



National Park Service
US Department of the Interior

Chickamauga and Chattanooga National Military Park
Georgia and Tennessee

FINDING OF NO SIGNIFICANT IMPACT
Moccasin Bend National Archeological District
General Management Plan Amendment

Recommended:




Jon Bradley Bennett, Superintendent, Chickamauga
and Chattanooga National Military Park

9/14/2017

Date

Approved:



for Stan Austin, Regional Director, Southeast Region

9/14/17

Date

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INTRODUCTION

In compliance with the National Environmental Policy Act, the National Park Service (NPS) prepared an environmental assessment to examine alternative actions and environmental impacts associated with the development of a general management plan (GMP) amendment for the Moccasin Bend National Archeological District (hereafter referred to as the Moccasin Bend unit) in Chickamauga and Chattanooga National Military Park. This GMP amendment is needed because the Moccasin Bend unit was added to the park after the 1988 park's general management plan was completed. Consequently, no planning has been completed that provides overall management direction for the Moccasin Bend unit. The GMP amendment is needed to provide site-specific guidance for management of resources and visitors and development of infrastructure in the unit. The plan provides guidance intended to extend 15 years or longer. Because a number of implementation actions are dependent on funding and land transfers, these actions will be carried out when they become feasible.

The statements and conclusions reached in this finding of no significant impact are based on documentation and analysis provided in the environmental assessment and associated decision file. To the extent necessary, relevant sections of the environmental assessment are incorporated by reference below.

SELECTED ACTION AND RATIONALE FOR THE DECISION

Based on the analysis presented in the environmental assessment, the National Park Service selected alternative C (the NPS preferred alternative).

Under the selected alternative, the National Park Service will provide visitors the opportunity to learn about the park resources at a visitor center and through self-guided experiences that will include outdoor interpretive exhibits and cultural programming. Interpretation and public access will be enhanced to better tell the story of Moccasin Bend National Archeological District.

Selected Action

The primary elements of the selected action include:

- A staffed visitor center and parking area will be constructed at the Gateway site.
- The National Park Service will seek to acquire the Law Enforcement Training Range (firing range).
- Once the firing range is acquired:
 - a riverfront hiking trail will be developed to connect the Gateway site and the southern end of Stringers Ridge.
 - the existing boat ramp located there will be replaced and used for administrative purposes.
 - Stringers Ridge will be open to self-guided access.
 - a self-guided trail connection from the riverfront hiking trail to the Civil War earthworks on the southern end of Stringers Ridge will be developed.
- An easement will be sought across the northwestern part of the Moccasin Bend Wastewater Treatment Facility to allow visitor access to the historical route of the Brown's Ferry Federal

Road and for the National Park Service to access and interpret the historic Brown's Ferry site, including its significance as an original route segment of the Trail of Tears National Historic Trail.

- Regular ranger-led tours, self-guided tours, and waysides will be provided at the Blue Blazes Trail.
- Opportunities for self-guided and ranger-led tours will continue to be provided at the Brown's Ferry / Federal Road property. Likewise, scheduled ranger-led tours will continue to be offered from the south parking area to archeological sites on the west side of the unit and to the Civil War earthworks on the southern end of Stringer's Ridge.
- Park managers will implement the visitor use management framework described on pages 34-37 of the environmental assessment. Specific indicators, thresholds, and the area's visitor capacity could be determined in subsequent implementation-level planning. The monitoring of indicators and thresholds will ensure that desired conditions are being attained and park legislative and policy mandates are being fulfilled.

Rationale

Part of the purpose of Chickamauga and Chattanooga National Military Park is to preserve, protect, and interpret the nationally significant resources and values associated with 12,000 years of American Indian presence on Moccasin Bend. The Moccasin Bend unit has not had any planning that provides specific management direction for the area. The primary issues and opportunities facing the unit are protection of the area's significant archeological and ethnographic resources, providing a quality visitor experience, and being able to effectively administer the unit.

Of the alternatives considered during the GMP planning process, the selected action best meets the purpose of the park and best addresses the three issues facing the Moccasin Bend unit. Because visitors will only be able to access the west side of Moccasin Bend while on a ranger-led tour, the selected action will help to protect these sensitive archeological resources. This action will effectively balance visitor access and resource protection. Efforts to inform visitors on the sensitivity of the area's archeological and ethnographic resources, such as through educational materials and waysides, will also benefit the resources. The selected action also takes into account important tribal interests in management and use of the area.

In addition, the selected action will provide more opportunities for visitors to enjoy and appreciate the area through the development of a visitor center, the riverfront and Stringers Ridge trails, interpretive wayside exhibits, and through ranger-led tours and self-guided walks. The visitor center and wayside exhibits will help orient visitors as well as provide educational information.

MITIGATION MEASURES

Prior to implementation of any actions proposed in the GMP amendment, the National Park Service will conduct appropriate environmental review, as required by the National Environmental Policy Act, National Historic Preservation Act, and other relevant laws and regulations. To ensure that implementation of these future actions protect park resources and the quality of the visitor experience, a consistent set of mitigating measures will be applied to those actions. The park will preserve and protect, to the greatest extent possible, resources that reflect human occupation and

historical events associated with the Moccasin Bend unit. Specific mitigation measures are listed in appendix B and include measures to minimize and avoid effects to resources when possible; conduct surveys and monitoring when necessary; best management practices for construction; the use of native vegetation and soils; and the protection of listed bat habitat, among others.

PUBLIC INVOLVEMENT/AGENCY CONSULTATION

In 2008, the National Park Service initiated public involvement for a general management plan for Chickamauga and Chattanooga National Military Park that included Moccasin Bend. Although that plan was not completed, the planning team considered the comments that related to Moccasin Bend during the development of the draft alternatives for this GMP amendment.

The draft alternatives for the amendment were shared with the public during two open house meetings held on October 20 and 22, 2015. Comments were accepted during the open house on mail-back comment cards or letters returned to the National Park Service and on the NPS Planning Environment & Public Comment (PEPC) website. Seventy-two individual pieces of correspondence were received.

On May 1, 2017, the National Park Service released the *Moccasin Bend National Archeological District General Management Plan Amendment / Environmental Assessment* for public review and comment. A public meeting was held on the plan on May 4, 2017. The GMP amendment was made available locally at the park and on the PEPC website. The public was invited to submit comments on the plan from May 1, 2017 through May 30, 2017.

During the public comment period, 29 pieces of correspondence were received; 24 through the PEPC system and five comments by mail and e-mail. Several minor revisions were made to the plan/environmental assessment in response to the comments and are listed in the Errata Sheet in appendix A. These revisions were editorial in nature, did not result in substantial modification of the selected action, and did not require additional environmental analysis. See also appendix D for responses to substantive comments.

Government/Agency Consultations

Federal, state, and local agencies and tribes were consulted during the development of the plan, including: the city of Chattanooga; Chattanooga-Hamilton County Regional Planning Agency; Hamilton County; Tennessee Historical Commission/State Historic Preservation Office; Tennessee Department of Mental Health and Substance Abuse Services / Moccasin Bend, Mental Health Institute; US Fish and Wildlife Service; and US Army Corps of Engineers. Consultation on the plan also was initiated with 23 affiliated federally recognized tribes.

Informal Endangered Species Act consultation with the US Fish and Wildlife Service was initiated on January 7, 2016, on the federally endangered Indiana bat and threatened northern long-eared bat. The US Fish and Wildlife Service agreed to postpone consultation until more details are available regarding the bats and tree clearing in the unit in a July 28, 2017, letter.

On February 17, 2016, the NPS planning team advised the US Army Corps of Engineers, Nashville District, about the planning process.

In a letter dated November 9, 2015, the National Park Service notified the Tennessee Historical Commission (state historic preservation office) and the Advisory Council on Historic Preservation of the initiation of the general management plan / environmental assessment planning process for the Moccasin Bend unit. The Advisory Council elected not to participate in the Section 106 consultation. In a letter dated June 24, 2016, the National Park Service notified the Tennessee Historical Commission that the process and documentation required for preparing the environmental assessment for the plan would also be used to comply with Section 106 of the National Historic Preservation Act. The National Park Service requested concurrence with a finding of "No Potential to Cause Effect" on the GMP amendment in a letter dated August 10, 2017, and an affirmative response was received on August 25, 2017.

On multiple occasions between 2005 and 2006, the National Park Service held government-to-government meetings with associated tribal members regarding planning for Moccasin Bend. Park staff held a government-to-government meeting with representatives of two associated American Indian tribes regarding the draft alternatives in the GMP amendment on May 20, 2016. Tribal members expressed concern about access to the most sensitive archeological sites in the park; of particular concern was the proposed multiuse trail and the potential for additional unguided access into the area. Associated tribal members were contacted and consultation was requested when the environmental assessment was released for public comment in May 2017. Specific responses to the environmental assessment included endorsing the NPS preferred alternative and calling for additional consultation as plans developed. The park also received a comment recommending more relaxed review timeframes and will provide the longest feasible consultation timeframe for future implementation actions.

FINDING OF NO SIGNIFICANT IMPACT

As described in the environmental assessment, there are many beneficial impacts to archeological resources (including cultural landscapes), ethnographic resources, and visitor experiences that will result from the implementation of the selected action. However, the selected action does have the potential to cause adverse impacts to these resources. The adverse impacts that were identified are generally localized and limited in nature and the actions associated with them will be monitored and mitigated to the greatest extent possible. Therefore, no significant adverse impacts were identified. The conclusion of no significant impact is based on the analysis compiled from a combination of scientific data and professional judgment from NPS staff and documented in the environmental assessment. As defined by 40 CFR 1508.27, significance requires consideration of context and intensity. The following considerations, included in 40 CFR 1508.27, are relevant to this finding of no significant impact.

The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources

The planning team determined that the selected action will not result in the loss or destruction of significant scientific or historical resources. As described in the environmental assessment, proposed facility development in the selected alternative is not expected to adversely affect identified archeological and ethnographic resources. Long-term, localized adverse impacts could occur to ethnographic and archeological resources because of visitor use, but these impacts will be limited or avoided through efforts to inform visitors regarding the sensitivity of the resources, ranger patrols, and limited visitor access in the area.

The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973

Four federally listed species may be present within or near the Moccasin Bend unit. The threatened large-flowered skull cap (*Scutellaria montana*) does not likely occur in the unit. (However, surveys will be conducted for the species prior to ground disturbance to ensure the species is not present. If the species were documented in the area, the activity or facility will be modified so it does not affect the species or its habitat.) The endangered gray bat likely forages for insects along the Tennessee River, including Moccasin Bend. But no actions proposed in this plan will affect the wetlands where the gray bats may forage for insects.

The endangered Indiana bat and threatened northern long-eared bat probably use the Moccasin Bend unit seasonally, although they have not been documented in the unit. There are no known occupied northern long-eared bat or Indiana bat maternity roost trees in the unit nor known caves or mines that would provide roosting habitat for the bats. There is the potential for both species to roost in trees during the active season (April 1–November 15) and forage for insects in forested areas. The selected action calls for limited clearing of trees for trails and viewing areas (particularly along Stringers Ridge). These activities will be flexible in timing and approach. But specific details on proposed tree clearing locations and times have not been identified, and the activity is not likely to occur in the next year. Park managers will consult with the US Fish and Wildlife Service once more details are available regarding tree clearing in the unit. Park managers will apply the mitigation measures identified in the environmental assessment and work with the US Fish and Wildlife Service to develop appropriate conservation measures to avoid adverse impacts to the bats and their habitat (see the mitigation measures listed on pages 14-15 in appendix B.)

CONCLUSION

As described previously, the selected alternative does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement. The selected alternative will not have a significant effect on the human environment in accordance with Section 102(2)(c) of the National Environmental Policy Act.

Based on the foregoing, it has been determined that an environmental impact statement is not required for this project and, thus, will not be prepared. Appendix C contains the non-impairment determination for the selected alternative.

APPENDIX A. ERRATA SHEET

MOCCASIN BEND NATIONAL ARCHEOLOGICAL DISTRICT GENERAL MANAGEMENT PLAN AMENDMENT / ENVIRONMENTAL ASSESSMENT

Revisions to the general management plan amendment/ environmental assessment are listed in this section. These revisions have not resulted in substantial modification of the selected action. It has been determined that the revisions do not require additional environmental analysis. The page numbers referenced are from the *Moccasin Bend National Archeological District General Management Plan Amendment / Environmental Assessment*.

TEXT CHANGES

Modifications to the text are noted in italics.

On page 18, in the impact topics dismissed from detailed analysis the second paragraph of the museum collection text has been modified to state, "*Museum collections has been dismissed from further analysis in this GMP amendment because management of museum collections is not part of the proposed action. Separate studies and planning would be required to guide the management of museum collections at Moccasin Bend, including how to store and display objects and artifacts.*"

On page 19, the definition of Indian trust resources has been added; the second sentence of the dismissal text now states, "*Indian trust resources are those natural resources reserved by or for Indian tribes through treaties, statutes, judicial decisions, and executive orders, which are protected by a fiduciary obligation on the part of the United States (NPS Management Policies 2006, Section 1.11.3).* There are no Indian trust resources on Moccasin Bend for which the National Park Service holds fiduciary responsibility."

On page 30, in the last paragraph, the word "updated" has been added. The text now reads, "The National Park Service would also explore the acquisition of conservation easements or other land protection strategies to protect views to the opposite (west) shore of Brown's Ferry, as well as other priority areas identified in the park's *updated* land protection plan that could impact the visitor experience of historic viewsheds from Moccasin Bend."

On page 40, in the description of the Gateway site for Alternative A (No-Action Alternative), the first sentence has been updated to say, "The Gateway site *is undeveloped and it* would continue to be opened only for special events and programs."

On page 55, general natural resource mitigation measures on air quality, soil disturbance, nonnative plant species, drainage control, and vegetation were moved to the specific mitigation measures addressing air quality (pg. 55), soils (pg. 56), nonnative invasive plant species (pg. 57), water resources (pg. 56), and vegetation (pg. 57).

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APPENDIX B. MITIGATION MEASURES ASSOCIATED WITH THE SELECTED ACTION

The following mitigation measures will be applied to avoid or minimize potential adverse impacts associated with the selected action and to ensure Moccasin Bend's cultural and natural resources are protected and a high quality visitor experience is provided.

CULTURAL RESOURCES

The National Park Service will preserve and protect, to the greatest extent possible, resources that reflect human occupation and historical events associated with Moccasin Bend National Archeological District. Specific mitigating measures include the following:

- To better inform park management decisions in an effort to avoid impacts on significant cultural resources, park staff will continue to develop inventories for and oversee research regarding archeological, historic, and ethnographic resources to better understand and manage those resources, including cultural landscapes. Park staff will conduct any needed archeological or other resource-specific surveys and National Register of Historic Places evaluations and identify recommended treatments to avoid or minimize potential impacts. The results of these efforts will be incorporated into comprehensive planning and resource assessments, as well as site-specific planning, mitigation, and environmental analysis.
- Should the decision be made to store or display museum objects and artifacts in the park, museum collections will be acquired, accessioned, and cataloged, preserved, protected, and made available for access and use according to NPS standards and guidelines. To further preservation objectives and to avoid adverse impacts, known archeological sites will be routinely monitored to assess and document the effects of natural processes and human activities on those resources. Archeological resources will be left undisturbed and preserved in a stable condition to prevent degradation and loss of research value unless intervention could be justified based on compelling research, interpretation, site protection, or park development needs. Recovered archeological materials and associated records will be treated in accordance with NPS *Management Policies 2006*, NPS *Museum Handbook*, Director's Order 24: "NPS Museum Collections Management," and 36 CFR Part 79.
- As appropriate, archeological surveys or monitoring will precede any ground disturbance. Significant archeological resources will be avoided to the greatest extent possible during construction. If such resources could not be avoided, an appropriate mitigation strategy (e.g., excavation, recordation, and mapping of cultural remains prior to disturbance to ensure that important archeological data are recovered and documented) will be developed in consultation with the Tennessee Historical Commission (state historic preservation office) and affiliated federally recognized American Indian tribes.
- If, during construction, previously unknown archeological resources were discovered, all work in the immediate vicinity of the discovery will be halted until the resources could be identified and documented. If the resources could not be preserved in situ, an appropriate mitigation strategy will be developed. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990

(25 USC 3001) will be followed. If non-Indian human remains were discovered, standard reporting procedures to notify appropriate authorities will be followed, as well as all applicable federal, state, and local laws.

- All projects with the potential for ground disturbance will undergo site-specific planning and compliance procedures. For archeological resources, construction projects and designed facilities will be in previously disturbed or existing developed areas. Adverse impacts on archeological resources will be avoided to the extent possible in accordance with *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*.
- To minimize visual and auditory intrusions on cultural resources from modern development, screening or sensitive designs compatible with historic resources and cultural landscapes will be used and will not intrude on ethnographic resources. If adverse impacts could not be avoided, impacts will be mitigated through a consultation process with all interested parties.
- The National Park Service will consult with associated American Indian tribes to develop and accomplish park programs in a way that respects the beliefs, traditions, and other cultural values of the tribes that have ancestral ties to park lands. The National Park Service recognizes the past and present connections of associated tribes with park lands and that potential resources, places, and traces of tribal use are important parts of the cultural environment to be preserved, protected, and interpreted as appropriate.
- Through the park's interpretive programs, visitors will be encouraged to respect and leave undisturbed any inadvertently encountered archeological and historical resources.
- The National Park Service will cooperate with partners, park neighbors, and other stakeholders to establish and enforce measures to prevent and reduce human impacts, such as vandalism and looting, on cultural resources.

NATURAL RESOURCES

General

- Before any construction activity, construction zones will be clearly delineated with stakes or by other means to confine activity to the minimum area required for construction. All protection measures will be clearly stated in the construction specifications, and workers will be instructed to avoid conducting activities beyond the construction zone.
- Fencing or other means will be used to protect sensitive resources adjacent to construction areas.
- Construction activities will be monitored by resource specialists as needed to reduce and mitigate impacts.
- Construction materials will be kept in work areas, especially if the construction takes place near streams, springs, or natural drainages.

Air Quality

- Measures to control dust and erosion during construction will be implemented and could include water sprinkling to control dust or otherwise stabilize soils, minimal vegetation

clearing, revegetation with native species, covered haul trucks, and speed limits on unpaved roads of the Moccasin Bend unit.

- Emissions from NPS vehicles will be minimized by using the best available technology whenever possible.
- Sustainable designs that reduce energy demands will be employed, thus reducing airborne pollutants.

Acoustic Environment and Soundscape

- Noise abatement measures will be implemented for both construction and ongoing operational activities. These measures could include scheduling that minimizes impacts in noise-sensitive areas, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools where feasible, and locating stationary noise sources as far from sensitive uses as possible.
- Facilities will be located and designed to minimize objectionable noise.
- The idling of motors (power tools, equipment, and vehicles) will be minimized.

Soils

- New facilities will be built on soils suitable for development.
- Best management practices will be used during construction to minimize soil disturbance and the potential for erosion in the project area. To minimize soil erosion on new trails, best management practices could include installing water bars, check dams and retaining walls; contouring to avoid erosion; and minimizing soil disturbance.
- Soil erosion will be minimized by limiting the time that soil is left exposed and by applying other erosion control measures, such as erosion matting, filter cloth, silt fencing, and sedimentation basins in construction areas, to reduce erosion, surface scouring, and discharge to water bodies.

Water Resources

- The National Park Service will comply with applicable state and local regulations to minimize the impacts on water quality associated with wastewater management. Best available technologies will be used.
- Caution will be exercised to protect water resources from activities with the potential to damage water resources, including damage caused by construction equipment, erosion, and siltation. Measures will be taken to keep fill material from escaping work areas, especially near streams, springs, and natural drainages.
- Best management practices, such as the use of silt fencing, will be followed to ensure that construction-related effects are minimal and to prevent long-term impacts on water quality, wetlands, and aquatic species.
- To prevent water pollution during construction, erosion control measures will be used to minimize discharge to water bodies, and construction equipment will be regularly inspected for leaks of fuel, lubricants, and other chemicals.

- Fueling of machinery will be conducted only in approved equipment staging areas away from water bodies. Any spills of hazardous materials or fuel will be cleaned up immediately to prevent contamination or discharge into ground or surface waters.
- If a trail is constructed, drainage controls will be installed along the trail to control increased surface water runoff from the trail and to reduce subsequent erosion and sedimentation.

Vegetation

- Areas used by visitors (e.g., trails) will be periodically monitored for signs of native vegetation disturbance and the introduction of invasive plants. To control potential impacts on plants from trail erosion or social trailing, public education, revegetation of disturbed areas with native plants, and installation of erosion control measures and barriers will be used.
- Any plant materials used for revegetation efforts will be native to the park.
- Revegetation plans will be prepared for areas that will be disturbed by construction activities. Revegetation plans should specify such features as seed/plant source, seed and plant mixes, soil preparation, fertilizers, and mulching. Salvage vegetation, rather than new planting or seeding, will be used to any extent possible. Use of nonnative species or genetic materials will be considered only where deemed necessary to maintain a cultural landscape or to prevent severe resource damage, and that use would be approved by a natural resource specialist. Restoration activities will be instituted immediately after construction is completed. Monitoring will occur to ensure that revegetation is successful, plantings maintained, and unsuccessful plant materials replaced.
- Where possible, trees removed during construction will be used in trail construction, as mulch, or as other construction material or will remain on-site as habitat. Wood will not be removed from the area.
- Signs and, where necessary, physical barriers will be used to minimize the potential for users to veer off trails and damage trailside vegetation and to minimize adverse impacts on vegetation because of maintenance needs.

Nonnative Invasive Plant Species

- Special attention will be devoted to preventing the spread of noxious weeds and other nonnative plants. Standard measures could include ensuring that construction-related equipment arrives on site free of mud or seed-bearing material, certifying all seeds and straw material as weed-free, using no hay bales or other organic material in erosion control measures, identifying areas of noxious weeds before construction, treating noxious weeds or noxious weed topsoil before construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetating with appropriate native species.
- All construction equipment will be pressure washed to ensure that it is clean and weed-free before entering the park.
- All vehicle parking will be limited to road shoulders, parking areas, or previously disturbed areas.
- Fill, rock, or additional topsoil will be obtained from the project area. If this is not possible, weed-free sources will be required to be obtained from NPS-approved sources outside the park.

- Monitoring and follow-up treatment of nonnative vegetation on revegetated areas will occur for several years following construction. Follow-up treatment could include mechanical, biological, chemical, and additional revegetation treatments.

Wildlife

- Techniques to reduce impacts on wildlife from construction will include construction scheduling; biological monitoring; erosion and sediment control; use of fencing or other means to protect sensitive resources adjacent to construction; removal of all food-related items or rubbish; topsoil salvage; and revegetation. They also could include specific construction monitoring by resource specialists and treatment and reporting procedures.
- Measures will be taken to reduce the potential for wildlife to scavenge food from humans. Wildlife-proof garbage containers will be required in developed areas including viewpoints, trails, and interpretive waysides. Signs will educate visitors about the need to refrain from feeding wildlife.

Threatened and Endangered Species

Mitigation actions will occur during regular park operations as well as before, during, and after construction to minimize immediate and long-term impacts on rare, threatened, and endangered species. These actions will vary by specific project and area of the Moccasin Bend unit. Many of the mitigation measures for vegetation and wildlife will also benefit rare, threatened, and endangered species by helping to preserve habitat. Mitigation actions specific to rare, threatened, and endangered species will include the following:

- Surveys will be completed before any proposed ground disturbance to ensure that large-flowered skullcap (*Scutellaria montana*) or other state or federally listed plant or mussel species are not present. If any such species are documented in the area, the activity or facility will be modified so it does not affect the species or its habitat.
- To reduce the potential for impacts on the northern long-eared bat (*Myotis septentrionalis*), the framework laid out by the US Fish and Wildlife Service, particularly section 4(d), will be followed. For example, actions proposed in this plan will not occur within 0.25 miles of a known hibernaculum or within 150 feet of a known occupied maternity roost tree during pup season.
- Clearing, removing, or thinning trees, including snags, will occur in the winter (November 16–March 31) to minimize the potential for eliminating an occupied roost tree and injuring or killing an Indiana bat (*Myotis sodalis*) and/or a northern long-eared bat. Potential roost trees (*Myotis septentrionalis*) will not be cut during the season when the bats are active (April 1–November 15).
- If a summer maternity roost is identified, the surrounding forest and foraging areas within 2.5 miles of the documented maternity roost tree will be maintained in as natural a state as possible (with the exception of some winter tree clearing or thinning as noted above). These areas will be monitored to ensure human disturbance is minimized.
- Forests will be managed to ensure a continual supply of snags and other suitable maternity roost trees.

- A bat biologist will accompany park staff or arborist in the field when they identify trees to be cut, trimmed, or topped for viewsheds or trails. The biologist will mark potential bat roost trees. As many potential roost trees, especially mature hardwoods, will be left as possible or the trees would be trimmed or topped instead of removed.
- Whenever possible, instead of removing a live potential roost tree, a snag will be created. If a live tree must be removed, a snag will be created elsewhere in the forest using a live tree that provides poor bat roosting habitat (i.e., has tight bark).
- Tree cutting will be conducted in such a way as to avoid felling of adjacent trees. For example, if a tree is taller than 10 feet, it will be removed in pieces from the top down. Also, equipment will be maneuvered carefully to avoid striking adjacent trees.
- Each tree removed will be replaced with a newly planted tree of a species that provides loose, exfoliating bark as it matures (e.g., shagbark hickory, shellbark hickory, white oak, American elm).
- The use of herbicides and pesticides will be minimized in forested areas. If necessary, spot treatment will be applied instead of aerial application.
- Viewshed openings will be kept as small, and as few in number, as possible to minimize the amount of tree cutting.

VISITOR USE AND EXPERIENCE

Past and ongoing monitoring will inform future mitigation measures to avoid impacts on the cultural and natural resources of Moccasin Bend as well as visitor experience. These include:

- Monitoring of visitation through various methods such as visitor surveys and transportation data.
- Periodic visitor surveys and data collection to determine visitor use patterns, visitor characteristics, visitor use conflicts, and visitor preferences and satisfaction with visitor opportunities and other programs, services and facilities .
- Documenting and monitoring of law enforcement incidents.
- Resource condition surveys at recreation sites, as needed.
- Proactive addressing of safety measures using signs, bulletin boards, and sharing of safety information during staff interactions with visitors.

Future monitoring will also inform mitigation measures to minimize impacts on the cultural and natural resources of Moccasin Bend as well as the visitor experience. These could include:

- Enhancing ongoing monitoring programs by park staff and partners.
- Implementing measures to reduce adverse effects of construction on visitor experience and safety. Measures may include, but are not limited to, phasing construction, temporary closures, noise abatement, visual screening, providing information to visitors on the purpose and need for construction, and directional signage to help visitors avoid construction activities.
- Using feedback from routine patrols and ranger interactions with visitors and results from other resource monitoring programs to analyze and manage current or future recreational activities and opportunities.
- Developing a visitor education program with consistent messaging on appropriate behaviors to Moccasin Bend. Information could be shared through additional appropriate signage, park

staff and volunteer messaging, and printed / visual materials available to visitors throughout the unit.

- Ensuring that facilities, programs, and services of the National Park Service and its partners are accessible to and usable by all people, including those who are disabled. This policy is based on the commitment to provide access to the widest cross-section of the public and to ensure compliance with the Architectural Barriers Act and the Rehabilitation Act.
- Responding to visitor conflicts and incidents using law enforcement protocols. Incidents will be reviewed by safety committees and incident reports generated and dispersed to park staff.

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APPENDIX C: NON-IMPAIRMENT DETERMINATION

The NPS Organic Act of 1916 and the General Authorities Act of 1970 prohibit impairment of park resources and values. The NPS *Management Policies 2006* use the terms “resources and values” to mean the full spectrum of tangible and intangible attributes for which the park is established and managed, including the Organic Act’s fundamental purpose and any additional purposes as stated in the park’s establishing legislation. The impairment of park resources and values may not be allowed unless directly and specifically provided by statute. The primary responsibility of the National Park Service is to ensure that park resources and values will continue to exist in an unimpaired condition that will allow people to have present and future opportunities to enjoy them.

A determination of impairment is made for each of the resource impact topics carried forward and analyzed in the environmental assessment. Impairment is an impact that, in the professional judgement of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park; or
- identified as a goal in the park’s general management plan or other relevant NPS planning documents.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated.

The impairment determination does not include discussion of impacts to visitor use and experience and visitor safety as these do not constitute impacts to park resources and values subject to the non-impairment standard.

ARCHEOLOGICAL RESOURCES AND CULTURAL LANDSCAPE FEATURES

The Moccasin Bend Archeological District National Historic Landmark contains multiple component sites in an area that witnessed approximately 12,000 years of continuous American Indian use and occupation. The district also includes strategic Union Army positions associated with the 1863 Battles for Chattanooga during the Civil War. Cultural landscape features exist associated with precontact and historic period sites: Hampton Place, Mallards Dozen site, Vulcan site, Woodland Mound Complex, Brown’s Homestead and Ferry sites, and Civil War sites along Stringers Ridge. These resources retain overall integrity for the defined periods of significance and are among the fundamental resources of Chickamauga and Chattanooga National Military Park.

The selected action will have both beneficial and adverse impacts on archeological resources and cultural landscape features. Proposed measures to control visitor access by only allowing ranger-led tours to sensitive site locations and enhance resource protection through the application of zoning

would be expected to result in long-term beneficial impacts on archeological resources and cultural landscape features. There is a potential for limited adverse impacts because of disturbance of sites from erosion and other impacts associated with ground-disturbing actions such as routine maintenance activities. However, because the selected action will result in little loss of integrity of the park's archeological resources and cultural landscape features, these resources will not be impaired by actions proposed under the selected action.

ETHNOGRAPHIC RESOURCES

No formal ethnographic investigations have been completed for Moccasin Bend. However, as expressed by tribal representatives during prior and current project consultation meetings with NPS staff, Moccasin Bend retains profound importance for many American Indian tribes. The long history of settlement and the presence of ancestral burials in proximity to the former village sites on the west side of Moccasin Bend imbue the area with a complex spiritual dimension. No ethnographic resources or traditional uses have been specifically identified for the various locations proposed for development under the current planning alternatives.

The selected action will have both potential beneficial and adverse impacts on ethnographic resources and associated archeological resources. Proposed measures to control visitor access to sensitive site locations and enhance resource protection through the application of zoning and other means would be expected to result in long-term beneficial impacts on ethnographic / archeological resources. There is a potential for limited adverse impacts due to disturbance of sites from erosion and other impacts associated with visitor use, unauthorized access and looting, proposed developments, and other ground-disturbing actions. However, because the selected action will result in little loss of integrity of the park's ethnographic and associated archeological resources, these resources will not be impaired by actions proposed under the selected action.

APPENDIX D: RESPONSES TO CONCERNS

The following are NPS responses to concerns that were raised by commenters on the environmental assessment. Responses to all substantive comments are included here. Where appropriate, changes to the text are noted (see the Errata Sheet for the text changes). In addition, some non-substantive comments, identified as being of high importance to the public or needing clarification, are also responded to here. The page numbers referenced are from the *Moccasin Bend National Archeological District General Management Plan Amendment / Environmental Assessment*.

Concern: Multiple commenters expressed interest in being able to access the Gateway site from the Tennessee River.

Response: As noted on page 62, a public dock was considered but dismissed from the analysis. The public dock was dismissed for a number of reasons described in the document, including an increase in the level of bank stabilization required; the level of development would be inconsistent with the NPS guidance on floodplains and facilities in relation to natural hazards; the environmental impact is considered too great; concern about the safety of small vessels in close proximity to the barge facility; and, finally, concern that a dock facility does not contribute to maintaining the purpose of the park.

Concern: Multiple commenters expressed interest in the National Park Service acquiring the land to the west of Brown's Ferry across the Tennessee River.

Response: As noted on page 30, the National Park Service would explore the acquisition of conservation easements or other land protection strategies to protect views to the opposite (west) shore of Brown's Ferry that could impact the visitor experience of historic viewsheds from Moccasin Bend. These actions would be guided by a land protection plan. The National Park Service prepares a land protection plan to identify (1) the lands or interests in land that would advance park purposes through public ownership; (2) the means of protecting these lands and interests that are available to achieve park purposes as established by Congress; (3) the protection methods and funds that would be sought or applied to protect resources and to provide for visitor use and park facility development, and (4) acquisition priorities (NPS *Management Policies 2006*, Section 3.3). The park staff is currently updating the park land protection plan to cover new lands added to the park, including Moccasin Bend, since the last plan was completed in 1986. Language to clarify the National Park Service's intent to update the park's land protection plan has been added to the general management plan amendment through an errata.

Concern: Commenters suggested the National Park Service incorporate a thorough archeological survey of all portions of Moccasin Bend that would be developed under the proposed plan and comply with the National Historic Preservation Act and the Native American Graves Repatriation Act.

Response: Regardless of which alternative is chosen, the National Park Service must comply with laws and policies to protect environmental quality and resources, preserve cultural resources, and provide public services, including the National Historic Preservation Act of 1966, as amended, and the Native American Graves Protection and Repatriation Act of 1990. For the complete discussion of this topic, please refer to page 12 of the document. In addition, the sections describing future studies and implementation plans needed to implement the GMP amendment are on pages 51-52 and include baseline archeological surveys and an archeological overview and assessment. Archeological surveys and tribal consultation were also identified as mitigation measures that are common to all alternatives.

Concern: There was concern that the plan focused too much on preservation and not enough on recreational opportunities.

Response: The GMP amendment alternatives and subsequently the NPS preferred alternative were developed to address issues within the context of the park's enabling legislation, to achieve and maintain the park's purpose and significance, and to protect the park's fundamental resources and values.

The purpose of Chickamauga and Chattanooga National Military Park is to preserve, protect, and interpret the nationally significant resources and values associated with the Civil War Campaign for Chattanooga and 12,000 years of American Indian presence on Moccasin Bend.

The significance statements and fundamental resources and values on pages 9 through 11 elaborate on the importance of Moccasin Bend, including the importance of the archeological resources on Moccasin Bend and opportunities for a contemplative experience. The purpose, significance statements, and fundamental resources and values guide management of the park. Appropriate recreational opportunities have been identified for Chickamauga Chattanooga National Military Park, including Lookout Mountain Battlefield and Moccasin Bend National Archeological District. These activities vary in each part of the park and by management zone. For Moccasin Bend, appropriate activities include walking, self-guided interpretation, and guided walks after acquisition of the firing range. Ranger-led, nonmotorized watercraft tours would also be offered. These activities were identified as being consistent with the park purpose and also would help to maintain the park's significance and fundamental resources and values.

Concern: There were concerns that climate change was not an appropriate impact topic to be listed under "Issues and Topics not addressed" in the plan because it was addressed in the "Affected Environment."

Response: As stated on pages 16-17, climate change is not an impact topic for this environmental assessment. None of the alternatives being considered will affect climate change. However, as stated on page 17, climate change could affect park resources in the future. The "Affected Environment" chapter describes the current condition and uses of the park. The chapter also discusses resource trends and contributing factors, such as climate change. Because climate

change has the potential to affect archeological and ethnographic resources of Moccasin Bend, these changes are briefly described in the "Affected Environment."

Concern: A commenter was concerned that the floodplains text from the document did not incorporate the most recent guidance, including the amendments to Executive Order 11988 "Floodplain Management."

Response: The National Park Service believes it would be possible to build the facility so it would be 2 feet above the 100-year floodplain elevation as directed by NPS *Management Policies 2006* (Section 4.6.4 "Floodplains"). The National Park Service will comply with the Organic Act and all other federal laws and executive orders related to the management of activities in flood-prone areas, including Executive Order 11988, the National Environmental Policy Act, applicable provisions of the Clean Water Act, and the Rivers and Harbors Appropriation Act of 1899. This could include taking measures such as installing a structurally reinforced concrete foundation or placing the facility on pilings. This would be consistent with the resiliency standards of Executive Order 13690 "Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input." In addition, the facility would not house any irreplaceable museum or curatorial collections.

Concern: There was concern that invasive plant removal was not thoroughly addressed in the vegetation section of the document.

Response: Vegetation has been dismissed as an impact topic for this management plan because any impacts that would occur as a result of the alternatives "would not noticeably alter the distribution or abundance of native vegetative plant communities or species," as noted on page 20. In addition, "the National Park Service must comply with laws and policies to protect environmental quality and resources, preserve cultural resources, and provide public services" as noted on page 12. A general management plan is not needed to decide, for example, that is it appropriate to manage nonnative species. The National Park Service would work to meet these requirements with or without a general management plan. In addition to this national guidance, a cultural landscape report was prepared for Moccasin Bend, which includes recommendations related to invasive plant removal (see <https://www.nps.gov/chch/getinvolved/planning.htm>). How the vegetation removal will be accomplished will be decided on a project by project basis, consistent with the cultural landscape report. Additional compliance will be completed as necessary.

Concern: There was concern that the GMP amendment did not adequately describe the non-NPS noise from the firing range affecting the soundscape in alternative C.

Response: Noise from the firing range is addressed in the cumulative impacts scenario as well as the cumulative effects section of the visitor experience impact topic. As noted on page 95 for alternative C, the acquisition of the firing range will eliminate noise from the firing range, resulting in long-term beneficial impacts to the soundscapes of Moccasin Bend.

Concern: There was a suggestion to include the Endangered Species Act in the introductory text in Chapter 3 of the document.

Response: In chapter 1, page 21, threatened and endangered species is dismissed from detailed analysis in chapter 3 and for this reason is not mentioned in the introductory text to that chapter. As noted in chapter 1, readers can refer to “Chapter 4, Consultation and Coordination,” for discussion of the consultation with the U.S. Fish and Wildlife Service related to threatened and endangered species.

Concern: There was a suggestion to include a description of the facilities currently at the Gateway site.

Response: There are no facilities at the Gateway site—it is primarily a mowed field. Language that states the Gateway site is undeveloped has been added to the general management plan amendment through an errata.

Concern: Commenters were interested in a phased development of the Gateway site. One commenter also suggested the cost estimation of the visitor center at the Gateway site was too low and unrealistic.

Response: The estimated construction cost and maintenance of a new visitor center and development in the Gateway area were developed using NPS and industry standards. Cost estimates for the facilities were developed based on updated facility planning modeling and updated projected annual visitation, which resulted in a significantly smaller square footage requirement than what had been estimated under the 2009 *Moccasin Bend National Archeological District Development Concept Plan*. As noted on page 22, development would be prioritized based on funding availability. Park managers are aware that project funding is unlikely to come all at once and are prepared to phase in development as funds become available.

Concern: A commenter questioned why the National Park Service would dismiss air quality / carbon footprint and socioeconomics as impact topics if the bureau expects an increase in visitation to Moccasin Bend National Archeology District. Another commenter suggested the National Park Service include anticipated visitation numbers in the discussion of environmental consequences of visitor experience.

Response: Issues are only retained for consideration and discussed in detail if: the environmental impacts associated with the issue are central to the proposal or of critical importance; a detailed analysis of environmental impacts related to the issue is necessary to make a reasoned choice between alternatives; the environmental impacts associated with the issue are a big point of contention among the public or other agencies; or there are potentially significant impacts to

resources associated with the issue. The National Park Service dismissed air quality / carbon footprint and socioeconomics as impact topics in this environmental assessment because they were not central to the proposal or necessary to make a reasoned choice between alternatives.

As noted in the environmental consequences of the visitor experience impact analysis, park managers anticipate an increase in visitation because of the new opportunities proposed in the alternatives and the City of Chattanooga's proposed bike route along Moccasin Bend Road. The increase in visitation is not anticipated to be substantial because the increase would not help reviewers to differentiate between the alternatives nor would it result in significant impacts to resources or visitor experience. On page 59, the plan identifies mitigation measures to track visitation numbers to ensure desired conditions are maintained or achieved and visitors have access to key opportunities.

Concern: A commenter suggested a sentence in the "Impact Topics Dismissed from Detailed Analysis" regarding museum collections be rewritten because museum collections are not part of the proposed action and there would be no effects on collected materials from the proposed action. The commenter also stated if a decision to store or display museum objects and artifacts on site had been made, the environmental consequences of this decision would presumably have already been addressed during the decision-making process.

Response: The text of the dismissal language has been modified through an errata to clarify that museum collections was dismissed from further analysis in this GMP amendment because management of museum collections is not part of the proposed actions.

Concern: There was a suggestion to include a definition of Indian Trust Resources in the Indian Trust resource paragraph in the "Impact Topics Dismissed from Detailed Analysis" section of the document.

Response: Indian trust resources are those natural resources reserved by or for Indian tribes through treaties, statutes, judicial decisions, and executive orders, which are protected by a fiduciary obligation on the part of the United States (*NPS Management Policies 2006*, Section 1.11.3). The definition of Indian trust resources has been added to the document via the errata.

Concern: There was a suggestion to include traffic volumes to provide a baseline for the road traffic safety concerns. Another commenter suggested the plan include the Tennessee Department of Transportation annual average daily traffic counts to describe current traffic on Moccasin Bend.

Response: The National Park Service is very concerned about visitor safety but does not own or manage roadways in the park. For this reason, the management plan did not include actions that would direct bicycles or pedestrians to roadways in the park.

The environmental assessment notes on page 69 that the City of Chattanooga's bike implementation plan identifies Moccasin Bend Road as a proposed bike route and a bike lane is proposed for Hamm Road. This plan is considered as part of the discussion of cumulative impacts under visitor experience (including visitor safety). Recognizing that some users of these proposed bicycle routes/lanes will be coming to the park, the National Park Service will continue to cooperate with local governments to address challenges and encourage safe access to the park.

The Tennessee Department of Transportation (TDOT) traffic history described average use as 3,600 vehicles per day near the Gateway site and approximately 1,700 vehicles per day farther south along Moccasin Bend Road. The TDOT data, although informative for traffic patterns, do not provide additional context on the destination of the drivers or estimated visitation to park sites.

Concern: There was a suggestion to change the text that says "no bicycle access on park trails" to "the NPS will not propose new bicycle access."

Response: Bike use is not permitted on park trails and it is not proposed under the alternatives. This text is included in the discussion of environmental consequences for alternatives A, B, and C in the "Visitor Experience (Including Visitor Safety)" section of the document (see pages 91, 93, and 95). On a related note, the changes to Moccasin Bend Road and Hamm Road proposed by the city and county to improve bicycle access in this area would not change how park trails are managed.

Bicycle use in parks is managed, in part, by the following guidance: "The designation of bicycle routes is allowed in developed areas and in special use zones based on a written determination that such use is (1) consistent with the protection of a park's natural, cultural, scenic, and esthetic values; (2) consistent with safety considerations; (3) consistent with management objectives; and (4) will not disturb wildlife or other park resources. A similar determination may be made to designate routes outside developed areas and special use zones; however, the designation must be made by promulgating a special regulation (NPS *Management Policies 2006*, Section 9.2.2.4)." The planning team dismissed the establishment of a multiuse trail where bicycle use could have been permitted from further consideration because it was determined the trail would have too great an environmental impact to be considered as part of the plan and bicycle use was not an appropriate use on other trails proposed in the alternatives (see page 61).

Concern: A commenter suggested text be included that says the park staff will develop a program to work with the city and county to install boundary warning signs and/or barriers at the firing range and maintain them until the firing range is shut down to alleviate safety concerns.

Response: As noted on page 59, the visitor use and experience mitigation measures state that signs with safety information will be developed and park managers will proactively address safety measures using signs, bulletin boards, and sharing of safety information during staff interactions with visitors. How these measures will be implemented is not a decision that needs to be made in the GMP amendment.

Concern: There was a suggestion to include westward expansion as an interpretive theme. Another commenter suggested the park focus on Indian removal and the sense of loss.

Response: Westward expansion is not explicitly identified in the park's interpretive themes but is a subtheme. The park staff has identified a long-range interpretive plan as a future planning need—westward expansion, Indian removal, and other stories could be considered for interpretive planning and programming. A commenter also provided some additional historical context that did not require changes to the document but will be shared with park interpretive staff for consideration.

Concern: A commenter suggested changes to map 3 to reflect changes in land ownership on the west bank of the Tennessee River across from Brown's Ferry Federal Road that included changing the recommendation from preserving the viewshed on the west bank to possible acquisition.

Response: Map 3 is from the 2014 "Moccasin Bend Cultural Landscape Report" and highlights landscape treatment recommendations within the park. Modifying "preservation" to "possible acquisition" would imply a recommended course of action which would not be consistent with the report. As noted previously in this document, land acquisition will be guided by the updated land protection plan.

Concern: There was a suggestion that the National Park Service provide self-guided visitor opportunities on Stringers Ridge before acquisition of the firing range as this use is believed to already be occurring.

Response: As stated on page 48, the self-guided opportunities would be provided after the firing range is acquired. This is because of multiple safety concerns and concerns expressed by park neighbors.

Concern: A commenter suggested the National Park Service support self-guided access to the archeological sites on the west side of Moccasin Bend.

Response: During consultation meetings with NPS staff for this plan and other plans, tribal representatives have expressed that Moccasin Bend retains profound importance for many American Indian tribes. Tribal representatives also expressed concerns about security and suggested limiting access to highly sensitive archeological resources. Treatment recommendations in the "Moccasin Bend Cultural Landscape Report" also called for the protection of these sensitive resources. As a result, the archeological sites are part of the cultural protection zone in alternatives B and C and access is limited to ranger-led tours.