissioners named in the preceding section, under the direction of the Secretary of War, to restore the forts and the lines of fortification, the parallels and the approaches of the two armies, or so much thereof as may be necessary to the purposes of this park; to open and construct and to repair such roads as may be necessary to said purposes, and to ascertain and mark with historical tablets, or otherwise as the Secretary of War may determine, the lines of battle of the troops engaged in the assaults, and the lines held by the troops during the siege and defense of Vicksburg the headquarters of General Grant and of General Pemberton, and other historical points of interest pertaining to the siege and defense of Vicksburg within the park or its vicinity;

REGULATIONS

and the said commissioners in establishing this military park shall also have authority under the direction of the Secretary of War to do all things necessary to the purposes of the park, and for its establishment under such regulations as he may consider best for the interest of the Government, and the Secretary of War shall make and enforce all needful regulations for the care of the park.

MARKING LINES OF BATTLE, STATE TROOPS

SEC. 6. That it shall be lawful for any State that had troops engaged in the siege and defense of Vicksburg to enter upon the lands of the Vicksburg national military park for the purpose of ascertaining and marking the lines of battle of its troops engaged therein:

PROVISOS-APPROVAL

Provided, that before any such lines are permanently designated the position of the lines and the proposed methods of marking them by monuments, tablets, or otherwise shall be submitted to and approved by the Secretary of War, and all such lines, designs, and inscriptions for the same shall first receive the written approval of the Secretary of War, which approval shall be based upon formal written reports which must be made to him in each case by the commissioners of the park; and no monument, tablet, or other designating indication shall be erected or placed within said park or vicinity without such written authority of the Secretary of War:

-NO DISCRIMINATION AGAINST STATES

Provided, that no discrimination shall be made against any State as to the manner of designating lines, but any grant made to any State by the Secretary of War may be used by any other State.

PROVISIONS APPLICABLE TO PERSONS AND ORGANIZATIONS

The provisions of this section shall also apply to organizations and persons; and as the Vicksburg National Cemetery is on ground partly occupied by Federal lines during the siege of Vicksburg, the provisions of this section, as far as may be practicable, shall apply to monuments or tablets designating such lines within the limits of that cemetery.

PENALTY FOR INJURING PROPERTY

SEC. 7. That if any person shall, except by permission of the Secretary of War, destroy, mutilate, deface, injure, or remove any monument, column, statue, memorial structure, tablet, or work of art that shall be erected or placed upon the grounds of the park by lawful authority, or shall destroy or remove any fence, railing, enclosure, or other work intended for the protection or ornamentation of said park, or any portion thereof, or shall destroy, cut, hack, bark, break down, or otherwise injure any tree, bush, or shrub that may be growing upon said park, or shall cut down or fell or remove any timber, battle relic, tree, or trees growing or being upon said park, or hunt within the limits of the park, or shall remove or destroy any breastworks, earthworks, walls, or other defenses or shelter on any part thereof constructed by the armies formerly engaged in the battles, on the lands or approaches to the park, any person so offending and found guilty thereof, before any United States commissioner or court, justice of the peace of the county in which the offense may be committed, or any court of competent jurisdiction, shall for each and every such offense forfeit and pay a fine in the discretion of the said commissioner or court of the United States or justice of the peace, according to the aggravation of the offense, of not less than five nor more than five hundred dollars, one-half for the use of the park and the other half to the informant, to be enforced and recovered before such United States commissioner or court or justice of the peace or other court in like manner as debts of like nature are now by law recoverable in the several counties when the offense may be committed.

APPROPRIATION FOR EXPENSES OF ESTABLISHING

SEC. 8. That to enable the Secretary of War to begin to carry out the purpose of this Act, including the condemnation or purchase of the necessary land, marking the boundaries of the park, opening or repairing necessary roads, restoring the field to its condition at the time of the battle, maps and surveys, material, labor, clerical, and all other necessary assistants, and the pay and expenses of the commissioners and their secretary and assistants, the sum of sixty-five thousand dollars, or such portion thereof as may be necessary, is hereby appropriated, out of any moneys in the Treasury not otherwise appropriated, and disbursements under this Act

APPROVAL

shall require the approval of the Secretary of War, and he shall make annual report of the same to Congress. (**16 U.S.C. 430h**.)

Appendix E: Guidelines for Consideration in the Development of the Maintenance Manual for Masonry, Stone, and Metal Resources of the Cemetery

Guidelines for Consideration in the Development of the Maintenance Manual for Masonry, Stone, and Metal Resources of the Cemetery

This appendix provides general guidelines for many of the typical issues to be addressed by the manual: marker cleaning; marker damage repair; marker resetting; masonry repointing; and metalwork maintenance. For all cleaning and repairs, the constructability and safety requirements of the materials should be considered and noted in the specifications for each project. Specific conservation treatments would be used on a trial basis depending on the results of a detailed condition assessment. Conservation treatments would be recommended for widespread implementation based on the result of field trials. Implementation of trials and conservation work would be undertaken by trained conservators, or as appropriate by trained park staff under the direction of conservators.

Several sources, including online publications of the National Center for Preservation Technology and Training (NCPTT), are available to provide guidance on treatment and to outline current best practices.[1] NCPTT publications of particular relevance include: "Resetting Ground Supported Headstones 2017-04"; "Cleaning and Resetting Headstones"; "Best Practice Recommendations for Cleaning Government Issued Headstones"; and "Comparative Study of Commercially Available Cleaners for use on Federally-issued Headstones." NPS Research Manual 61: National Cemetery Operations includes headstone cleaning guidance developed by the NCPTT.

As conservation practices, and available materials and methods, continue to evolve, guidelines should be reviewed and updated accordingly. Note that NCPTT publications are regularly updated.

Other sources to guide treatment and outlined best practices include information provided by the Historic Preservation Training Center (HPTC), the Olmsted Center for Landscape Preservation (OCLP), and other National Park Service publications. (Specific references are noted below in specific implementation plans.)

Protocols, materials, and methods used for repair and conservation work should be documented and information retained in park files for reference and record purposes. Also, all materials and techniques used for repair and conservation should be tested in trial repairs for evaluation prior to overall implementation.

Marker and monument cleaning. Clean grave markers to the degree necessary to reveal the original colors and other qualities of a stone, uncover inscriptions that are hidden by biological growth and dirt, or remove accumulated material that could lead to deterioration of marble, granite, concrete, or limestone.

- Evaluate the need for cleaning grave markers. Light soiling and biological growth may be acceptable. Some surfaces may be too delicate to clean.
- Prune or remove adjacent shrubs or ground cover growing on cemetery features. Removal of overgrown vegetation may effectively stop some forms of soiling. Remove plants attached to masonry by first cutting them off at the base and then removing the dead vegetation by hand.

1. 2017-04," posted by Jason Church, NCPTT, November 22, 2016, https://www.ncptt.nps.gov/blog/resetting-ground-supporting-headstones/, accessed April 2019; "Cleaning and Resetting Headstones, posted by NCPTT on February 5, 2007, https://www.ncptt.nps.gov/blog/cleaning-and-resetting-headstones, accessed April 2019; "Best Practice Recommendations for Cleaning Government Issued Headstones," posted by Mary Striegel, NCPTT, July 21, 2011, https://www.ncptt.nps.gov/blog/best-practice-recommendations-for-cleaning-government-issued-marble-headstones, accessed April 2019; and "Comparative Study of Commercially Available Cleaners for use on Federally-issued Headstones," posted by Sean Clifford, NCPTT, September 29, 2016, https://www .ncptt.nps.gov/ blog/comparative-study-of-commercially-available-cleaners-for-use-on-federally-issued-headstones-3, accessed April 2019.

- Consider the most appropriate cleaning treatment for reach condition encountered in association with cemetery features. Cleaning treatments fall into several general categories: water-based, chemical, mechanical, and laser cleaning methods. Water-based methods include pressurized water spray, heated water or steam treatments, and misting. Chemical methods involve the use of products ranging from non-ionic soaps and detergents to acidic or alkaline cleaners, as well as biological treatments, in a variety of gels, liquids, pastes, and poultices. Mechanical cleaning methods include the use of tools, such as brushes, scrapers, and specialized micro-abrasive cleaning equipment. Laser cleaning methods also include the use of specialized equipment. It is possible to combine treatments for the best results, such as using mild detergent methods with low pressurized water spray.
- Use the gentlest means possible when cleaning is necessary. Low-pressure water washing can be effective. Water pressure would be no greater than 100 to 200 pounds per square inch (psi), or less as indicated by trial samples. Any cleaning method using water should not occur when the temperature will fall below 50 degrees Fahrenheit for at least 72 hours after cleaning.
- Consult with a masonry conservator before using any chemical or detergent cleaners. Chemical treatments should be approached with great caution because they can cause irreversible damage. Do not use any household chemicals, such as bleach, on grave markers unless specifically recommended by the conservator.
- If chemicals must be used, test panels would be developed and carefully evaluated to avoid over-cleaning. Chemical cleaners would be chosen by a conservator who understands the type and condition of the masonry material to be cleaned. Non-acidic detergents would be used in conjunction with non-metallic brushes or scrapers; metal brushes can permanently damage masonry. Cleaners containing strong acids which are highly alkaline can damage historic materials and would be avoided.
- On masonry elements, do not use solvents or other chemical cleaners to remove graffiti without researching proven past experience in their use on similar substrates and coatings. Some chemical cleaners may result in further staining of porous masonry.
- Remove biological staining using an approved masonry cleaner containing a quaternary ammonium compound, if shown through research and trial samples to be appropriate for the substrate.
- Use appropriate water pressure, nozzle, distance, and fan tip based on cleaning trials and conservator's microscopic examination. Use only stainless steel nozzles with fan tip spray, typically 40 degrees, held a minimum of 12 to 18 inches from the surface being cleaned.
- High-pressure, abrasive blasting with hard, sharp blasting media should never be used on historic masonry because it is extremely damaging. These may have significant effects on the masonry that could potentially accelerate deterioration.
- Very low pressure (less than 75 psi) micro-abrasive cleaning with soft media may be appropriate, depending on trial samples. The effectiveness of micro-abrasive systems, many of which are proprietary, is highly dependent on the skill of the contractor. Manufacturers of proprietary micro-abrasive systems offer training for applicators.
- Grease and oil stains on marble and limestone may require the use of chemical cleaners in poultices.
- Protect untreated elements and dissimilar materials adjacent to areas being cleaned, such as metal elements during cleaning of stone and stone elements during cleaning of metal features. Some cleaners that are suitable for one substrate can damage or stain another substrate.
- During chemical cleaning, pre-wet the stone thoroughly with clean, potable water and keep the stone wet during the entire washing process.
- For prewetting, cleaning, and rinsing, use natural bristled, wooden-handled brushes of various sizes. Avoid the use of plastic handled brushes that can leave colored material on the stone that is difficult to remove. Lichens and

algae can be removed by first thoroughly soaking the stone and then using a wooden scraper to gently remove the biological growth. This process may need to be repeated several times.

- With any cleaning process, rinse thoroughly after cleaning with clean, potable water.
- It may not be possible to remove all stains, and stone should not be expected to appear new after cleaning.
- Coordinate cleaning of metal elements with other treatments such as corrosion removal, refinishing, patination, and waxing.
- Avoid full cleaning marble, limestone, or sandstone with chemical or mechanical systems except as determined to be necessary by a conservator. Rinsing with very low pressure clean water to remove bird drippings and other accretions can occur more frequently. Consult with a conservator to determine the frequency of application of biocides or other treatments for vegetation removal.
- Keep a treatment record of the cleanings, including date of cleaning, materials used, and any change in condition since the previous cleaning. Maintain the records in a centralized and accessible location so that the conditions of the stones can be easily monitored over time.

Marker and monument repairs. Grave marker and monument repair should be conducted by qualified conservators familiar with the materials and their particular qualities. Conservators would typically approach marker and monument repair as follows:

- Before treating masonry, identify materials and document their condition; different types of masonry have different physical properties, modes of deterioration, and weathering characteristics.
- Note that not all cracks in masonry require repair. Cracks may simply be a part of the natural weathering process for some stone masonry. Small or hairline cracks on vertical surfaces of stone masonry do not necessarily require repair unless they are deep or extend through the masonry unit.
- Document every monument to be repaired with diagrams, notes, and photographs before, during, and after restoration.
- Develop a procedure for documenting and handling loose marker fragments, which are vulnerable to theft, discard, or damage from vandalism or maintenance practices.
- Broken vertical stones, particularly marble, can be mended with threaded nylon rods and polyester resins or other approved materials.
- Cracking through masonry units may require the installation of a pin for reinforcement and a cementitious patch or grout repair using a compatible mineral-based material. Long, deep cracks in the masonry would be patched using a knife-grade patching compound to prevent further moisture penetration. The visual impact of such a repair would be minimized by using a colored mortar that is similar to the color of the masonry being patched.
- Chips or other voids can be filled with mortars made of lime, cement, and stone dust matching the original material, which together create a simulated stone that matches the stone to be repaired. (Very small chips may not require repair.) Proprietary patching compounds would only be installed by trained masons. Many manufacturers offer training courses and product certification for masons. Commercially available patching compounds would be either portland cement-based or lime-based materials. It is important to choose a patching compound that is compatible with the masonry to be repaired.
- Very small losses should be left unrepaired, or in some cases stone may be redressed on surfaces without inscriptions.
- Repair damaged areas of masonry that are too large to patch by installation of a masonry dutchman. In this procedure, the deteriorated portion of the masonry is cut away and a new piece of matching masonry (the dutchman) is installed, with stainless steel pins as anchorage, to match the existing. Dutchman repair is a much more durable repair than a cementitious patch repair, although large losses may be filled with compatible mineral-based patching

materials if determine appropriate by a conservator.

Resetting grave markers. A marker should be reset only if it has sunken into the ground, or is in danger of toppling or breaking because of severe leaning. If resetting cannot be undertaken in the near term, stabilize the marker temporarily if it is in danger of topping over. Document the marker carefully before commencing work and do not proceed without professional advice if the maker appears fragile.

- Determine the cause of the displacement (e.g., tree roots) and correct the cause of the problem if possible.
- Take particular care in resetting marble or limestone markers, as they are vulnerable to interior fractures that may be invisible from the outside.
- Reset heavy monuments and markers using appropriate lifting equipment. Smaller stones can typically be lifted by two people. Larger stones may require a mechanical hoist or lifting system. A tripod hoist can be an economical option for medium sized stones. Follow the manufacturer's instructions when renting hoist or lifting equipment. Larger stones may require a hydraulic hoist operated by a skilled technician.
- Use woven nylon straps for lifting stones. Do not use chains or cables, which can damage the stone.
- When breakage occurs, document the breakage, and label and store broken materials on site in a secure location until repairs are possible.
- Remove metal pins in entirety, using a drill or core drill if necessary. Replace pins with new threaded stainless steel or nylon rods. Rods should be smaller in diameter than the existing holes and shorter than the original pins. Set new rods in lime mortar or other flexible setting mortar.
- Remove old setting and pointing mortar using hand tools. Install new mortar that is compatible with the substrate and matches the historic mortar in appearance.
- Where a monument or marker rests on a base, place the upper unit on the base using lead shims to make sure upper unit is plumb and level. Make sure that the base is stable and plumb, and squarely rests on the foundation.

Masonry repointing. Mortar should only be removed when it is absolutely necessary, such as when it is unsound, cracked, eroded, or crumbling. Unsound mortar should be removed to a depth of 2-1/2 times the width of the joint, or to sound mortar, whichever is greater. Work should be performed using handheld, non-power tools, unless the mason is able to complete appropriate trial repairs using power tools to remove existing mortar without damage to the adjacent masonry.

- Repoint open joints using appropriate mortars that match existing historic mortars. Avoid the use of hard portland cement-based mortars on older weathered or less hard masonry. Mortar installed prior to 1900 was typically composed with sand and lime, which is more flexible and permeable than portland cement-based mortars. Modern portland cement mortars are designed to match the characteristics of new, unweathered stone and contemporary hard brick, not historic, weathered masonry. Laboratory analysis of the stone and existing mortar may be necessary to identify a compatible mortar.
- Avoid the use of commercially available masonry mortars because they can contain unnecessary, and undisclosed, additives and fillers.
- Rake out existing masonry joints and spot repoint all grave markers as necessary with compatible mortar.
- In new work, match historic mortar joints in color, texture, joint size, profile, and tooling.

Metalwork maintenance.

- Maintain protective coatings, such as annual applications of paste wax for bronze and copper plaques, and paint on ironwork.
- Maintain bronze elements through the application of clear wax or acrylic coatings. Wax coatings require more frequent applications but are easier to touch up. Acrylic

coatings must be stripped and replaced in entirety.

- For ironwork, remove deteriorated paint using appropriate methods, including wire-brushing for non-decorative elements exhibiting light rust, or chemical paint removal for heavier built-up paint that obscures details. Clean metal surfaces, when appropriate, to remove corrosion before repainting. First test to ensure that the cleaning method will not damage the metal, as soft metals can be easily abraded by wire brushes or blasting. For cast iron, hand scraping and wire brushing with a fine wire brush are appropriate methods for removing finishes and surface corrosion. Low pressure grit blasting may also be used if it does not abrade the surface. Elements with severe corrosion should be removed to a shop for repair. Newly-cleaned metal would be protected immediately with a rust-inhibiting primer. Epoxy and alkyd-based coatings are recommended for field finishing. Zinc-rich primers may be applied in a carefully controlled shop setting. Latex and other water-based paints are not recommended, as they will not be as durable.
- Where pigmented finishes are to be applied, choose colors that do not detract from the historic character of the cemetery. Appropriate colors are typically black or dark green. Review archival documentation and, as appropriate, engage a conservator to conduct finishes analysis to determine original colors.
- Tighten by hand all loose bolts, screws, and other anchors using a lubricant. Replace missing anchors where necessary with new stainless steel anchors.
- Install new sealant compatible with the substrate at all joints between metal pieces and at all bolts and other anchors. The correct installation of sealant will help keep water out of joints.
- When metalwork components are beyond repair, replace the element or broken pieces with reproduction metalwork as a practical solution. However, custom cast metalwork pieces can be costly, requiring unique casts that are appropriately scaled. Decorative elements must be reproduced to match the existing historic elements in size, thickness, and details.
- Where new ironwork is required, it should be compatible with the character of the historic features.