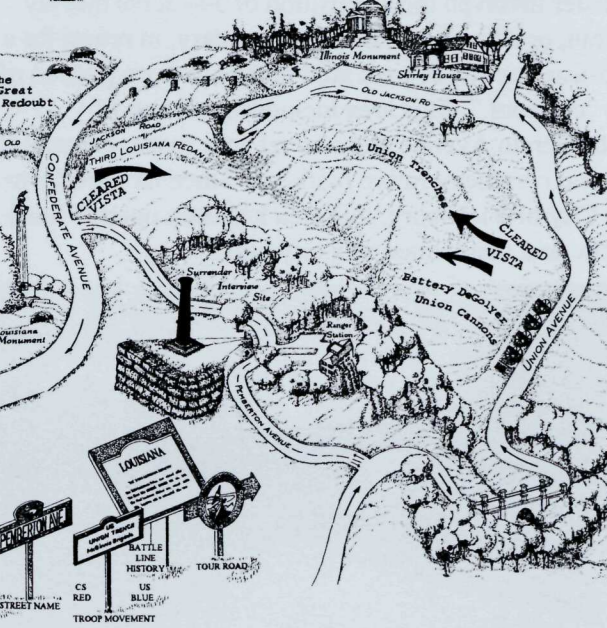
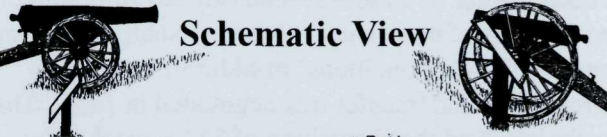


VICKSBURG NATIONAL MILITARY PARK TOUR ROADS



This schematic HAER drawing represents the different aspects of the tour road design along seige lines. Confederate Avenue follows the line of Southern entrenchments while Union Avenue roughly follows the line of advancing Northern forces. (Deb James, 1997).

The Vicksburg National Military Park Tour Roads were documented in 1997 by the Historic American Engineering Record (HAER), a division of the National Park Service, U.S. Department of the Interior. The recording project was cosponsored by the the Federal Highway Administration's Federal Lands Highway Office, through the NPS Park Roads and Parkways Program. The collection of drawings, photographs and historical reports is available through the Prints and Photographs Division at the Library of Congress.

This leaflet was produced by HAER in 2000.
 Design by: Todd Croteau
 Text by: Courtney Youngblood
 HAER photographs by: William A. Faust II, 1997
 Historic images courtesy of Vicksburg NMP (VICK)

Printed in cooperation with the National Park Foundation

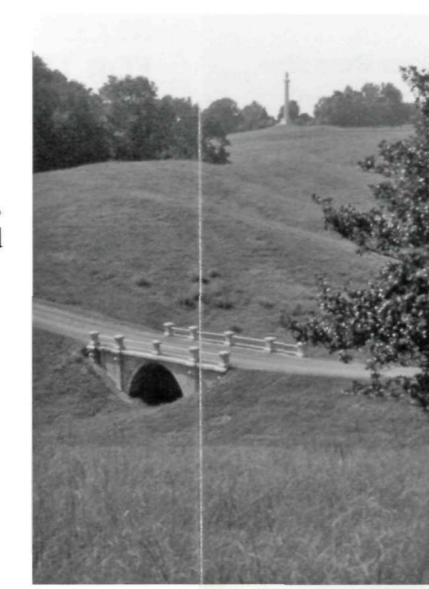
BRIDGES

The topography of Vicksburg National Military Park consists of a series of narrow ridges fronted and intersected by steep ravines, many of which are caused by small, intermittent streams. To achieve the desired effect of a continuous park roadway along the lines of the armies on both sides, it was necessary to cross many of these narrow cuts and deep gorges. In choosing designs for these bridges, a great deal of attention was given to their aesthetic contributions to the overall historic landscape.

A variety of structural types and construction materials were utilized in the early designs of bridges at the military park. However, each span maintained an aesthetic treatment appropriate for such a landscape. The large steel spans incorporated decorative lattice railings with ornately cast posts and medallions. Concrete spans were poured with incised panels and mouldings, often highlighted with wrought-iron railings. Unlike other military parks of the period, stone was not a local material and it was not employed in the bridges at Vicksburg. New spans and replacement bridges constructed through the 1930s continued the tradition of commemorative design, but those after 1970 sought a more "modern" streamlined approach. Nearly a century old, many of the bridges remain as a testament to their solid construction and aesthetic principles.



The Steel Bridge spanning Jackson Road was by-passed with a modern concrete span in 1972, but remains alongside. (HAER)



▲ Original wrought iron railing of the Melan-type bridges, ca. 1903. (VICK)
 ◀ View of Melan bridge along Union Avenue. (HAER)
 ▶ HAER drawing illustrates the varying sizes and shapes of arch spans (G.Seale)

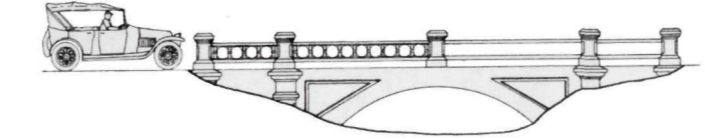
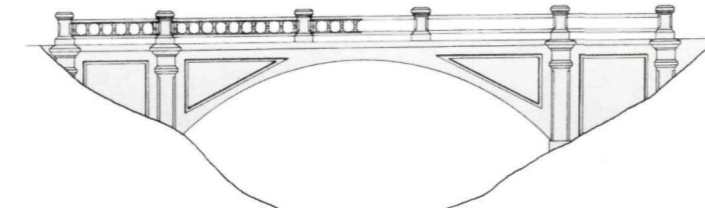
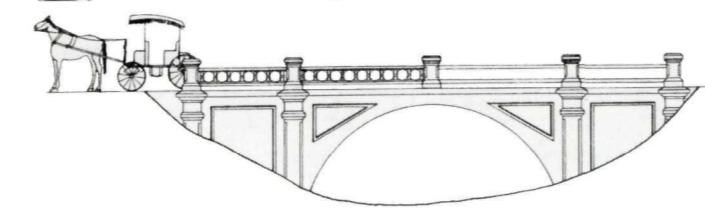
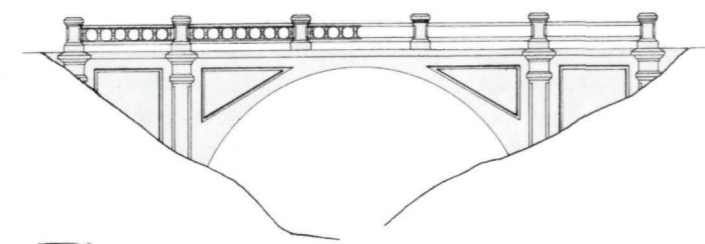


Melan Arch Bridges

Nine of the eleven bridges on Union Avenue were constructed of the Melan arch design, a patented technique for concrete arches using curved steel I-beams for reinforcing. Although the initial cost of these bridges was greater than other bids, the cost of future maintenance and upkeep was expected to be much less and the design fulfilled the requirements of strength, adaptability, and beauty. After nearly a century of use and wear, the bridges retain many of their characteristic features.

The Melan arch bridges are similar in appearance, consisting of a single span with decorative features such as triangular and rectangular inlays on the spandrel walls and balustrades of concrete pylons with iron grill-work.

Melan Arch Bridges 1903

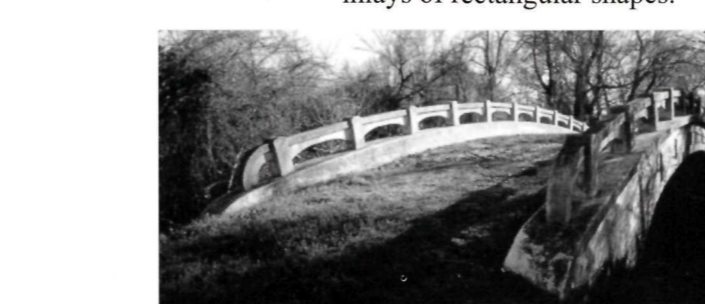


Minor differences in these structures are primarily in arch radii, length of the span, and number of railing posts.

Few alterations have been made to the bridges over the years, such as the replacement of grillwork due to corrosion and paving the decks. The future, however, does not hold such promise. Originally intended to accommodate horse-and-buggy traffic, the bridges are beginning to deteriorate under the stress of recreational vehicles and tour buses. In 1996 the first Melan bridge to be closed was replaced with a concrete box culvert. It is expected that the remaining bridges will also require replacement. In the future, however, it is hoped that the bridges will be rehabilitated with similar aesthetics. This is desirable in order to maintain the authenticity and uniformity of this significant bridge type, originally designed as an important aspect of the tour route.

Maloney Circle Bridge

Road and bridge construction was meticulously planned by park commissioners and engineers to create a circulation system that would provide quick and easy access to the various areas of historical significance. Although never incorporated as part of the official tour route, Maloney Circle Bridge was an important part of this initial plan, and was among the first bridges recommended for construction in 1901. However, growing emphasis on the completion of Union and Confederate avenues resulted in postponement of bridge construction at the Maloney Circle spur until 1907. Spanning the tracks of the Kansas City Southern Railroad, this bridge provides access to the area once known as Battery Maloney, situated near the present Visitor Center, and is marked by a series of interpretive tablets. Maloney Circle Bridge was closed to vehicle traffic in the early 1970s. The area, now isolated, consists of a grassed cul-de-sac.

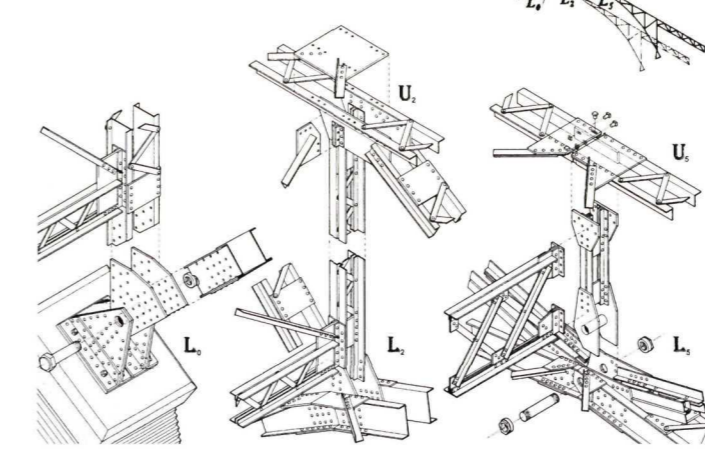


Maloney Circle Bridge spans a deep railroad cut to reach Battery Maloney (HAER). An elaborate falsework was needed to permit train service during construction (VICK).

Steel Bridge

The Steel Arch Bridge spans an especially wide and deep gorge, carrying the bridge over the present-day Jackson Road and the south fork of Glass Bayou. Constructed in 1903 by the Penn Bridge Company, the bridge consists of a 150' steel arch deck truss approached on each end by 60' deck trusses. The three-hinged steel arch design was developed specifically to span deep gorges. This bridge is of historical interest because it is the only extant example of a steel arch bridge in the state of Mississippi.

CONNECTION DETAILS



HAER drawing of the hinged connections for the Steel Bridge. (Pete Brooks, 1997)

In 1972, a new bridge was built alongside the existing structure because the old bridge was not wide enough to accommodate large vehicles, such as tour busses and recreational vehicles. Having outlived its usefulness, the Steel Arch Bridge was to be removed. Park officials were of the opinion that the park should contain only structures that contributed to the presentation, preservation, or interpretation of the battle. Many members of the local community opposed the removal of the bridge, arguing that it had inherent historic value as Mississippi's only steel arch bridge. After a long and heated debate, the bridge was preserved as a pedestrian trail and overlook, but is presently closed to all traffic due to safety concerns.

Halls Ferry Bridge

The Confederate Avenue Bridge spanning Halls Ferry Road was not included as part of the original plan for the tour route at Vicksburg. Prior to 1936-37 an at-grade crossing existed at the intersection of Confederate Avenue and Halls Ferry Road. At that time, it was decided that increasing traffic and congestion in the area warranted construction of a bridge to carry the avenue across the city road.

Halls Ferry Bridge is a single span concrete arch structure with red brick facing, designed by the NPS to blend in with the architecture of the city environment. This type of brick arch bridge was relatively uncommon throughout the United States during and prior to the early twentieth century. This is the only remaining example of this bridge type in Mississippi and the structure was listed to the National Register of Historic Places in 1986.

Other Steel Spans

Several other original spans included metal truss and girder constructions, such as Stouts Bayou Bridge. Since the 1960s, most of these have been replaced with modern concrete spans.

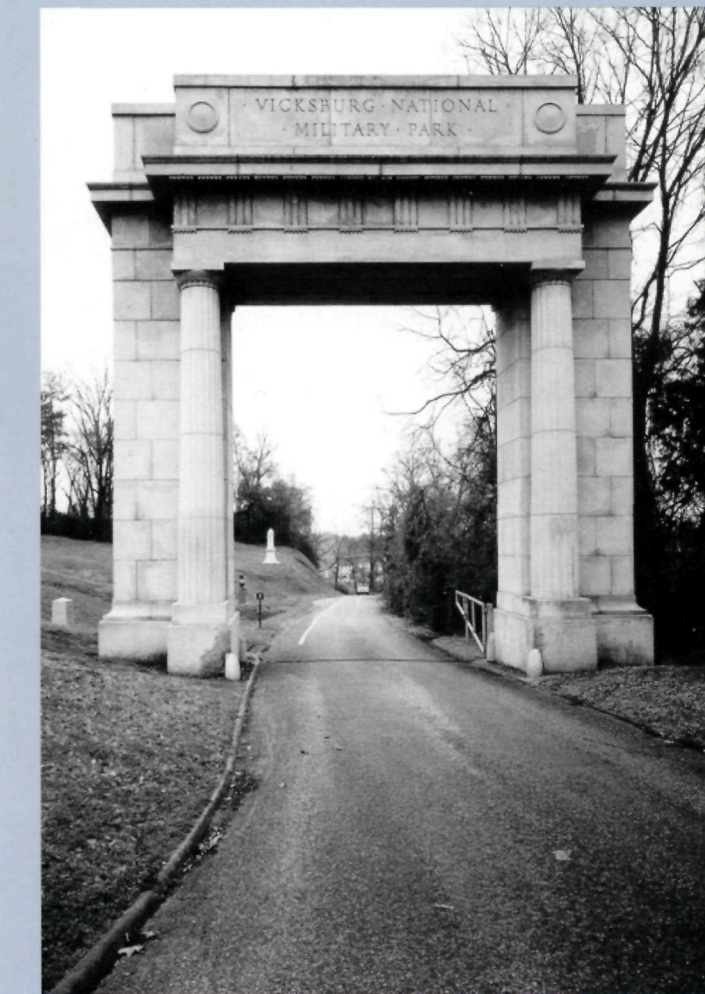


Stouts Bayou Bridge, ca. 1903, was replaced with a similar steel girder span in 1937. (VICK)

Highways in Harmony

Vicksburg National Military Park Tour Roads

Vicksburg, Mississippi



Memorial Arch on Union Avenue is a grand entrance to the commemorative landscape that awaits visitors. (HAER, 1997)

U.S. DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE



Kurz and Allison print of the Siege of Vicksburg ca. 1870s. (Library of Congress)

VICKSBURG: A CITY UNDER SIEGE

Situated on the bank of the Mississippi River, Vicksburg was a prime location for controlling the movement of troops and supplies during the Civil War. Thus, this vital city was considered the key to victory.

After several failed attempts to control Vicksburg in 1862-1863, Maj. Gen. Ulysses S. Grant took a daring course of action that ultimately resulted in victory. Crossing the Mississippi River below the city, Union troops pushed deep into Mississippi, defeated Confederate forces in five battles, and drove the Rebels back into the Vicksburg defenses.

Grant then ordered two ill-prepared assaults on Vicksburg. The topography of the land worked in favor of Confederate troops, who held the high ground and had fortified their city. Forced to devise a new strategy, Grant ordered his army to begin siege operations. Vicksburg was pummeled by cannon fire, while Federal troops inched their way towards enemy earthworks through zig-zagging trenches. Cut off from supply lines for over six weeks, Lt. Gen. John C. Pemberton was no longer threatened by enemy fire, but faced the greater danger of losing his soldiers to starvation and desertion. After 47 days under siege, Vicksburg was finally forced to surrender on 4 July 1863.

ESTABLISHMENT OF A MILITARY PARK

The South was left devastated by the Civil War and Vicksburg was no exception. Financial difficulties resulting from the expense of rebuilding homes and businesses exacerbated the bitterness and hostility Southerners felt over their defeat. For these reasons, the battleground at Vicksburg remained largely under private ownership, unpreserved and unprotected for over three decades.

On 18 September 1889, when veterans of the 24th Iowa Infantry gathered on the Vicksburg battlefield for a reunion, they were shocked to discover that the ground they considered sacred had been all but forgotten, as the South struggled to recover from the devastation caused by the war. The only marker to speak of was an inscribed cannon commemorating the site of the surrender interview between Gen. Ulysses S. Grant and Gen. John C. Pemberton.

In October 1895 these veterans began a movement to establish a national park at Vicksburg. In cooperation with veterans' groups like the Blue and Gray Association, John F. Merry, a veteran of the 21st Iowa Infantry, organized the Vicksburg National Military Park Association (VNMPA). Officially incorporated on 22 November 1895, the VNMPA immediately began lobbying Congress to appropriate funds for the preservation of the Vicksburg battlefield and its establishment as a national military park.

The Vicksburg park bill, proposing expenditures of \$50,000 for land acquisitions and \$25,000 for grounds improvements and restorations, was first introduced in 1896, by Representative Thomas B. Catchings of Vicksburg. Action on the bill was slow, requiring a reintroduction in the next congressional session. War with Spain in February 1898 further stalled action on the park bill. It was another year before the bill passed the House of Representatives and the Senate to be signed by President McKinley on 21 February 1899.

CREATING A COMMEMORATIVE ROADWAY

The roadway proposed for Vicksburg National Military Park (VNMP) was intended to provide access to the most historically interesting areas of the battlefield. Park commissioners were dedicated to the idea that the road system should be geared toward the average citizen, visiting for a day. Resident Commissioner William T. Rigby insisted that the roadway make a loop, because it was thought that otherwise visitors would be forced to waste valuable time traveling to the various points of interest and would face the inconvenience of non-park traffic on non-park roads. The commissioners and engineers involved with routing the roads planned to create a continuous park roadway, which would allow visitors to view the historic landscape without leaving their wagons or carriages.



Steel viaduct spanning Glass Bayou on Union Avenue. Constructed ca. 1903, later destroyed during rerouting of the tour roads. (VICK)



Roadway and Melan arch bridge under construction along Union Avenue, ca. 1903. Horse-drawn equipment was used to grade the roadbed. (VICK)

In designing the road system at Vicksburg, engineers sought to protect and preserve the historic landscape. This involved building roads along the lines that existed during the battle and following the natural contours of the ground as closely as possible to avoid the false appearance of any shelter or defense for troops behind a raised road or in a sunken road.

In 1900, the VNMP commissioners decided that construction of the interior park roadway should be the first project in the development of the park's road system. The interior road, along the Confederate side of the park, was chosen as a starting point because the Confederate line of defense remained constant throughout the siege. Composed of a series of redoubts, redans, and lunettes all connected by a continuous line of trenches and rifle-pits, the definite nature of this line made it relatively easy to determine the location of the interior roadway. On the Union side of the park, the fluctuations of the Federal line as troops advanced made the location of the exterior roadway much more difficult and time consuming. Construction on this exterior roadway was postponed until 1903.

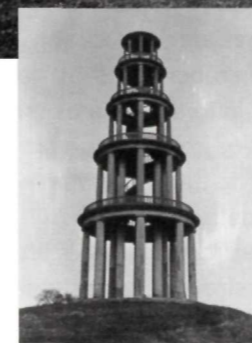
ROADSIDE FEATURES

State Monuments

As new road construction continued and existing roads were incorporated into the tour route in the early 1900s, states began erecting monuments and memorials in commemoration of the battle and its participants. These monuments were placed as near as possible to the area in which the represented troops fought. In addition, the placement of memorials was based on the routing of the roadway in many cases. The hilly landscape of Vicksburg necessitated heavy emphasis on grading and the incorporation of switchbacks to allow horse-and-buggy traffic to navigate the steep terrain. In many cases states planned their memorials to be seen from these curvy, hilly approaches. A reversal of the direction of the one-way traffic on these roads in the late 1960s had a dramatic effect on the views of many state monuments.



View of interpretive markers, monuments, and cannon near Third Louisiana Redan along Union Avenue ca. 1930s. (VICK)



Some of the many roadside structures: one of three (removed) observation towers ca. 1930s. (VICK); Illinois Monument and Shirley House at Tour Stop #2. (HAER, 1997); tour route sign. (HAER, 1997)

Roadside Interpretation

Interpretive signs and descriptive markers were also added to the roadside landscape. The commissioners worked diligently to ensure that all the signs were placed so that visitors would be in the approximate location and facing the same direction as the troops and movements they were reading about. As a result, some markers are located at a distance from the road and others are facing the opposite direction. This is a curious feature of the park's road system in light of the fact that it was designed to be a driving tour.



Alignment and Drainage

Careful attention to alignment and grading were important aspects of building the roads, in order to create smooth transitions and improve drainage. The Vicksburg area often receives heavy amounts of rain and is subject to flash flooding. The roads were sloped in such a way as to make the grades less steep, to facilitate easy travel for horse-and-buggy traffic, and to guide large amounts of water to gutters and drain structures.

RECONSTRUCTION AND IMPROVEMENTS FOR THE AGE OF THE AUTOMOBILE

The next significant wave of activity in road construction came in the 1930s when the park was transferred to the stewardship of the National Park Service (NPS). Originally designed for carriages, the tour roads were in need of improvements to accommodate motor cars. The Civilian Conservation Corps (CCC), a Depression Era work program, was an integral part of the upgrade process, providing funds and labor for road construction and improvement projects.



Before and after view of Confederate Avenue reconstruction by the CCC, ca. 1930s. (VICK)



Log guard rails, gutters and tree plantings were placed by CCC crews for roadside improvements, ca. 1930s. (VICK)

In 1956 another decade of road construction and improvement ensued with the development of the servicewide Mission 66 program, in preparation for the 50th anniversary of the NPS. Plans for Vicksburg included paving of all gravel roads and construction of short sections of new road to eliminate sharp curves and dangerous driving conditions. In addition, a highly controversial land transfer was negotiated in 1963. This transfer involved the acquisition of 544 acres that lay within, or adjacent to the park boundary, in return for a 125-acre section of park land in the southern portion of the "crescent." This area included a section of Confederate Avenue and several spur roads, containing several commemorative markers. Since its transfer to the City of Vicksburg, this area has been open to local traffic and maintained as a city park.



Among the many Mission 66 projects at Vicksburg, several original bridges were replaced by modern concrete spans, such as Glass Bayou Bridge completed in 1970. (HAER, 1997)

Today the park tour route retains much of its original character. Designed for aesthetics and uniformity, the roads and bridges provide access to the park without detracting from its story. The enduring legacy of the battle for Vicksburg is preserved and presented to visitors as they drive through this historic landscape, along the park's unimposing, yet graceful avenues.



Cross-sectional perspective of Confederate (concrete) and Union (asphalt) avenues along siege line. (Deb James, HAER 1997)

1863
Union Army siege of Vicksburg. Confederate troops surrender the city.

1890
Establishment of Chickamauga/Chattanooga National Military Park and Antietam National Battlefield.

1895
Incorporation of Vicksburg National Military Park Association.

1899
Vicksburg National Military Park established; Capt. William T. Rigby selected as Resident Commissioner.

1900-02
Planning and surveying begins for road alignment and bridge location.

1902
Road and bridge construction begins with Confederate Avenue.

1903
Construction of Union and Grant avenues; bodies of two soldiers unearthed during construction. Melan Arch Bridges on Union Avenue constructed by William T. Young Bridge Company. Steel Bridge constructed by Penn Bridge Company on Confederate Avenue. Guttering of park roadways begins. Massachusetts dedicates first state memorial.

1907-08
Maloney Circle Bridge constructed by William T. Young Bridge Company.

1903-09
Construction of three concrete observation towers.

1920s
Increasing number of motorists necessitate road improvements.

1933
National Park Service becomes responsible for administration of the park.

1930s
Road construction and improvement projects in association with Depression Era relief agencies, WPA and CCC.

1936-37
Halls Ferry Bridge constructed on Confederate Avenue by Coggin and Deermont.

1951
Proposed land transfer between the park and the City of Vicksburg studied by officials.

1952
Public outcry against proposed land transfer leads to ten years of debate.

1956
Beginning of Mission 66 projects, an NPS servicewide rehabilitation program. (Improvements developed for Vicksburg in this program not completed until 1980)

1963
Controversial transfer of southern section of park land to City of Vicksburg.

1964-80
Mission 66 projects result in the closing of Confederate Avenue to through traffic and the establishment of a one-way, closed-loop tour road.

1963
Removal of observation towers.

1997
Replacement of one Melan Arch bridge with box culvert. Historic American Engineering Record documents tour road system.

Timeline of Developments