NATIONAL PARK SERVICE
SHILOH NATIONAL MILITARY PARK
HARDIN COUNTY, TENNESSEE

ENVIRONMENTAL ASSESSMENT

RECONSTRUCTION AND IMPROVEMENT OF VARIOUS ROADWAYS AND BRIDGE REPLACEMENTS

Prepared by the
U.S. Department of Transportation
Federal Highway Administration
Eastern Federal Lands Highway Division

August 2003

In Cooperation with the
Army Corp of Engineers, Nashville District
The Chickasaw Nation

Prepared pursuant to the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (43 CFR 1500)

ABSTRACT

This Environmental Assessment (EA) addresses the plans of the National Park Service (NPS) to perform needed rehabilitation improvements to several Park roads, roadway structures, intersections, parking areas, and drainage structures within the Shiloh National Military Park, Hardin County, Tennessee.

These project components include:

- Woolf Field Road
- Pittsburg Landing Road and Tour Stop
- Brown's Landing / Dill Branch Road, Indian Mounds Parking Area and Bridge
- McClernand Road
- Hamburg / Savannah Road and Tour Stops
- Sherman / Cavalry Road, Tour Stops and Bridge
- Tent Hospital Site Road and Tour Stop
- Peabody Road and Rhea Spring Parking Area

The area of impact is to remain within the existing roadway prism (road and shoulders), with the exception of Sherman / Cavalry Road, Pittsburg Landing Tour Stop, Tent Hospital Site, Dill Branch Bridge and the Indian Mounds Parking Area. It was also determined for constructability that if constructed, a 25-foot buffer would be included on each side of the roadway with the exception of the culturally sensitive sites.

The National Park Service (NPS) has three goals in selecting a preferred alternative. The first is to improve the historical accuracy of the Park's roadway system through the realignment of some routes. These realignments would closely resemble those depicted on the Historical Base Map of April 6-7, 1862 and the1940 condition of the Dill Branch Bridge. The second goal is to improve the overall condition of, and the safety concerns associated with, the Park's roadways and structures. The NPS would like to meet all goals while minimizing impacts to the Park's natural and cultural resources. The third goal is to abate the erosion damage caused by the Tennessee River and to protect the Indian Mounds, roadway and bridge.

This document determines which aspects of the proposed action have potential for social, economic, or environmental impact. It also identifies measures that may mitigate adverse environmental impacts. Public involvement and coordination/consultation with other Government agencies is summarized in this document.

This document is prepared pursuant to the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), Section 7 of the Endangered Species Act (ESA), the Clean Water Act (CWA), and Executive Orders protecting wetlands and floodplains.

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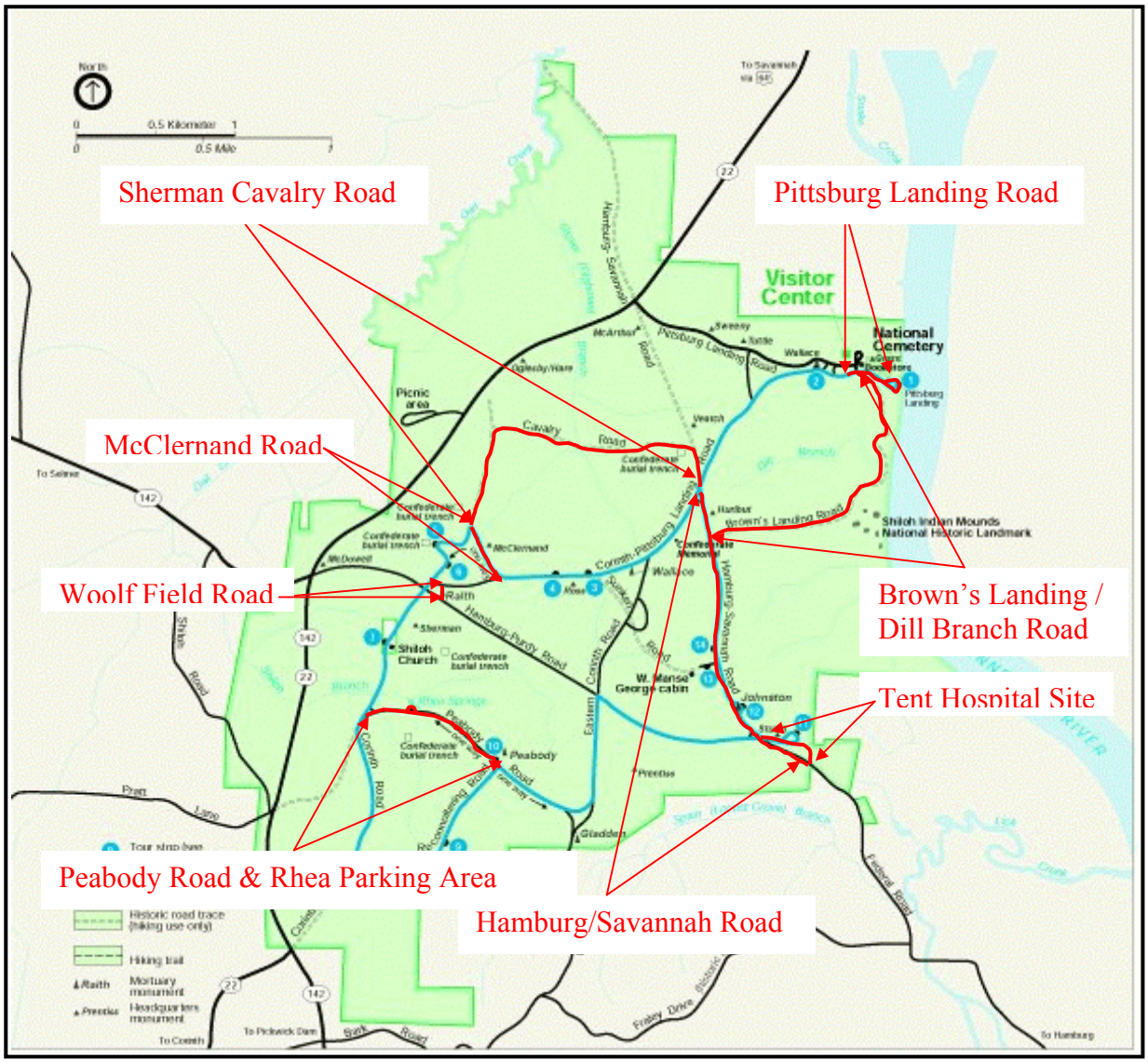
I. Purpose and Need For the Action

A. Project Location

Shiloh National Military Park is located in Hardin County, in the southwestern portion of Tennessee just 17 miles north of the Mississippi state line. Situated in a rural area outside the small town of Savannah, the Park covers over 3700 acres. Bounded on the east by the 100-foot high bluffs that overlook the Tennessee River, this area is made up of mixed hardwood forest, open fields and small areas of eastern red cedar. The Park was established in 1894 to preserve the scene of the first major battle in the Western theater of the Civil War.

Location Map



B. Description of Proposed Action and Need

The National Park Service proposes to rehabilitate, reconstruct, and several roads, parking areas, drainage structures, and intersections within the Shiloh National Military Park. These roadways and bridges include: Woolf Field Road, Pittsburg Landing Road, Brown's Landing / Dill Branch Road, McClernand Road, Hamburg / Savannah Road, Sherman / Cavalry Road, and Tent Hospital Site and Tour Stop. They also propose to replace the Tilghman Branch Bridge and construct a new bridge for Dill Branch.

An interdisciplinary team from the National Park Service and the Federal Highway Administration have identified three major needs. The first is to improve the historical accuracy of the Park's roadway system through the realignment of some routes. These realignments would closely resemble those depicted on the Historical Base Map of April 6-7, 1862. Many of the historic traces (subbase) are still present in the Park and easily identifiable to the naked eye.

The second need is to improve the overall condition of, and the safety concerns associated with, the Park's roadways and structures. Definite beginning and ending points to the Tour Route are needed to improve visitor access and reduce driver confusion. The selected roadways have been grouped together because they readily function and interact with each other to make up the Park's Tour Route. In addition, management operations, time, and costs associated with design and construction, are usually significantly less when improvements are combined than if the improvements are performed as separate actions.

The third need is to protect the Dill Branch Roadway and Indian Mounds from damage due to continued erosion from the Tennessee River. Erosion failures are occurring even as the Army Corps of Engineers have armored the stream bank of the Tennessee River. This has necessitated the realignment of the roadway and the proposed Dill Branch Bridge to protect them from further damaged caused by erosion.

Also, several of the roadways do not meet current roadway design and safety standards, particularly at some of the roadway intersections. In August of 1996 and 1999, the Federal Highway Administration conducted pavement condition surveys in accordance with the "Distress Identification Manual for the Long-Term Pavement Performance Project (SHRO-P-338)". The proposed Build Alternative is consistent with these recommendations.

1. Woolf Field Road

Woolf Field Road is a gravel base roadway. Visitors use this road extensively to stop and observe the historical monuments. There is a need to place an asphalt pavement structure on this roadway to support the additional traffic use and loading.

2. Pittsburg Landing Road

This portion of the roadway is used for traffic going to the Pittsburg Landing Tour Stop. This was originally designed to accommodate automobiles and small buses. But over the years the sizes of the buses have expanded, forcing the buses to back from the tour stop to the top of the hill. This has caused many traffic conflicts. The congestion and safety concerns can be resolved with the re-configuration of the tour stop to accommodate the turnaround of buses and by the rehabilitation of the roadway.

3. Brown's Landing Road / Dill Branch Road

This is a one-way road that has been closed due the structural instability of the roadway due to the erosion of the Tennessee River. If this road were open the visitors that pass through this area would see the Indian Mounds and scenic view of the river along with the Grant's Left Flank monument. In an effort to stabilize the erosion caused by the Tennessee River, the Army Corps of Engineers has been armor plating the riverbank with riprap.

The safety conditions and stability of the roadway can be further enhanced by realignment of the roadway away from the river, construction of a new bridge and by rehabilitation of the other portions of the roadway away from the river.

The visitor experience will be enhanced by construction of the proposed Indian Mounds Parking Area along with an associated information kiosk and trail; by paving an existing handicap accessibility to the site; and by construction of a parking area and an interpretive trail at the north end of the bridge over the Dill Branch. It is the intent of the park to remove the existing causeway to restore the Dill Branch drainage area to the 1940 condition where it freely flowed into the Tennessee River.

The safety conditions for the visitor viewing the Indian mounds could be resolved with a new parking area in the existing agricultural field and the rehabilitation of an existing pull-off area.

4. McClernand Road

This asphalt road is part of existing tour route due to the closure of Sherman / Cavalry Road. This is not a road that was a part of the original historic trace of the network of roadways in the park. In an effort to restore the historic accuracy and planned re-opening of Sherman / Cavalry Road, the park desires to remove the asphalt pavement and backfill with topsoil and seed with native vegetation.

5. Hamburg / Savannah Road

This asphalt road has become both a major route for local traffic passing through the park and tour route. This route provides visitors with access to the Johnston Tour Stop, Peach Orchard Parking Area, and the Bloody Pond Tour Stop. The park would like to accommodate the growth and increased traffic on this road by doing the following:

- Rehabilitate the roadway and in some areas reconstruct the roadway where failures have occurred.
- Reconfigure the Johnston Tour Stop to increase the green space and serenity of the sight.
- Rehabilitate the Peach Orchard Parking Area.
- Reconfigure the Bloody Pond Tour Stop to increase the green space by reduce the amount of available parking adjacent to the site while expanding the parking on the other side of the roadway.

These steps would enhance the visitor experience while addressing the safety concerns of the increased traffic.

6. Sherman / Cavalry Road

This is a one-way gravel road leading to various monuments that has been closed to the public due the wash out of a box culvert under the Tilghman Branch. It is the intent of the park to re-open the road to the public by the:

- Rehabilitation of the roadway from gravel to an asphalt pavement,
- Realignment of the intersection of Sherman road and Cavalry Road to one smooth transition curve,
- Reconstruction of the Tilghman Branch Bridge, and
- Placement of pull-off areas.

These steps are to re-open this area to enhance the visitor experience while maintaining a safe traffic environment.

7. Tent Hospital Site

This roadway is currently a two-way road going into an eye drop turnaround configuration. It is the intent of the park to increase the green space and safety conditions by eliminating the turnaround and making the road one-way following the old trace of the roadway beginning at Hamburg / Savannah Road. Plans include the rehabilitation of the existing roadbed to be used in the one-way reconfiguration.

8. Peabody Road and Rhea Spring Parking Area

This roadway is currently a one-way road between Corinth Road and Reconnoitering Road. It is the intent of the park to overlay the existing roadway from Corinth Road to the intersection of the turnoff for Rhea Spring Parking Area. The other portion of the roadway would be obliterated, backfilled with topsoil, and re-seeded. This portion of the roadway was not a part of the historic trace. This action would restore the historic accuracy and cultural landscape of this battle site.

C. Decision to be made

The National Environmental Policy Act of 1969 (NEPA) requires consideration of the environmental effects of proposed Federal actions. This Environmental Assessment (EA) provides the required environmental, socioeconomic analysis for the proposed work. As part of the planning and analysis, this EA has been prepared to evaluate alternatives and options for accomplishing this work with the least impact to Park resources and Park visitors. The Eastern Federal Lands Highway Division of the Federal Highway Administration has prepared this EA for the National Park Service.

The National Park Service intends to explore alternatives for performing needed rehabilitation improvements to several park roads and bridges, intersections, parking areas, and drainage structures, while enhancing the visitor experience, the interpretive value and importance of the Shiloh National Military Park, or Park resources. After the alternatives have been fully evaluated and the public has had an opportunity to review and provide comment on the proposed action, the National Park Service will issue a decision on how they intend to proceed.

Coordination with the US Fish and Wildlife Service (USFWS) and the Tennessee State Historic Preservation Officer (SHPO) must be complete before a decision is made. This coordination with USFWS and SHPO has been completed. The recommendations and comments will be incorporated into the alternative analysis for this project.

D. Scoping and Issues

Issues and concerns related to roadway and bridge rehabilitation and construction were identified by Park, State and other Federal agencies, and through similar NPS road projects. These issues are specific to historic and commemorative elements, prehistoric cultural resources, as well as water quality and special status species (threatened, endangered, species of concern, and designated critical habitats).

E. Issues Evaluated in Detail

Specific impact topics were developed to address potential natural, cultural, and

social impacts that might result from the construction. These topics are derived from the issues identified above and address federal laws, regulations and orders and Shiloh National Military Park management documents. They are used to focus the information presented and discussed in the affected environment and environmental consequences sections. A brief rationale for the selection of each impact topic is given below.

1. **Special Status Species**

   Section 7 of the Endangered Species Act directs all Federal agencies to use their authority in furtherance of the purposes of the Act by carrying out programs for the conservation of rare, threatened, and endangered species. Federal agencies are required to consult with the U. S. Fish and Wildlife Service (FWS) to ensure that any actions authorized, funded, and/or carried out by the agency does not jeopardize the continued existence of any listed species or critical habitat. Protection and preservation of special status species at the Park are of critical importance and will be discussed as part of this analysis.

2. **Water Quality**

   NPS Management Policies (1988) require protection of water quality consistent with the Clean Water Act. Since the proposed action involves work in or adjacent to streams, it has the potential to impact water quality. This issue will be discussed further in the document.

3. **Wetlands**

   Executive Order 11990 (Protection of Wetlands) requires an examination of impacts to wetlands. Using vegetation, soils, and hydrology as evidence of wetland characteristics. NPS personnel have stated that no wetlands are located within the project area with the exception of the Dill Branch. These wetlands have been identified as degraded and low quality by the ACOE.

4. **Cultural Resources**

   The National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969 (NEPA), the 1916 NPS Organic Act, NPS Management Policies, and NPS-28 require Federal agencies to consider the effects of their proposed actions on cultural resources. The proposed project has the potential to affect prehistoric and historic archeological resources, and features of the Park's cultural landscape. Protection and preservation of cultural resources at the Park are of critical importance and will be discussed as part of this analysis.

The FHWA and the NPS, in consultation with the Tennessee State Historic Preservation Officer, has determined that the Shiloh National Military Park meets the criteria of eligibility for the National Register of Historic Places. In addition, the setting of the Shiloh National Military Park is managed to ensure that Park visitors are afforded a serene and informational travel experience, highlighted by the historic and natural rural landscapes characteristic of the Park. Perpetuation of these aesthetic characteristics of the Park's cultural landscape is an important design consideration of the current project. Therefore, in accordance with 36 CFR 800, an assessment is required of the effect that the construction would have on the Park and other potential cultural resources in the project area.

F. Definitions

Temporary impacts - Impacts anticipated occurring during construction only. Upon completion of the construction activities, conditions are likely to return to those that existed prior to construction.

Short-term impacts - Impacts that may extend past the construction period, but are not anticipated lasting more than a couple years.

Long-term impacts - Impacts that may extend past the construction period, and are anticipated lasting more than a couple of years.

Negligible - Little or no impact (not measurable).

Minor - Changes or disruptions may occur, but does not result in a substantial resource impact.

Major - Easily defined and measurable. Results in a substantial resource impact.

G. Permits

The U.S. Army Corps of Engineers has regulated activities in the nation's waters since 1890. Until the 1960's, the primary purpose of the regulatory program was to protect navigation. Since then, as a result of laws and court decisions, the program has been broadened to encompass the full public interest for both the protection and utilization of water resources. Regulatory authority and responsibilities of the Corps of Engineers includes Section 404 of the Clean Water Act (33 USC 1344). This includes regulation of the discharge of dredged material into waters of the United States, including both navigable waters and adjacent wetlands. In addition, Section 10 of the Rivers and Harbors Act of 1899 (33 USC

403) is regulated by the Corps of Engineers for activities in or affecting navigable waters. Since the actions proposed may impact waters, which are considered waters of the United States, the proposed action is subject to U.S. Army Corps of Engineers review under the 404 regulatory programs.

The FHWA and the NPS are responsible for obtaining TVA approval under Section 26 a of the TVA Act. In addition to other provisions of its approval, TVA would require the NPS to employ best management practices to control erosion and sedimentation, as necessary, to prevent adverse aquatic impacts.

The U.S. Fish and Wildlife Service (FWS) have been consulted regarding the presence of federally listed threatened or endangered species within the study area. In a letter dated April 22, 2002 the FWS indicated that no threatened or endangered species are known to occur within the impact area of the project.

II. Alternatives

A. Description of Alternatives

The following is a description of the proposed alternatives to rehabilitate several Park roads, intersections, parking areas, and drainage structures within the Shiloh National Military Park, Hardin County, Tennessee

1. No Action Alternative

Under the No Action alternative, no substantial improvements would be performed other than in accordance with routine maintenance operations. The routine maintenance operations would be temporary pavement rehabilitation such as chip seal, crack seal or slurry seals. The existing safety concerns would not be addressed. None of the existing roadways, bridges or parking areas would be realigned or reconfigured. Sherman / Cavalry Road and Brown's Landing / Dill Branch Road would remain closed to the general public.

2. Build Alternative (Preferred Alternative)

The build alternative proposes to rehabilitate several Park roads, intersections, parking areas, and drainage structures, construction of a new Dill Branch Bridge and reconstruction of the Tilghman Branch Bridge. All construction phasing would maintain traffic flow through the project area. This work would include performing the following improvements at the specified locations:

a. Woolf Field Road

Woolf Field Road is located between Corinth Pittsburg Landing Road and Hamburg-Purdy Road. The total length of this road is approximately 169 meters (545 feet). The existing roadway is composed of a "pea" gravel pavement material with a total cross section of 6.0 meters (20 feet).

It is proposed to improve the roadway by adding base stone and asphalt pavement within the existing roadway prism.

b. Pittsburg Landing Road

There are two components to this section.

- Rehabilitation of the roadway
- Reconfiguration of the Pittsburg Landing Tour Stop

The roadway begins at the intersection of Dill Branch Road and ends at the Pittsburg Landing Tour Stop. The total length of the road is approximately 287 meters (942 feet). The existing roadway is composed of an asphalt pavement structure with a total cross section of 7.2 meters (23.6 feet)

It is proposed to overlay the existing roadway with an asphalt pavement within the existing roadway prism.

The Pittsburg Landing Tour Stop is currently configured for ten parking spaces for automobiles.

It is proposed to reconfigure this tour stop into a loop with a bus drop off. This would better accommodate buses while eliminating automobile parking. This configuration would include the removal of the existing facilities and construction of an expanded circle. This tour stop would be

expanded to include the pull-off area that overlooks this site off of Dill Branch Road.

c. Brown's Landing Road / Dill Branch Road

There are three components for this section:

- **Rehabilitation of the roadway and various pull off areas**
- **New construction of the Indian Mounds Parking Area**
- **Realignment and construction of the Dill Branch Bridge**

The Rehabilitation of the roadway and various pull-off areas

This is a one-lane road. The rehabilitation of the roadway and various pull-off areas begins at the intersection of Hamburg / Savannah Road and ends at the intersection of Pittsburg Landing Road. The total length of the road is approximately 2094.4 meters (6871.4 feet). The existing roadway is composed of an asphalt pavement structure with a total cross section varying from 3.0 to 4.2 meters (9.8 to 13.8 feet).

It is proposed to overlay the existing roadway and pull-off areas with an asphalt pavement within the existing roadway prism.

There would be a pull-off area located at station 2+003.5 to 2+027.1 on the right side of the roadway to accommodate the visitor's experience of the Indian Mound Area. This pull-off area would be 23.6 meters (77.4 feet) long and 3.6 meters (11.8 feet) wide that would accommodate parking for two handicap parking spaces. This pull-off area would be within the existing footprint of the current pull-off area for a total area of 67.0 square meters (721.2 square feet).

There would also be a pull-off area located from station 2+765.0 to 2+805.0 on the right side of the roadway to accommodate the visitor's experience of Grant's Left Flank Monument. This pull-off area would be 40 meters (131.2 feet) long and 3.6 meters (11.8 feet) wide. This would be a three car paved pull-off area covering 108.0 square meter (1162.5 square feet). This would also include the obliteration of 405 square meter (4359.4 square feet) of existing pavement and conversion of the other portion of Grant's Left Flank loop into a paved trail.

There would also be a pull-off area located from station 2+940.0 to 2+980.0 on the right side of the roadway to accommodate the visitor's experience of an overlook of the Pittsburg Landing Monument. This pull-

off area would be 40 meters (131.2 feet) long and 3.6 meters (11.8 feet) wide. This would be a three car paved pull-off area covering 108.0 square meter (1162.5 square feet).

Indian Mounds Parking Area

The new construction of the Indian Mounds Parking Area would begin at station 1+391 and ends at 1+488.3 of Brown's Landing Road. The site would be located in an agricultural field.

This parking would provide automobile and bus parking with an interpretative trail to the Indian Mounds. The new construction would take place in an existing agricultural field. This parking area would accommodate parking for thirteen automobile spaces, two handicap parking spaces and two-bus drop and parking areas. There would also be 401 square meters (4316.3 square feet) of concrete sidewalk leading to a trail. There would not be any construction on the trail other than the placement of markers and interpretative signs.

Realignment and Construction of the Dill Branch Bridge

The realignment and construction of the Dill Branch Bridge serves to restore the Dill Branch drainage area to its elevations of 1940 and to protect the area from further erosion. Presently, erosion from the river is threatening the roadway and Indian Mounds. The Army Corp of Engineers has conducted a project to armor the banks of the river with riprap.

It is proposed to construct a new cast in place Box Girder Bridge approximately 214 meters (700 feet) from station 2+309.110 to 2+522.390. This would realign the roadway further away from the river serving to protect and maintain the roadway.

The removal of the existing causeway would allow the free movement of aquatic life between the Tennessee River and Dill Branch Creek and help the restoration and enhancement of the wetlands in this location. A portion of the existing causeway would be maintained for the purpose of an interpretative trail and a pull-off area.

There would be a pull-off area located at station 2+534.7 to 2+580.8 on the right side of the roadway to accommodate the visitor's experience of the Dill Branch Bridge and Scenic Overlook. This pull-off area would be 46.1 meters (151.2 feet) long and 4.0 meters (13.1 feet) wide. This would be a three car paved pull-off area covering 142.4 square meter (1532.8 square feet). This portion of the pull-off area would connect to the remaining section of the causeway. This section of the causeway would be converted to a paved trail overlooking the Tennessee River.

d. McClernand Road

McClernand Road is located between Corinth Pittsburg Landing Road and Sherman Road. The total length of this road is approximately 460 meters (1507 feet). The existing roadway is composed of an asphalt pavement material with a total cross section of 3.7 meters (12 feet). This road is currently being used as a part of the tour route due to the closure of Sherman / Cavalry Road. It is anticipated that Sherman / Cavalry Road would be re-opened with the completion of this project.

It is proposed to restore this roadway back to its historic trace by the removal of approximately 1700 square meters (18300 square feet) of asphalt pavement, backfill with a topsoil material and seed. The excess material would be disposed of legally off government property.

e. Hamburg / Savannah Road

There are four components for this section:

- **Rehabilitation and of the roadway and various pull off areas**
- **Reconfiguration of the Johnston Tour Stop #12**
- **Reconfiguration of the Bloody Pond Tour Stop #14**
- **Overlay of the Peach Orchard Parking Area**

Rehabilitation of the roadway and various pull off areas

Hamburg / Savannah Road improvements would begin at the southeast boundary of the park and continues to intersection of Corinth Pittsburg Landing Road. The total length of this road is approximately 2115 meters (6939 feet). The existing roadway is composed of an asphalt pavement material with a total cross section of 6.2 meters (20.3 feet).

It is proposed to reconstruct the pavement failures of the roadway with a full depth asphalt pavement reconstruction from Station 80+000 to 80+400 for a total length of 400 meters (1312 feet). It is also proposed to asphalt overlay the other portions of the roadway from Station 80+400 to 82+114.6 for a total length of 1715 meters (5625 feet).

There would also be a pull-off area located from station 81+380.0 to 81+410.0 on the right side of the roadway to accommodate the visitor's experience of an overlook of the Missouri State Memorial Monument. This pull-off area would be 30 meters (98.4 feet) long and 3.6 meters (11.8 feet) wide. This would be a two car paved pull-off area covering 90.0 square meter (968.8 square feet) over the existing pull-off location.

Reconfiguration of the Johnston Tour Stop #12

Johnston Tour Stop #12 is located off the Hamburg / Savannah Road. This parking area is 1050 square meters (11,302 square feet). The existing parking area is composed of an asphalt pavement material with a monument in the middle of the circle. It is currently one-way traffic with an eye drop turnaround.

It is proposed to restore this parking area to green space by the removal of eye drop turnaround, approximately 1050 square meters of asphalt pavement and backfill with a topsoil material. It is further proposed to add a pull-off area adjacent to Hamburg / Savannah Road to provide interpretation at the Johnston Monument.

There would also be a pull-off area located from station 80+610.0 to 80+675 on the right side of the roadway to accommodate the visitor's experience of an overlook of the Johnston Monument. This pull-off area would be 65 meters (213.3 feet) long and 4.0 meters (13.1 feet) wide. This would be a two bus paved pull-off area covering 220 square meter (1937.5 square feet). This would include a sidewalk adjacent to the pull-off area having a total area of 81 square meters (872 square feet).

Reconfiguration of the Bloody Pond Tour Stop #14

Bloody Pond Tour Stop #14 is located on the left side of Hamburg / Savannah Road. This pull off area is 260 square meters (2799 square feet). The existing pull off area is composed of an asphalt pavement material.

This pull off area is in the middle of the super elevation of the roadway with limited sight distance.

It is proposed to obliterate 260 square meters (2799 square feet) the existing pull-off area on the left side of the roadway (the side of the road closest to Bloody Pond) and increase the pull-off on the right side from 90 square meters (969 square feet) to 288 square meters (3100 square feet). These would accommodate a combination of two buses and up to three automobiles. The proposed increase of the pull-off would occur in the current right-of-way.

Overlay of the Peach Orchard Parking Area

Peach Orchard Parking Area is located on the left side of Hamburg / Savannah Road. The existing parking area is composed of an asphalt pavement material.

It is proposed to overlay the existing parking area with an asphalt pavement within the existing roadway prism of the parking area.

e. Sherman / Cavalry Road

There are two components to this section.

- **Rehabilitation of the roadway and pull-offs parking areas.**
- **Reconstruction of the Tilghman Bridge**

This road is currently closed due to the wash out of the box culvert at the Tilghman Branch crossing.

Rehabilitation of the roadway and pull-offs parking areas

This is a one-way road. The roadway begins at the intersection of McClernand Road and runs into Cavalry Road ending at the intersection of Hamburg / Savannah Road. The total length of the road is approximately 2160 meters (7087 feet). The existing roadway is composed of a gravel pavement structure with a total cross section of 3.6 meters (12 feet)

It is proposed to overlay the existing roadway with an asphalt pavement within the existing roadway prism. The only exception would be the realignment of the intersection of Sherman Road and Cavalry Road into on one smooth curve. A pull-off parking area will also be constructed.

There would be a pull-off area located from station 500+720.0 to 500+797.4 on the left side of the roadway to accommodate the visitor's experience of an overlook of the Jones Field. This pull-off area would be 77.4 meters (253.9 feet) long and 4.0 meters (13.1 feet) wide. This would

be a two bus paved pull-off area covering 270.0 square meters (2902 square feet).

Tilghman Branch Bridge – Wash out

It is proposed to construct a single span slab bridge in place where the box culverts were washed out at the Tilghman Branch. The single span slab bridge would be approximately 14.4 meter (47 feet) long, 6.0 meter (20 feet) wide with 4.7 meter (15.5 feet) approach slabs.

g. Tent Hospital Site and Tour Stop

Tent Hospital Site Tour Stop is located off the Hamburg / Savannah Road. The total length of this road is approximately 353 meters (1158 feet). The existing roadway is composed of an asphalt pavement material with a total

cross section of 4.3 meters (14 feet). It is currently two-way traffic with an eye drop turnaround.

It is proposed to restore this roadway to its historic trace by the removal of eye drop turnaround, approximately 972 square meters (10462.5 square feet) of asphalt pavement and backfill with a topsoil material and reseeded. The alignment over the old trace would be a one-way road with a pull-off area following the old trace Tent Hospital Road to Hamburg / Savannah Road with an upgrade of pavement from gravel to asphalt pavement.

There would be a pull-off area located from station 90+184.0 to 90+249.0 on the right side of the roadway to accommodate the visitor's experience of an overlook of the Tent Hospital Monument. This pull-off area would be 65 meters (213.3 feet) long and 4.0 meters (13.1 feet) wide. This would be a two bus paved pull-off area covering 220.0 square meter (2368.0 square feet).

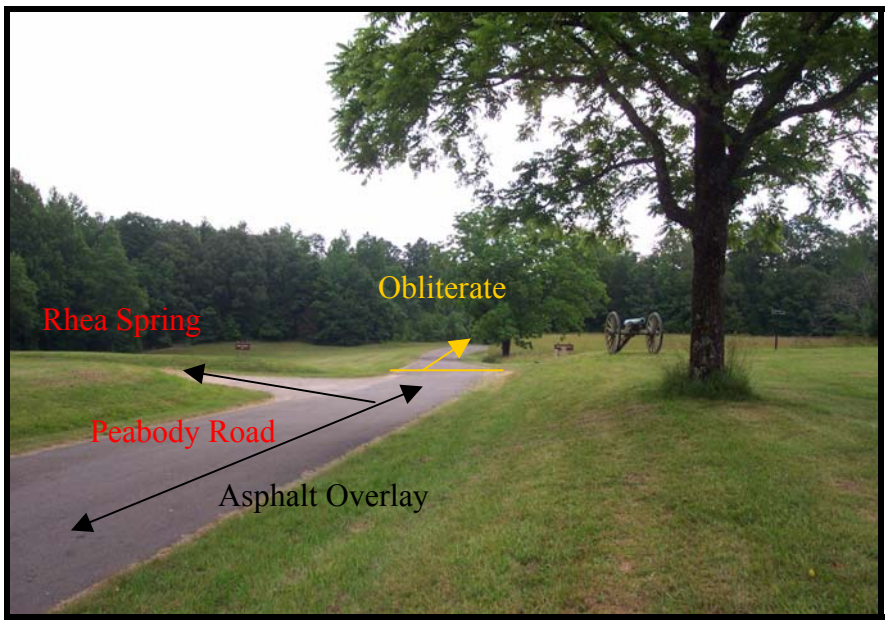
h. Peabody Road and Rhea Spring Parking Area

There are two components to this section:

- **Rehabilitation of a portion of Peabody Road and Rhea Spring Parking Area**
- **Obliteration of a portion of Peabody Road**

This is a one-way road. The roadway begins at the intersection of Corinth Road ending at the intersection of Reconnoitering Road. The total length of the road is approximately 1050 meters (3445 feet). The existing roadway is composed of an asphalt pavement structure.

Peabody Road and Turnoff for Rhea Spring Parking Area



Rhea Spring Parking Area

Rehabilitation of a portion of Peabody Road and Rhea Spring Parking Area

There is a cross section of approximately 6.0 meters (20 feet) from the intersection of Corinth Road to the turnoff for Rhea Spring Parking Area. This portion of Peabody has a length of 325 meters (1066 feet). The Rhea Spring Parking Area is an existing parking area for use by automobiles and buses.

It is proposed to overlay the existing roadway and Rhea Spring Parking Area with an asphalt pavement within the existing roadway prism from the intersection of Corinth Road to the turnoff for Rhea Spring Parking Area and through the Rhea Spring Parking Area.

Peabody Road from turnoff to Rhea Spring Parking Area to the intersection of Reconnoitering Road

Obliteration of a portion of Peabody Road

There is a cross section of 4.3 meters (14 feet) from the turnoff for Rhea Spring Parking Area to the intersection of Reconnoitering Road. This portion of Peabody has a length of 725 meters (2379 feet).

It is also proposed to obliterate, backfill with topsoil, and re-seed Peabody road from the intersection of Corinth Road to the turnoff for Rhea Spring Parking Area.

i. Impact Summary of the Build Alternative

Roadway Name	Length of Disturbance (meters)	Roadway Excavation (m^3)	Embankment Construction (m^3)
Woolf Field Road	168.9	265	10
Pittsburg Landing Road	286.7	110	885
Brown's Landing / Dill Branch Road (includes Indian Mound Parking Area)	2094.4	875	1740
McClernand Road	460	128	173
Hamburg / Savannah Road	2114.6	0	0
Sherman / Cavalry Road	2160.4	1510	3800
Tent Hospital Site and Tour Stop	353.3	580	80
Peabody Road and Rhea Spring Parking Area	1050	475	0
Approximate Total Quantity	**7178.3**	**3340**	**6515**

B. Comparison of Alternatives

The following chart summarizes and compares the likely results of implementing the No Action Alternative and the Preferred Alternative as they relate to the environment.

Factor	No Action Alternative	Build Alternative
Wetlands	No impact to wetlands with the exception of Dill Branch. This tributary will continue to exhibit degradation of the wetlands due to the causeway.	No impact to wetlands with the exception of Dill Branch. The installation of a bridge and removal of the causeway will enhance the quality and function of the wetlands.
Vegetation	No impacts to vegetation would occur.	Some vegetation (grasses) removal and clearing would occur in areas proposed for realignment. Obliterated areas would be reseeded and allowed to return to natural conditions.
Protected Species	No impact to threatened or endangered species.	No impact to threatened or endangered species is anticipated.
Air Quality	No change from the existing conditions is anticipated.	Minor temporary impacts may occur during construction.
Soils/Geology	There would be continued erosion for the Dill Branch Road from the Tennessee River and the Tilghman Bridge from the Tilghman Branch. The other roads in this project are expected to have no change.	Some earth disturbance would be required to perform the roadway realignments and reconstruction activities. No major or long-term adverse impacts are anticipated.
Water Quality	No change from the existing conditions with the exception of Dill Branch and Tilghman Branch. Both of these tributaries will exhibit degrading water quality due to the damage of erosion.	Minor temporary impacts may occur during construction due to erosion and sediment run-off. However, these impacted would be mitigated through the development and implementation of a sediment and erosion control plan which utilizes best management practices.
Birds, Fish & Wildlife	The biodiversity of the birds, fish and wildlife will continue to degrade due the existing causeway and no free flow movement.	No impacts to birds, fish and wildlife are anticipated.
Cultural Resources	No change from the existing conditions.	Potential adverse impacts have been mitigated through archeological investigations and data recovery. The Cultural Landscape will improve with the restoration of the roadway to its original roadway trace.
Noise	No change from the existing conditions.	Temporary increases in noise levels may occur during construction.
Visitor Use and Recreation	Safety concerns would remain. Deterioration of roadways would continue to occur. No enhancement of the visitor experience.	Temporary disruptions and impacts during construction. Improved conditions after construction.
Transportation	Sherman / Cavalry Road and Brown's	Improved roadway, bridge and

Factor	No Action Alternative	Build Alternative
	Landing / Dill Branch Road would remain closed to the public. There would be continued damage to historical features due to the short turning radii for vehicles (buses).	intersection safety and driving conditions. Fewer turning movements. Defined beginning and ending points to the Park Tour Route.
Socio-Economics	No change from existing conditions.	No change from existing conditions.
Cumulative Impacts	No cumulative impacts occur as a result of the No Action Alternative with the exception of Dill Branch and Tilghman Branch. These two tributaries will continue to degrade. Associated with the damage from erosion the Dill Branch Road and Grants Left Flank areas will continue to be threatened from erosion.	Cumulative impacts are anticipated to be minor given the limited extent of the proposed work..

C. Environmental Commitments

In order to minimize the environmental impacts associated with the preferred alternative, the following measures are recommended for implementation:

Erosion and sediment control measures, including but not limited to the following, will be implemented on all vegetative denuded areas;

a. Preventive Planning: An Erosion and Sediment Control plan would be prepared and included in the final construction plans.
b. Diversion channels: Channels would be constructed around the construction site to keep the work site free of flow-through water, and would be lined with plastic or plastic filter fabric to minimize soil erosion
c. Silt Barriers: Appropriate use would be made of silt fences, hay bale and brush barriers and silt basins in areas susceptible to erosion. Those areas marked as culturally sensitive areas will use a modified silt fence standard specification as agreed upon by the SHPO. These structures would be regularly maintained (sediment removal) to prevent undermining.
d. Temporary seeding and mulching: All cuts and fill slopes, including those in waste sites and borrow pits, would be seeded and mulched as soon as possible.
e. Limitation of in-stream activities: In-stream activities, including temporary fills and equipment crossings, would be limited to those absolutely necessary.

2. Concrete box culverts or other drainage structures would be placed in a manner that prevents any impediment to low flows or to movement of indigenous aquatic species (e.g. native fish) and would be appropriately sized for the drainage area.

3. Channel excavations required for pier placement would be restricted to the minimum necessary for that purpose. Overflow channel excavations would be

confined to one side of the channel, leaving the opposite bank and its riparian vegetation intact.

4. All fill would be stabilized immediately upon placement.

5. Stream banks would be stabilized with riprap or other accepted bioengineering techniques.

6. The final construction plans would include directions to the Contractor for minimizing disturbance of woody and turf vegetation.

7. If additional archeological artifacts were encountered during excavation operations, construction would be halted immediately. The Southeast Archeological Center and the State Historic Preservation Office would be notified immediately.

In addition to the above stipulations the following measures will be enforced to protect the cultural and historical resources of the park:

a. In all cases where an area has been determined to be culturally or historically sensitive, no disturbance (construction activity) will occur or be permitted beyond the edge of existing roadway (i.e. area of previous disturbance).
b. No vehicles or construction equipment will be allowed in adjacent fields or areas without prior approval from the Environmental Monitor.
c. Non-invasive environmental barriers will be placed to protect those areas identified as culturally or historically sensitive.
d. Use of silt fencing will be restricted from any area determined to be culturally or historically sensitive, and non-destructive erosion control measures will be employed. In areas determined that silt fencing is reasonable and suitable, fences will be constructed without trenching.

The final construction plans would include directions and specifications to the Contractor for re-vegetating disturbed areas with non-invasive native plant species.

D. Environmentally Preferred Alternative

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which is guided by Council on Environmental Quality (CEQ) regulations. CEQ regulations provide direction that "[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Generally, this means the alternative that causes the least damage to the biological and physical environment. It also means the alternative that best protects, preserves, and enhances historic, cultural and natural resources." [Question 6a, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" (40 CFR 1500-1508), Federal Register Vol. 46, No. 55, 18026-18038, March 23, 1981].

The Build Alternative is the most environmentally preferred alternative. The Build Alternative would provide for the preservation, enhancement, and increased

understanding of the Park's natural, historic, and cultural resources; as well as, remove human health and safety concerns, and increase visitor use and enjoyment of the Park. The Build Alternative would not provide for maximum protection of the biological and physical environment as compared to the No Action Alternative. However, through mitigation and the use of best management practices, it is believed that any impacts to the natural environment would be minimized and considered insignificant.

III Affected Environment

A. General Environmental Setting

Shiloh National Military Park consists of approximately 3,973 acres in Hardin County, Tennessee. The Park is located on the west bank of the Tennessee River about nine miles south of Savannah, Tennessee. The project area is located in southwest Tennessee, in a rural setting with primarily an agricultural landscape.

In Hardin County, the summers are hot and the winters are mild. Rainfall is generally abundant, falling about one day in three throughout the year. Annual precipitation averages about 55 inches, although recorded levels have been as low as 36 inches and as much as 75 inches. Severe thunderstorms are infrequent, tropical storms are rare, and blizzards virtually nonexistent.

B. Natural Resources

1. Vegetation

A mixed hardwood forest covers more than two-thirds of the 3972.87-acre Park. The forest and fields remain today much as they were at the time of the 1862 battle. Lawn areas around buildings, roadways, and other features are mowed to provide a manicured and more aesthetically pleasing appearance. Woodland species types change with the terrain from an upland oak forest containing a variety of oaks, hickories, elm, walnut, red cedar, and short leaf pine, transitioning though ravines filled with mixed hardwood forest consisting principally of sweetgum, sycamore, tulip poplar, and basswood, to a bottomland hardwood consisting of cherrybark oak, sweetgum, cottonwood, and river birch. The understory, particularly near forest openings, is thick with redbud, honeysuckle, poison ivy, and Virginia creeper.

Roadway Name	Resource (Vegetation)
Woolf Field Road	Mixed Hardwood trees with mowed grass lawn
Pittsburg Landing Road	Mixed Hardwood Forest with shoreline of Tennessee River
Brown's Landing Road / Dill Branch Road and Indian Mound Parking Area	Mixed Hardwood Forest for the whole area with the exception of Indian Mound Parking Area which is an agricultural field.
McClernand Road	Mixed Hardwood trees with mowed grass lawn
Hamburg / Savannah Road	Mixed Hardwood trees with mowed grass lawn
Sherman / Cavalry Road	Mixed Hardwood Forest with agricultural fields
Tent Hospital Site and Tour Stop	Mixed Hardwood trees with mowed grass lawn
Peabody Road and Rhea Spring Parking Area	Mixed Hardwood trees with mowed grass lawn

2. Threatened and Endangered Species

Although no endangered plant species are known to inhabit the Park, a 1994 inventory of the lichens of Shiloh National Military Park verified the existence of a rare, endemic species of lichen (Pertusaria valliculata) in the vicinity of the Park.

USFWS records indicate that seven different species of endangered mussels have historically been found to reside within the Tennessee River adjacent to the Park boundary. Bald eagles winter along the river and may be found in the vicinity of the Park during others times of the year. No nesting activity by eagles has been reported in the vicinity of the Park.

3. Birds, Fish, and Wildlife

A diverse group of animals are found in the Park, including at least 45 species of mammals, 40 species of reptiles, and 27 species of amphibians. At least 148 species of birds have been identified as residents or at least seasonal visitors. Food and cover for wildlife is plentiful.

The reach of the upper Kentucky Lake adjacent to Shiloh National Military Park supports a diverse aquatic community unparalleled in the Tennessee River including numerous fish and freshwater mussel species. For many years, the area has been the focus of intensive commercial fishing and musseling activity. The recreational fishery in this section of the Tennessee River is also highly developed and reaches seasonal activity peaks in response to concentrations of certain species during their annual spawning periods. Winter fishing activity concentrates on sauger that congregate below Pickwick Dam. White bass, striped bass, rockfish/ white bass hybrids, and white crappie are caught through the spring months, while black bass, and other centrarchids dominate the creel in the summer. Commercial fishermen concentrate on buffalo, carp, paddlefish, and several species of catfish. Commercial musseling is about equally distributed between brailing and diving. The major commercial shell taken is the ebony shell, although a number of other species are also taken including pigtoes. The Tennessee Wildlife Resources Agency has established a mussel sanctuary between Pickwick Dam (Mile 206.7) and Mile 201.9 to protect numerous threatened and endangered mussel species known to inhabit this reach.

4. Wetlands

There is low quality and functioning wetlands found within the Dill Branch Bridge construction study area. The ACOE has indicated that since the causeway will be removed with this project that there will be an

overall benefit for these wetlands. Two tributary streams (Dill Branch and Tilghman Branch) are present and may be impacted by the proposed action. If any work were proposed to occur within these streams, a permit from the Army Corps of Engineer may be required.

C. Physical Environment

1. Air Quality

Hardin County has been determined by the Environmental Protection Agency (EPA) to be an attainment area for purposes of the Clean Air Act, i.e., pollution levels are below *de minimis* levels established by the EPA.

2. Water Quality/Hydrology

Bounded on the east by the Tennessee River, the battlefield is an undulating tableland ranging from 360 to 600 feet above mean sea level (msl) in elevation. The river's normal water elevation is about 362 msl and is somewhat regulated by the Kentucky Dam, 200 miles downstream, and by Pickwick Dam, nine miles upstream. River bluffs tower more than 100 feet above the river.

Water quality in the Tennessee River is generally good. According to *The Status of Water Quality in Tennessee 1996 305(b) Report*, published by the Tennessee Department of Environment and Conservation, Division of Water Pollution Control, Kentucky Lake is considered fully supporting of designated uses. Designated uses include fish and aquatic life, recreation, domestic water supply, irrigation, livestock watering and wildlife, and navigation. The report goes on to state that the water directly below Pickwick Lock and Dam (approximately eight (8) miles upstream from the Park) is considered threatened by poor quality water released by the dam. The water quality concerns center around low dissolved oxygen due to high biological oxygen demand in the deep, slow moving portions of lower Pickwick Lake. Within the eight-mile reach between Pickwick Dam and the Park, this condition is generally corrected. Despite periodic episodes of lowered dissolved oxygen, diverse communities of sedentary freshwater mussels (a biological indicator of water quality) are present in good numbers, including at least six endangered species.

3. Soils/Geology

The Park is situated on a plateau in the shape of an irregular triangle with three and four mile long sides. Located within the Gulf Coastal Plain physiographic province, the region soils are younger than in other physiographic regions in the country. The majority of the site is underlain by high-level alluvial deposits which consist of iron stained gravel, sand, silt, and clay; variable in thickness but generally less than 18 m thick. Alluvial

deposits and the Coffee Sand formations underlie the site in the flood plain areas parallel to the Tennessee River. The alluvial deposits consist of sand, silt, clay and gravel and range in thickness between 6 m to more than 30 m. The Coffee Sand formation consists of loose fine-grained sand, light gray, glauconitic, micaceous; interbedded with laminated lignitic clay. The thickness of the Coffee Sand formation varies between 7 m and 61 m.

The majority of the near-surface soils at the site are of the Paden-Pickwick-Waynesboro association. This association consists of moderately well drained soils and well-drained soils on high terraces. Paden and Pickwick soil series make up about 70 percent of the association. The surface layer is loam and silt loam. The subsoil is chiefly silty clay loam and clay loam. The Waynesboro series consists of fine sandy loam and gravelly sandy loam. The near-surface soils adjacent to the Tennessee River are of the Wolflever-Beason-Egam association. This association consists of nearly level soils on low stream terraces and flood plains of the Tennessee River. The surface layer consists of dark grayish-brown to brown silt loam and varies in depth between 0.45 and 0.8 m. The substratum is brown or yellowish-brown silt loam with varying amounts of chert.

Stream channels are not stabilized in all places, and the streams are still laying down deposits. Many areas consist of poorly drained and swampy land. Upland areas are undulating to steep, easily erodible, and contain a fragipan.

4. Noise

The area is mostly serene and tranquil with the majority of noise being generated by commercial and recreational traffic on the Tennessee River. Vehicular traffic is also a major contributor to noise within the Park.

D. Socio-Economic Environment

The project site is entirely on National Park Service property; however, the primary industries outside of the Park are agriculture, forestry, or small businesses related to farming or tourist services. Smaller farms generally occupy upland areas, and larger farms are found on the broad flood plain of the Tennessee River. Principal crops are corn, cotton, soybeans, and small grains. Hardin County is a typical Southwest Tennessee rural county. It has only one population concentration, Savannah, about six miles to the northeast of the Park. Census data for 1990 shows a Hardin County population of 22,633: 21 percent urban, 79 percent rural. More than 20 percent of households were below the poverty level. Although slightly more than fifty percent of high school students graduate, only about five percent graduate from college. Many farmers depend on employment in local industries for part of their income. The Tennessee

River, which meanders through the county, supports barge transportation.

The NPS charges visitors a fee for entering the Park, which assists in generating some revenue for Park maintenance operations and other activities.

E. Cultural Resources

Shiloh National Military Park was established in 1894 to preserve the scene of the first major battle in the Western theater of the Civil War. The two-day battle, April 6 and 7, 1862, involved about 65,000 Union and 44,000 Confederate troops. This battle resulted in nearly 24,000 killed, wounded, and missing. It proved to be a decisive victory for the federal forces when they advanced on and seized control of the Confederate railway system at Corinth, Mississippi.

Shiloh National Military Park is an established tourist attraction providing over one-half million annual visitors with a tranquil, historically accurate memorial marked by 151 monuments, 217 cannon, and over 450 historic plaques. With a landscape much the same as in 1862, the Park offers an interpretation of the battle through facilities at the Visitor Center and by a nine-mile self-guided tour of the battlefield.

Roadway Name	Resource (Cultural and Historical)
Woolf Field Road	Civil War Era
Pittsburg Landing Road	Civil War Era
Brown's Landing Road / Dill Branch Road and Indian Mound Parking Area	Civil War Era and Prehistoric (Indian Mound Sites)
McClernand Road	Civil War Era
Hamburg / Savannah Road	Civil War Era
Sherman / Cavalry Road	Civil War Era
Tent Hospital Site and Tour Stop	Civil War Era
Peabody Road and Rhea Spring Parking Area	Civil War Era

1. Archeological Resources

The historic significance of the Park is reflected primarily in historic resources relating to and commemorating the Civil War Battle of Shiloh and in prehistoric archaeological resources represented most prominently by the Shiloh Indian Mounds (site 40Hr7).

The earliest archaeological investigations of the Shiloh Indian Mounds were performed around the turn of the century by Col. Cornelius Cadle and, some sixteen years later, by C. B. Moore (1915). More extensive

investigations were initiated in 1933 and 1934 by Dr. Frank H. Roberts Jr., of the Smithsonian Institution, as a project of the Civil Works Administration. More recently the mound area was investigated in 1976 by John W. Walker of the Southeast Archaeological Center (SEAC) and by Gerald Smith of Memphis State University under contract to the National Park Service (1975). In 1979, Christine Beditz of SEAC further examined Mound A. John Ehrenhard for the SEAC completed a Preliminary Cultural Resource Management Plan for the Shiloh Mounds in 1981.

Since prehistoric times, the Tennessee River has served as a major transportation route through the area. Artifacts from the Late Woodland Period, dated circa 300 - 400 A.D., discovered at the Shiloh Mounds site point to early human occupation of the site. Shiloh's Mound C may represent a Woodland Period burial mound. The other mounds appear to have been constructed during the Mississippian Period between 1000 A.D. and 1100 A.D.

The Shiloh Indian Mounds were determined to be eligible for listing on the National Register of Historic Places on December 22, 1978. The site was officially listed on the National Register on March 27, 1979. On May 5, 1989, the Shiloh Indian Mounds were designated as a National Historic Landmark. The Shiloh Indian Mounds consists of 7 large Indian mounds and well over two dozen lesser mounds representing a late prehistoric Mississippian palisade complex of mounds, village and plaza, and an earlier, Woodland Period component.

Recently, the Southeast Archeological Center, SEAC, conducted a Phase I/II assessment of the area of potential impacts as required by Section 106 of the National Historic Preservation Act. The areas examined during the 1443 project were selected based on specific research questions formed in consultation with Southeast Region Archeological Center, Park personnel and historical geographers in an attempt to determine the accuracy of the battle lines and other questions relating to military activities. Areas examined during the 1592 and 1430 projects provided by the U.S. Department of Transportation, Federal Highway Administration, under project PRA-SHIL 502(2) and specific locations requested by the park personnel dictated the areas surveyed. The map was 30% field review drawings dated April 2002.

The survey methodology implemented by SEAC consisted of historical research, cartographic research, shovel testing, excavation units, and systematic metal detecting. Over the three projects a total of 360 shovel tests were recorded. Only 86 (24%) of the 360 shovel tests contained cultural material and only 5 (1%) produced any Civil War related artifacts. Twenty-one (6%) were positive for Native American artifacts.

The results of the survey were neither surprising nor unexpected. The large number of soldiers and intense fighting that took place at this well-preserved site left an unequivocal signature upon the land. The signature however was not evident during the shovel-testing portion of the survey and the density of the artifacts present did not become apparent until the metal detecting began.

Portions of this survey conducted to fulfill the requirements of Section 106 of the NHPA tested and mitigated areas of potential impact. It was recommended that construction proceed with minor adjustments. These adjustments are confined to three areas of concern. Two of the locations were Civil war sites and the third was the Shiloh Mounds National Landmark and recently recorded Native American house mounds.

The three areas of concern are:

- Dill Branch Road from station 2.650 to 2.900, within the bound of the Shiloh Mounds National Landmark, an area of extreme cultural sensitivity.
- Brown's Landing Road from station 1.500 and 2.300, within the bound of the Shiloh Mounds National Landmark, an area of extreme cultural sensitivity.
- On Cavalry Road, 50 meters in all directions on Monument Number 68 (52nd Illinois Infantry regimental monument.

In accordance to the proposed action goal of no effect or impairment on park cultural resources, it has been determined to maintain (and not deviate from) the alignments of existing roadways in the above three areas of concern. Therefore, all recommendations provided by SEAC will be implemented and proposed road construction activities and improvements will be restricted to the repaving of existing roads and the paving of existing gravel roads in previously disturbed areas with the exception of those areas for realignment previously cleared by the SEAC.

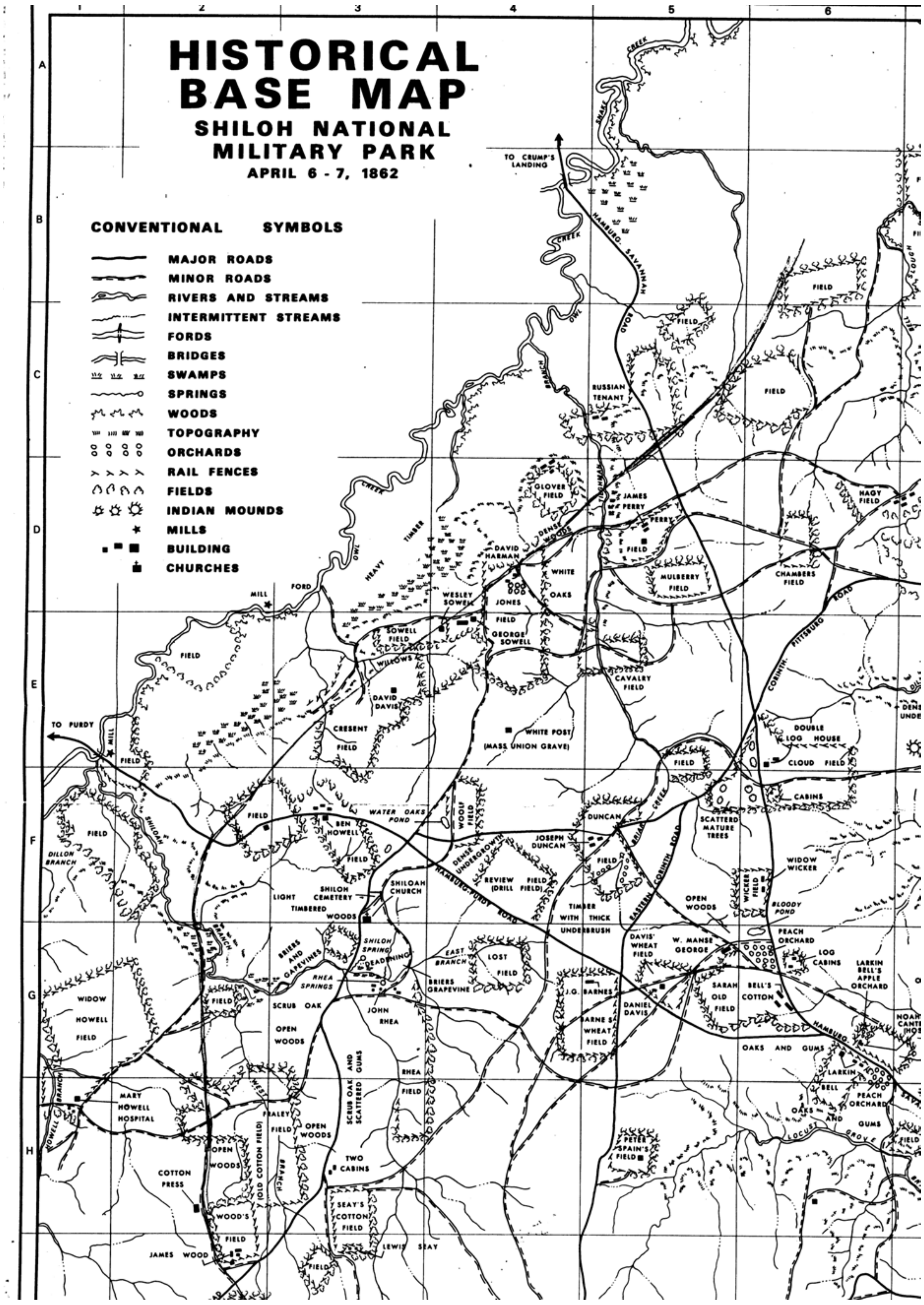
2. Historic Resources

The first western battle between the Union and Confederate soldiers took place at Shiloh National Military Park. The battle took place from April 6 to the 7 in 1862 and resulted in the injury and loss of 24,000 men. Although both sides suffered dramatic losses, the Union side came out victorious. The confrontation between the two sides gave indication to how gruesome and long the war was going to be.

The battlefield contains about 4,000 acres and has within its boundaries the Shiloh National Cemetery along with the well-preserved prehistoric Indian mounds that are listed as a historic landmark. The NPS recognizes a total of 203 significant historic/prehistoric structures and features

within the Park. Of these, 184 structures relate to the Battle of Shiloh, including standing buildings, roads, the National Cemetery, a defensive earthwork, Confederate burial trenches, and numerous monuments.

For the most part, the roadway system within the Park is very similar to that which existed during the time of the battle; however over the years some changes to the roadway alignments were made. The roadway alignments as they existed on April 6 - 7, 1862 are depicted in the following map.


HISTORICAL
BASE MAP
SHILOH NATIONAL
MILITARY PARK
APRIL 6 - 7, 1862
CONVENTIONAL SYMBOLS
MAJOR ROADS
MINOR ROADS
RIVERS AND STREAMS
INTERMITTENT STREAMS
FORDS
BRIDGES
SWAMPS
SPRINGS
WOODS
TOPOGRAPHY
ORCHARDS
RAIL FENCES
FIELDS
INDIAN MOUNDS
MILLS
BUILDING
CHURCHES
TO CRUMP'S LANDING
TO PURDY
HAMBURG - SAVANNAH ROAD
RUSSIAN TENANT
GLOVER FIELD
JAMES PERRY
DAVID HARMAN
WHITE OAKS
MULBERRY FIELD
CHAMBERS FIELD
HAGY FIELD
HEAVY TIMBER
MILL
FORD
WESLEY SOWEL
JONES FIELD
GEORGE SOWELL
SOWELL FIELD
WILLOWS
CAVALRY FIELD
DAVID DAVIS
CRESENT FIELD
WHITE POST
(MASS UNION GRAVE)
DOUBLE LOG HOUSE
CLOUD FIELD
CABINS
SCATTERED MATURE TREES
WATER OAKS POND
WOOLF FIELD
BEN HOWELL
DUNCAN
JOSEPH DUNCAN
DENSE UNDERGROWTH
REVIEW FIELD (DRILL FIELD)
HAMBURG-PURDY ROAD
EASTERN CORINTH ROAD
CORINTH - PITTSBURG ROAD
WIDOW WICKER
WICKER FIELD
BLOODY POND
OPEN WOODS
DILLON BRANCH
SHILOH CEMETERY
LIGHT TIMBERED WOODS
SHILOAH CHURCH
TIMBER WITH THICK UNDERBRUSH
DAVIS' WHEAT FIELD
W. MANSE GEORGE
PEACH ORCHARD
LOG CABINS
LARKIN BELL'S APPLE ORCHARD
SHILOH SPRING
DEADENING
BRIERS AND GRAPEVINES
RHEA SPRINGS
EAST BRANCH
LOST FIELD
BRIERS GRAPEVINE
J.G. BARNES
DANIEL DAVIS
BARNES WHEAT FIELD
SARAH BELL'S OLD COTTON FIELD
WIDOW HOWELL FIELD
SCRUB OAK
JOHN RHEA
OPEN WOODS
OAKS AND GUMS
LARKIN BELL
PEACH ORCHARD
SCRUB OAK AND SCATTERED GUMS
RHEA FIELD
MARY HOWELL HOSPITAL
FRALEY FIELD
OPEN WOODS
LOCUST GROVE
PETER SPAIN'S FIELD
COTTON PRESS
(OLD COTTON FIELD)
TWO CABINS
WOOD'S FIELD
SEAY'S COTTON FIELD
JAMES WOOD
LEWIS SEAY

3. Tribal Resources

It is not anticipated that tribal resources would be encountered. Coordination with applicable tribal nations has been initiated. The Chickasaw Nation accepted the opportunity to participate in this document as a Cooperating Agency. The Chickasaw Nation has also concurred with the determination of SHPO of no adverse effect. They will also have an opportunity to comment on the Environmental Assessment.

F. Visitor Use and Experience

The Park is open daily from 8:00 am to dusk all year long, except for December 25. The peak visitation season runs from April through Labor Day. In 2002, the total number of recreational visits to the Park was approximately 569,094.

Shiloh National Military Park provides opportunities for recreational activities such as auto touring, biking, and hiking. The Visitor Center offers an orientation film and museum exhibits. The auto-tour is self-guided and contains fourteen wayside exhibits.

A local farming community surrounds this park. They use various park roads to travel back and forth through the surrounding community. The main road of through travel is Hamburg-Savannah Road.

The park has had to re-route visitors and local traffic through McClernand Road with the closure of Sherman / Cavalry Road. The proposed improvements and opening of Sherman / Cavalry Road would eliminate the need for McClernand Road as a part of the tour route and local traffic use. The park is proposing to close McClernand Road to public traffic. This would restore the road back to its historic trace (remove existing asphalt pavement and backfill with aggregate topsoil course). This road would be used only in emergency situations and maintenance activities for this portion of the park. There is very little local traffic on this road as it is not a crossing road through the park. This would be a negligible impact to the local traffic patterns and use.

The park is also proposing to close a portion of Peabody Road from the Rhea Spring Parking Area to Reconnoitering Road. This would restore this road back to its historic trace (obliterating and removal of the pavement, backfill with topsoil and seed). This would also improve the visitor experience by making the Rhea Spring Parking Area into a tour stop and allowing the traffic to return back to Corinth Road to continue the auto tour. This road would be used only in emergency situations and maintenance activities for this portion of the park. There is very little local traffic on this road as it is not a crossing road through the park. This would be a negligible impact to the local traffic patterns and use.

IV. Environmental Effects

This section forms the scientific and analytical basis for comparison of the alternatives discussed in Section III, and describes the probable consequences (impacts and effects) of each alternative on selected environmental resources. See definitions for impact intensity definitions in Section I.F. for clarification. The following impacts were derived and quantified through numerous field reviews, preliminary design efforts, and coordination with applicable resource agencies.

The cumulative effects of the No Action Alternative will further degrade the visitor experience and environmental consequences. The cumulative effects of the Build Alternative will restore the portions of the park to its original historic trace, re-open areas to visitor experience and protect and enhance the environmental consequences.

A. General Environmental Setting

1. No Action Alternative

   There would be further erosion damage from the Tennessee River for the Dill Branch Road, Indian Mounds and causeway. The damage caused by a storm for the Tilghman Branch Bridge that was washed out would remain and continuing degrading of the stream would occur.
   There would continue to be inaccuracy in the historic landscape with regards to the battle movements and the roads used during that time.

2. Build Alternative

   Improvements to the Park Tour Road would result from the roadway realignments, bridge construction and enhanced roadway conditions. Some areas currently occupied as green space would be lost, but new green space would be created in sections where the existing roadway is being removed.

Conclusions

Minor impacts to the general environmental setting are anticipated under the Build Alternative, however these impacts are expected to benefit the Park through improved visitor access and safety. The No Action alternative would have no impact on the general environmental setting. No impairment to the Park's general environmental setting would occur.

B. Natural Resources

1. Vegetation

   a. No Action Alternative

The existing species abundance would remain relatively the same.

b. Build Alternative

Green space, in areas where other roadways are to be realigned, would be impacted; however, the removal of pavement sections along McClernand Road would be re-vegetated with native species and permitted to return to and maintained as a road trace. Every effort to minimize disturbance for woody and turf vegetation would be made. This vegetation is in abundance around the Park, therefore the effect would be minimal, and animals would still be able to acquire food and shelter from the vegetation elsewhere in the Park. Preventive erosion control measures would be taken to help the growth of future vegetation.

c. Conclusions

Neither alternative would have a significant effect on the amount of vegetation present within the Park. No impairment to the Park's vegetation would occur.

2. Threatened and Endangered Species

a. No Action Alternative

No impact to threatened or endangered species is anticipated.

b. Build Alternative

No impact to threatened or endangered species is anticipated.

c. Conclusions

Threatened or endangered species would remain unaffected with both the no build and build alternative. No impairment to threatened or endangered species within the Park would occur.

3. Birds, Fish and Wildlife

a. No Action Alternative

There would be no additional impacts to wildlife species and aquatic habitats associated with this alternative with the exception of the Dill Branch.

The causeway limiting the aquatic life to move up and down the Dill Branch is threatening the biodiversity of the wildlife species

and aquatic habitats. The historic trace indicates that the Dill Branch once was an at grade stream feeding the Tennessee River with aquatic life to transverse back and forth on the Dill Branch.

b. Build Alternative

Wildlife may be adversely affected during construction due to increased noise levels, and the loss of some vegetated areas. However, once construction is complete noise levels would resume to previous levels, and greater areas of vegetation would be made available for wildlife. Most of the construction consists of realignment and rehabilitation of roads. Previous areas where roads once existed would be able to support growth for new vegetation, and is some cases the area of restored vegetation will be greater than the previous area.

The bridge replacement for the Tilghman Branch would restore the stream to pre-storm conditions while upgrading the structure to not bottleneck the stream.

The bridge replacement for the Dill Branch would attempt to restore the historic condition and that this activity may help to restore the biodiversity. The removal of the causeway would allow the aquatic life to transverse back and forth from the Dill Branch to the Tennessee River.

c. Conclusions

The No Action Alternative does not affect birds and other wildlife. The exception is the Dill Branch in which the aquatic biodiversity is being threatened.

Under the Build Alternative any negative affects caused by construction would be temporary and would cause no significant damage in the future. No impairment to the Park's birds, fish, or wildlife would occur.

4. Wetlands

a. No Action Alternative

This alternative would have no impacts on wetlands within the study area with the exception of the Dill Branch. The wetlands in this location continue to degrade due to the causeway trapping water within this system and limiting the biodiversity of this stream.

b. Build Alternative

There are no wetlands within the study area to be affected for the Tilghman Branch Bridge Replacement.

In a previous Environmental Assessment for the erosion control along the Tennessee River dated September 1999 by the Corps of Engineers concluded that the associated low quality wetlands to the bridge replacement for the Dill Branch area that:

> "It would not, however have any significant adverse effects on the wetland located in the Dill Branch, and may prove beneficial as it would allow the normal aquatic diversity to return." Pg. 27

Would this alternative be selected, a sediment and erosion control plan, including the use of best management practices, would be prepared by the Federal Highway Administration and included in the final construction plans.

c. Conclusions

Under either alternative, there would be no impact to wetlands. Under the Build Alternative, minor temporary impacts to Dill Branch Tributary and Tilghman Branch Tributary may be impacted during construction. A Section 404 permit from the U.S. Army Corps of Engineers would need to be obtained for this work prior to the start of construction. No impairment to the Park's wetlands would occur, instead there would be an increase in the both the function and quality of wetlands.

C. Physical Environment

1. Air Quality

a. No Action Alternative

Air quality levels would remain essentially in the same condition as they are under present conditions.

b. Build Alternative

Air quality levels would remain essentially in the same condition as they are under present conditions. The temporary air quality impacts from construction are not expected to be significant. Construction activities would be conducted in accordance with the Federal Highway Administration's *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects,*

1996; and would require compliance with all applicable local, state, and federal regulations. There are no long-term air quality impacts associated with this alternative.

c. Conclusions

Temporary and minor impacts to air quality may occur under the Build Alternative during construction. No impacts are anticipated under the No Action Alternative. No impairment to the Park's air quality would occur.

2. Water Quality/Hydrology

a. No Action Alternative

The water quality will continue to degrade due to the erosion from the Tennessee River for the Dill Branch Road and Causeway. Then water quality will also continue to degrade for the Tilghman Branch due to the washout of the bridge in this location.
No changes from the existing conditions are anticipated for the other components of this project.

b. Build Alternative

The hydrology of the Tilghman Branch and Dill Branch will be allowed to return to a free flowing condition with the construction of the proposed bridges. This action will improve the water quality of these perspective areas by eliminating the threat of further erosion.

Potential short-term impacts to water quality due to erosion may exist during construction; however, best management practices would be utilized to minimize the potential impacts. Would this alternative be selected, a sediment and erosion control plan, including the use of best management practices, would be prepared by the Federal Highway Administration and included in the final construction plans.

A number of drainage improvements are included in the proposed Build Alternative. The approximate quantities are summarized in the table below.

Approximate Drainage Quantities for the Build Alternative

Roadway Name	Removal of Inlet (ea)	Removal of Pipe Culvert (m)	Install Pipe Culvert (m)	Install Inlet (ea)	Install Headwall / Wingwall (ea)
Woolf Field Road					
Pittsburg Landing Road	1	7.2	3.1	1	2
Brown's Landing / Dill Branch Road		33.9	70.5	5	7
McClernand Road					
Hamburg / Savannah Road	2	34.0	16.6		2
Sherman / Cavalry Road	1	74.9	75.6		12
Tent Hospital Site			25.9	2	2
Peabody Road and Rhea Spring Parking Area					
Approximate Total Quantity	**4**	**150**	**200**	**8**	**25**

c. Conclusions

Water quality and hydrology would not be affected under the No Action Alternative with the exception of Dill Branch and Tilghman Branch. These two areas will continue to have problems with erosion from either Tennessee River or the damage to the streambed from a previous storm, respectively. Under the Build Alternative, there are potential effects to the water quality. However, these impacts would be minimized with the implementation of a sediment and erosion control plan. The new drainage structures and bridges would also improve drainage flow throughout the Park. No impairment to the Park's water quality or hydrology would occur.

3. Soils/Geology

a. No Action Alternative

There would be no change to the regional geology or soils.

b. Build Alternative

Since the proposed construction consists primarily of reconstruction and rehabilitation efforts, there would be no new geology introduced to the Park.

c. Conclusions

Neither alternative would affect the present condition of the soils or geology. No impairment to the Park's soils or geology would occur.

4. Noise

a. No Action Alternative

The No Action Alternative would have no effect on current or future noise levels.

b. Build Alternative

Existing noise levels would temporarily increase during construction. Park visitors, hikers, and wildlife in the immediate vicinity of the project area would be subject to the noise pollution generated from construction.

c. Conclusions

The No Action Alternative maintains current noise levels. Under the Build Alternative noise levels would increase temporarily during construction, but once construction is complete, noise would resume to previous levels. No impairment to the level of noise within the Park would occur.

D. Cultural Resources

Potential impacts on cultural resources must be addressed under the provisions for assessing effects outlined in 36 CFR, par 800, regulations issued by the Advisory Council on Historic Preservation implementing section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470 et seq.). Under the "Criteria of Effect" (36 CFR Part 800.9[a]), Federal undertakings are considered to have an effect when they alter the character, integrity, or use of a cultural resource, or the qualities that qualify a property for listing on the National Register of Historic Places.

The National Park Service has consulted with the Tennessee State Historic Preservation Office (SHPO) to ensure that the operation, management, and administration of the NPS provide for the site's cultural resources in accordance with the intent of NPS policies and with section 106, 110, and 111 of the NHPA, as stated in the 1990 programmatic agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. Under stipulation D of the programmatic agreement, all undertakings that are not considered programmatic exclusions, or are not included in the plans reviewed under the former programmatic

memoranda of agreement, would be reviewed in accordance with 36 CFR, part 800 and NPS-28, *Cultural Resource Management*.
In a letter dated March 18, 2003 the Tennessee Historical Commission concurred with the finding "that the project as currently proposed will not adversely affect any property that is eligible for listing in the National Register of Historic Places."

1. Archeological Resources

    a. No Action Alternative

        It is not anticipated that archeological resources would be disturbed or lost under the No Action Alternative.

    b. Build Alternative

        It is not anticipated that archeological resources would be disturbed or lost under the Build Alternative.

    c. Conclusions

        The No Action Alternative would not affect archaeological resources. All sites within the proposed project limits of the Build Alternative have been mitigated and construction is not likely to effect archaeological resources. No impairment to the Park's archeological resources would occur.

2. Historic Resources

    a. No Action Alternative

        No historical resources would be disturbed or lost under the No Action Alternative. The cultural landscape would remain as is and the inconsistency would still remain relative to the historical context of the park.

    b. Build Alternative

        Although Shiloh National Military Park is listed on the National Register for Historic Places, construction of the proposed project would not affect any historic structures or buildings. Instead this project would help restore the historical accuracy and cultural landscape relative to the historical context of the park. The following chart contains the relative historical context associated to the project components:

Roadway Name	Resource (Cultural and Historical) Effect
Woolf Field Road	Enhance access to this site by reconstructing pavement to handle the additional traffic loading.
Pittsburg Landing Road	Enhance access and Visitor Experience with the re-configuration of the tour stop to accommodate vehicle turnaround and reduce the vehicle conflict.
Brown's Landing Road / Dill Branch Road and Indian Mound Parking Area	Enhance access and Visitor Experience with the opening up of Brown's Landing Road / Dill Branch Road to the general public to experience both the Indian Mounds site and Civil War era battlefields.
McClernand Road	Restore this road back to its historic trace by closing the road to general public.
Hamburg / Savannah Road	Enhance access and Visitor Experience with the rehabilitation of the roadway. Also to restore the historical accuracy and safety to Bloody Pond and Johnston Monument Tour Stop by the reconfiguration of the associated parking areas.
Sherman / Cavalry Road	Enhance access and Visitor Experience with the opening up of Sherman / Cavalry Road, a historic trace, to the general public to experience the Civil War era battlefields.
Tent Hospital Site and Tour Stop	Enhancing the access, Visitor Experience, and restoring this road back to its historic trace by re-establishing the one-way traffic through this site.
Peabody Road and Rhea Spring Parking Area	Restore this road back to its historic trace by closing the road to through traffic to the general public. Also, enhancing the access and Visitor Experience with the establishment of a tour stop at Rhea Spring Parking Area to experience the Civil War era battlefield.

c. Conclusions

Neither alternative would cause any impact to the Park's historic resources. The inconsistency in the cultural landscape would remain for the no build alternative, while they would be restored in the build alternative. The asphalt pavement will not impair the cultural landscape. No impairment to the Park's historic resources would occur.

3. Tribal Resources

a. No Action Alternative

No tribal resources would be disturbed or lost under the No Action Alternative.

b. Build Alternative

The NPS invited the following tribal nations to collaborate on the proposed action: the Eastern Band of Cherokee Indians, the Cherokee Nation of Oklahoma, the Chickasaw Nation, the Choctaw Nation of Oklahoma, the Seminole Nation of Oklahoma, and the United Keetoowah Band of Cherokee. The Chickasaw Nation was the only tribe to request cooperating agency proceedings. We have coordinated the cultural resources with the Chickasaw Nation and they have concurred with finding of no adverse effect. We will continue to coordinate with the Chickasaw Nation with the NEPA document.

c. Conclusions

No impacts to tribal resources are anticipated under either alternative. No impairment to the Park's tribal resources would occur.

E. Socio-Economic Environment

1. No Action Alternative

The use of Federal funds for construction would not be required; however it is likely that additional maintenance effort and expenses would be required in order to keep the roads from declining to an increasingly unsafe or impassable condition. Any potential short-term benefits for construction workers would not occur under this alternative.

2. Build Alternative

If the Build Alternative were adopted, there would be some short-term economic gains for construction workers performing the work. The improved state of the roadways could result in a minor increase in tourism for the Park and additional revenue from entrance fees. Short-term maintenance costs would likely decline.

3. Conclusions

Although minimal, the Build Alternative would result in some socio-economic benefits for the community and Park. The No Action alternative would preclude these benefits. No impairment to the Park's socio-economic environment would occur.

F. Visitor Use and Experience

1. No Action Alternative

Visitor use and experience would remain essentially the same.

2. Build Alternative

Visitors would experience improved travel conditions throughout the Park. Rideability, traffic, accessibility, and safety concerns would be addressed. Visitors would also be able to appreciate more of the Park's beauty and historic relevance with the construction of new overlooks and historically accurate roadway alignments.

3. Conclusions

With the No Action Alternative, visits to the Park remain unchanged. Under the Build Alternative, the experience would be enhanced with improved travel options, new vistas, and safer roads. No impairment to the visitor use and experience of the Park would occur.

G. Energy Requirements and Conservation

Neither alternative would have a significant impact on energy resources or conservation issues.

H. Natural or Depletable Resources

The use of some natural resources would be required under the Build Alternative in order to complete construction operations, however no natural resources would be depleted. The quantity of materials in comparison to those readily available would be negligible.

I. Cumulative Impacts

Cumulative impacts are those impacts on the environment that result from the incremental effect of the project when considered with interrelated past, present, and reasonably foreseeable future projects.

No Action Alternative

The No Action Alternative would impact the future Park development plans. Under the No Action Alternative, the Park as a whole would partially function. This is due to the closure of Brown's Landing / Dill Branch Road and Sherman / Cavalry Road. The visitors would continue to be prohibited to experience the civil war era monuments of the Sherman / Cavalry Road and the Indian Mounds of Brown's Landing / Dill Branch Road. The erosion action continues to cause damage to Brown's Landing / Dill Branch Road threatening Grant's Left Fork Monument and the Indian Mounds. Also, the continued degradation of the roadways may

begin to effect rideability and visitor enjoyment. Park maintenance expenses can be expected to increase in order to keep the roads functioning in a safe manner. The unaddressed safety concerns may lead to future liabilities for the Park.

Build Alternative

The total cumulative impacts associated with this project are anticipated to be minor considering that this project is a portion of the implementation of the parks General Management Plan. Impacts associated with the removal of vegetation and water quality would not be significant, nor would the short-term disruption to the wildlife species. In fact, the return of many of the damaged areas (Tilghman Branch and Dill Branch) back to its natural condition would help to restore and enhance the natural environment, visitor experience, and historical accuracy. This alternative would not prohibit or disrupt future Park planning efforts or projects.

3. Conclusions

The park is going through a series of improvements to upgrade the infrastructure (roads and bridges), improve safety, enhance the visitor's experience, and protect and correct the historical settings and accuracy of the past.

This project is one of many other projects that have occurred or will occur in the future. The completion of this project would maintain the vision and scope of the General Management Plan. The scope of the General Management Plan includes the protection of resources, the correction of historical accuracies, safety improvements, and enhancing the Visitor's Experience. The element of this project compliments the General Management Plan.

The No Action Alternative maintains the present condition of the Park, with the exception of increased future maintenance expenditures. Under the Build Alternative the effects are minimal, and any adverse impacts would only occur during construction and are not likely to continue once construction is complete.

J. Irreversible and Irretrievable Commitment of Resources

In accordance with the Federal Lands Highway Program, to date, approximately $7,000,000, in Federal Lands Highway Program funds, have been set aside for planning, design, and construction of the proposed action. If it is determined that the preferred alternative would not result in significant impacts, then construction would be expected to begin in the Spring of 2004.

K. Unavoidable Adverse Environmental Effects

No significant adverse environmental effects are anticipated; however, the potential exists for archeological resources to be encountered during construction. If this occurs, construction would be halted immediately, so that the resources may be logged and retrieved. An archeologist would be on-site or on-call during any excavation operations.

L. Local Short-Term Uses and Maintenance/Enhancement of Long-Term Productivity

Short-Term maintenance costs would decline if the roads are rehabilitated and/or reconstructed in the near future. As a result, the Park may allocate more time and personnel to the protection of the Park's more prominent cultural and natural resources.

M. Compliance with Environmental Requirements

The Shiloh National Military Park currently operates under the direction of the approved *Strategic Plan for Fiscal Years 2000 - 2005 (SP).* Management objectives identified within the *SP* direct the maintenance and upgrading of roadways and associated bridges in order to provide for a positive visitor experience and to ensure effective parkway operations. However, construction and maintenance must be compatible with and sensitive to the resources for which the parkway was set aside.

The 1982 Surface Transportation Assistance Act established the Federal Lands Highway Program (FLHP), which distributes funds from the federal motor fuel tax revenues for the construction and rehabilitation of federal roads, including roads in units of the National Park System. The NPS has developed a plan for a long-term program of road improvement and maintenance with the intent to preserve and extend the surface life of principal park roads, and improve their safety. The FHWA coordinates the design, construction, and maintenance of these roads in cooperation with the NPS. As intended by the Act, the FHWA is designing the proposed roadway rehabilitation project, and construction would occur using 2001 FLHP funds.

The proposed action to perform needed repairs and make improvements to various roadway and parking areas within the Shiloh National Military Park is entirely consistent with the Park's management documents.

1. *National Environmental Policy Act (NEPA)*

   This Environmental Assessment (EA) and resultant decision documents provide disclosure of the decision-making process and potential environmental consequences of the alternatives. This EA will be available for a 30-day public review and comment period, after which the NPS will

decide if the proposed action is significant enough to require an Environmental Impact Statement (EIS). If an EIS is not required, the NPS's Southeast Regional Director may sign a Finding of No Significant Impact (FONSI). Together this EA and the FONSI would conclude the NEPA compliance for this project.

All comments and/or questions can be directed to:

Haywood S. Harrell
Superintendent
Shiloh National Military Park
1055 Pittsburg Landing Road
Shiloh, TN 38376

Telephone: (731) 689 - 5696

2. *Endangered Species Act of 1973*

Section 7 of the Endangered Species Act directs all Federal agencies to use their authority in furtherance of the purposes of the Act by carrying out programs for the conservation of rare, threatened, and endangered species. Federal agencies are required to consult with the U. S. Fish and Wildlife Service (FWS) to ensure that any actions authorized, funded, and/or carried out by the agency does not jeopardize the continued existence of any listed species or critical habitat.

Informal consultation pursuant to the Endangered Species Act was initiated in June, 2001, when a letter was sent to the U. S. Fish and Wildlife Service inquiring whether any Federal or state listed or candidate threatened or endangered plant or animal species or any other special status plant or animal species occur in the project area. The FWS responded on July 10, 2001 that existing records "do not indicate that Federally listed or proposed endangered or threatened species occur within the impact area of the project", and that "the requirements of Section 7 of the Endangered Species Act of 1973, as amended, are fulfilled."

3. *Clean Water Act of 1972*

This Act seeks to restore and maintain the chemical, physical, and biological integrity of the nation's water by a variety of means. Section 404 of the Act directs wetlands protection by authorizing the Army Corps of Engineers to prohibit or regulate, through a permit process, discharge of dredged or fill material into the waters of the United States, including wetlands. Actions described in this document comply with the requirements of Section 404 of the Clean Water Act and all other applicable federal, state, and local agencies.

Water quality in the project area would be protected by the implementation of erosion and sediment controls, such as silt fencing, straw bales, and sediment traps, as needed. Due to the potential for disturbance of archeological resources, silt fencing would only be used near streams and where steeper grades are present and not used in flatter areas with minimal shoulder disturbance. Reseeding and mulching would quickly stabilize disturbed areas. Staff at the Federal Highway Administration (FHWA) would prepare the *Erosion and Sediment Control Plan* for inclusion in the construction plans.

4. *National Historic Preservation Act of 1966*

This Act requires Federal agencies to establish programs for evaluating and nominating properties to the National Historic Register of Historic Places, and to consider the effects of undertaking a proposal on listed or eligible properties. Section 106 mandates that Federal agencies take into account the effects of their actions on properties listed or eligible and to give the Advisory Council on Historic Preservation a reasonable opportunity to comment on said actions, if appropriate.

The NPS has consulted with the State Historic Preservation Officer (SHPO) and would complete any proposed roadway improvements in accordance with National Register of Historic Places standards and criteria. On June 28, 2001, the SHPO concluded that the Build Alternative would "not adversely effect any property that is eligible for listing in the National Register of Historic Places."
All ground disturbing activities associated with the project would be reviewed for archeological needs. Completion of compliance with Section 106 of the National Historic Preservation Act would be carried out in accordance with the National Park Service's Cultural Resources Management Guidelines (RM-28), and appropriate documentation and consultations undertaken.

Although no adverse effects to cultural resources are anticipated with the implementation of the proposed action, measures would be taken to ensure that adequate protection and consideration of cultural resources are carried out throughout the design and construction phases of the project.

5. *The National Park Service Organic Act of August 25, 1916*

This Act states that the fundamental purpose of national parks is "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." The preferred alternative is supportive of this Act because it is the least intrusive on the natural and historic environment, and maintains the historic road corridor and vista for future Park visitors.

6. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, requires Federal agencies to promote "nondiscrimination in Federal programs substantially effecting human health and the environment." In response to this direction, Federal agencies must implement actions to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations. The area surrounding Shiloh National Military Park is a sparsely populated, rural area. The proposed project is located within the boundaries of the National Park, and thus, would not cause the displacement of any residents, nor would it eliminate jobs, low wage or otherwise. The proposed project would be preserving a resource that is important to society as a whole, including low income and minority populations. No minority or low-income populations would be disproportionately affected by the project and it is therefore in compliance with this Executive Order.

V. Mitigation

Cultural Resources

In order to prevent potential adverse impacts to historic resources, the EFLHD and the NPS have been coordinating with the Tennessee State Historic Preservation Office. In order to minimize the potential for adverse impacts, the project plans would prohibit the disturbance of historic or cultural markers. No markers would be moved from their present locations prior to, during, or subsequent to construction.

The Southeast Archaeological Center has reviewed and approved the mitigation of the archaeological sites of interest in the areas proposed for construction. Mitigation consisted of artifact recovery through shovel tests and metal detecting. All of the recovered artifacts have been taken to the Southeast Archeological Center for cleaning and analysis. Selected artifacts were conserved through electrolysis. All of the artifacts were classified and cataloged in accordance with the guidelines set forth in the *Cataloging Manual for Archeological Objects Volumes I, II, & III* (National Park Service, 1984).

If additional archeological resources are encountered during excavation operations, construction would be halted immediately, so that the resources may be logged and retrieved. The Southeast Archeological Center of the National Park Service would be contacted immediately.

VI. List of Preparers

The following individuals contributed to the development of this document:

Federal Highway Administration
- Jack Van Dop, Environmental Compliance Specialist
- David Alvarez, Highway Engineer, Environmental
- Jeff Johnson, Project Manager
- Robert Morris, Highway Engineer

Shiloh National Military Park
- Haywood S. Harrell, Superintendent
- Stacy D. Allen, Historian

National Park Service
- Joseph Crystal, Project Manager, Denver Service Center
- Robert Felker, Landscape Architect, Denver Service Center
- John E. Cornelison, Jr., Southeast Archeological Center
- Tammy D. Cooper, Southeast Archeological Center

VII. Coordination

As required by NPS policies and planning documents, it is the Park's objective to work with state, federal, and local governmental and private organizations to ensure that the Park and its programs are coordinated with theirs, and are supportive of their objectives, as far as proper management of the Park permits, and that their programs are similarly supportive of Park programs.

Consultation and coordination have occurred with numerous agencies for the development of the alternatives and preparation of the EA. The following people, organizations, and agencies were contacted for information, which assisted in identifying important issues, developing alternatives, and analyzing impacts:

U. S. Fish and Wildlife Service

U. S. Army Corps of Engineers

Tennessee Valley Authority

Tennessee State Historic Preservation Office

Eastern Band of Cherokee Indians

Cherokee Nation of Oklahoma

The Chickasaw Nation

Choctaw Nation of Oklahoma

Seminole Nation of Oklahoma

United Keetoowah Band of Cherokee

In order to give the public and all interested parties a chance to review the EA, it will be noticed for public comment for a minimum of 30 days through local newspapers. During this 30-day period, the EA will be available for review at the Visitor Center of the Shiloh National Military Park located at 1055 Pittsburg Landing Road, Shiloh, Tennessee. Copies of the EA will also be sent to applicable Federal, State, and local agencies for their review and comment.

VIII. References

Strategic Plan for Shiloh National Military Park. Department of the Interior. National Park Service. September, 1999.

Environmental Assessment - Tennessee River Streambank Protection. Department of the Interior. National Park Service. September, 1999.

Memorandum of Understanding between the Chickasaw Nation and National Park Service, Shiloh National Military Park, July 2001.

IX. Appendix A – Documentation of Agency Consultation

Fish and Wildlife Service Consultation:

- FHWA letter dated March 27, 2002 to the Fish and Wildlife Service requesting concurrence on our determination that the Build Alternative is not likely to effect any Federally listed threatened or endangered species, and that the proposed action is in compliance with the Endangered Species Act.

- Letter from the Fish and Wildlife Service dated April 22, 2002 stating compliance with Section 7 of the Endangered Species Act has been met.

Cultural, Historical and Tribal Consultation:

- Letter from the Tennessee Historical Commission dated March 18, 2003 stating that the project as currently proposed, "will not adversely affect any property that is eligible for listing in the National Register of Historic Places. Therefore, this office has no objection to the implementation of this project."

- FHWA letter dated March 27, 2002 to applicable Tribal Historic Preservation Offices inviting them to consult on the project.

- Letter from the Chickasaw Nation dated April 12, 2002, "accepts your offer and desire to be consulting party in this project."

- Letter form the Chickasaw Nation dated April 25, 2003 stating that "the Chickasaw Nation does support and concur with the recommendations written in the SEAC Executive Summary / Resource Study.

Army Corps of Engineers:

- Letter from the Department of the Army, Nashville District, Corps of Engineers, stating they "are pleased to have the opportunity to participate… as a Cooperating Agency in the preparation of the environmental assessment.