



Prince William Forest Park
Triangle, Virginia

New Entrance to Chopawamsic Backcountry Area *Prince William Forest Park*



ENVIRONMENTAL ASSESSMENT/ASSESSMENT OF EFFECT

November, 2011

SUMMARY

Prince William Forest Park of the National Park Service (NPS), in cooperation with the United States Department of the Navy, Quantico Marine Base (Quantico), is proposing to improve safety on Quantico and improve visitor use and experience by providing a new entrance into the Chopawamsic Backcountry Area of the park. Improvements to the park's transportation facilities are needed to improve security for Quantico in accordance with the Draft Recreation Plan in which the NPS agreed to provide the proposed alternate access to the Chopawamsic Backcountry Area. Currently, the access to both the Chopawamsic Backcountry Area and Quantico are provided by Breckenridge Road, which creates security concerns for Quantico. In addition, operational inefficiencies exist at the Chopawamsic Backcountry Area access point from Breckenridge Road due to the existing dual agency locking gates. An additional consideration is that public access to the family cemeteries, Quantico land and Breckenridge Reservoir should be limited to facilitate land management practices. Finally, visitor experience is diminished by the limited restroom and parking facilities currently available in the Chopawamsic Backcountry Area.

This Environmental Assessment (EA)/Assessment of Effect (AE) analyzed two action alternatives (one being the preferred alternative) and the no action alternative and their impacts on the environment in accordance with the National Environmental Policy Act (NEPA). The action alternatives include the construction of a new access road, parking area and restroom facility along with trail clean up and the installation of updated wayside exhibits and signs.

Impacts of the proposed alternatives were assessed in accordance with NEPA and the NPS's Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making*, which requires that impacts to park resources be analyzed in terms of their context, duration, and intensity. Several impact topics have been dismissed from further analysis because the proposed action alternatives would result in negligible to no effects to those resources. No major effects are anticipated as a result of this project.

Note to Reviewers and Respondents:

If you wish to comment on the EA, you may mail comments directly via U.S. Post or submit them electronically. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we would be able to do so.

Mailed comments can be sent to:

Superintendent, Prince William Forest Park
Resurface Public Roads and Parking Areas
18100 Park Headquarters Road
Triangle, VA 22172

Comments can also be submitted on-line by following the appropriate links at:

<http://parkplanning.nps.gov/PRWI>

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PURPOSE AND NEED

PROJECT DESCRIPTION

Prince William Forest Park (the Park) an administrative unit of the National Park Service (NPS), in coordination with the United States Department of the Navy, Quantico Marine Base (Quantico), is proposing to construct a new entrance to the Chopawamsic Backcountry Area. The project area is located in Prince William County, Virginia. The location of the park within the region is shown in Figure 1. Figure 2 indicates the location of the project area within Prince William Forest Park. The need to create an alternate access point for the Chopawamsic Backcountry Area was identified as part of the federal land exchange agreement between the NPS and Quantico, and is specified in the Draft Recreation Plan for the Breckenridge Reservoir. The NPS was directed to provide an alternative access point into the area so that the current shared access road (Breckenridge Road) could be limited to NPS and Quantico staff providing increased security at the Marine Base.

The project includes a new gravel public entrance road from State Route 619 (Joplin Road), an approximately 0.5 acre gravel parking lot and vault toilet system as well as the clean up of Bobcat Ridge Road within the Chopawamsic Backcountry Area. The project would also incorporate up-to-date wayside exhibits and new signage.

The proposed location for the new proposed entrance and parking lot for the Chopawamsic Backcountry Area is an approximately 1.8 acre area near mile post 20 on Joplin Road. The new entrance would utilize an existing overgrown fire road, Bobcat Ridge Road. This area would accommodate the proposed road, parking area and new toilet facility as well as a potential future parking expansion area. The trail clean up would be on Bobcat Ridge Road from Route 619 (Joplin Road) to the Chopawamsic Backcountry trail. The Chopawamsic Backcountry Area provides primitive campsites and hiking areas.

This (EA)/(AE) is intended to analyze the preferred alternative, the no action alternative and other reasonable alternatives, as appropriate, and their impacts on the environment. This EA/AE has been prepared in accordance with the NEPA of 1969 and implementing regulations (40 CFR Parts 1500-1508) and the NPS Director's Order #12 and Handbook, *Conservation Planning, Environmental Impact Analysis, and Decision-making*. In accordance with the National Historic Preservation Act of 1966 as amended, and the implementing regulations at 36 CFR Part 800, the process and documentation required for preparation of this EA/AE would also be used to comply with Section 106 of the National Historic Preservation Act.

PURPOSE OF AND NEED FOR ACTION

PURPOSE OF THE ACTION

The purpose of the proposed project is to improve the transportation facilities within the Chopawamsic Backcountry Area of Prince William Forest Park in a way that protects the park's resources and values and that:

- Improves the security on the Quantico Marine Base by providing an alternate access point to the Chopawamsic Backcountry Area as required by the agreement between Quantico and the NPS;
- Improves the operational efficiency of the Chopawamsic access point;
- Limits public access to the family cemeteries, Quantico land and the Breckenridge Reservoir to

- facilitate land management practices; and
- Enhances visitor enjoyment and interpretation of the park.

NEED FOR THE ACTION

Improvements to Prince William Forest Park's transportation facilities are needed because:

- The NPS was directed to provide alternate access to the Chopawamsic Backcountry Area in accordance with the federal land exchange agreement with Quantico and the Draft Recreation Management Plan for Breckenridge Reservoir;
- Operational inefficiencies are occurring at the existing Chopawamsic Backcountry Area access point from Breckenridge Road due to the dual agency locking gates,
- Public access to the family cemeteries, Quantico land and Breckenridge Reservoir should be limited to facilitate Quantico land management practices and improve security on the Marine Base; and
- Currently, the visitor experience is diminished by the restroom and parking facilities available in the Chopawamsic Backcountry Area.

The current entrance to the Chopawamsic Backcountry Area is accessed from Breckenridge Road, adjacent to the U.S. Navy Quantico Marine Base (Quantico). The entrance is a gated unpaved spur road extending from Breckenridge Road approximately 250 meters southwest to a small open parking area. The gravel parking area contains an informational bulletin board, a portable restroom, and provides space for approximately 10 vehicles. The parking area is the trailhead for the Chopawamsic Backcountry Trail which originates on both the north and south sides of the parking area. The primitive camp sites are located along the trail.

Breckenridge Road also serves as an access point to Quantico, which lies adjacent to the Chopawamsic Backcountry Area. As a result of the September 11th terrorist attacks, a directive was issued by the U.S. Department of Defense that required all military bases to develop an antiterrorism plan to improve safety and security at their facilities. An important component of these antiterrorism plans is often the security of entry control points. Maintaining entry control points secures an installation from unauthorized access and allows for interception of contraband; therefore, unmanned entrance points can be a security vulnerability at military installations. Quantico is concerned that the current access on Breckenridge Road is directly adjacent to Quantico Marine Base lands and leads to the Breckenridge Reservoir, which serves as the Quantico's supply of drinking water. Therefore, Quantico has concerns for both the security and safety at the entrance point on Breckenridge Road and the safety of the water supply. Based on these security and safety concerns, the need to create an alternate access point for the Chopawamsic Backcountry Area was identified in the Draft Recreation Plan for the Breckenridge Reservoir Area prepared by the NPS and Quantico. The NPS was directed to provide an alternative access point into the area so that the current shared access road (Breckenridge Road) could be limited to NPS and Quantico staff, providing increased security at the Marine Base.

Since Breckenridge Road contains locking gates owned and maintained by both the NPS and Quantico, both organizations must lock and unlock gates to provide visitor and staff access. In addition, there are multiple family cemeteries along Breckenridge Road. Therefore, there is a need to reduce the operational inefficiencies resulting from these locking gates, and to minimize public access to the family cemeteries, Quantico land and Breckenridge Reservoir.

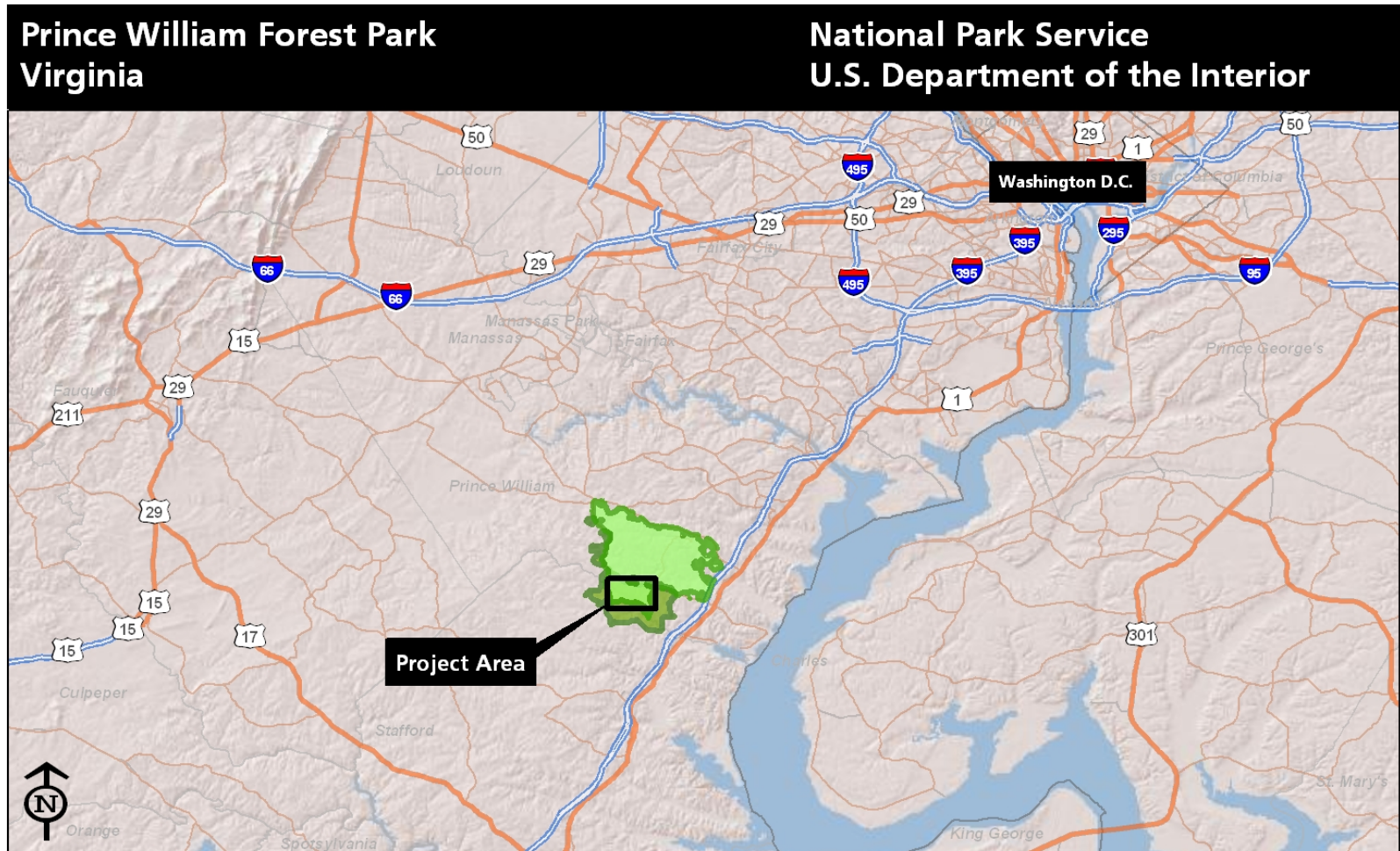


Figure 1: Region

Environmental Assessment
Proposed Chopawamsic Access

-  NPS Boundary
-  Quantico

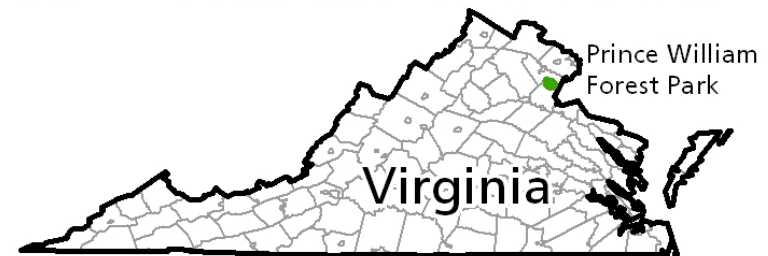




Figure 2: Project Location

Environmental Assessment
Proposed Chopawamsic Access

- ★ Project Area
- ▭ NPS Boundary
- Streams
- Bobcat Ridge Road
- Trails

The NPS Park Road Standards indicate that park roads are intended to enhance visitor experience while providing safe and efficient accommodation of park visitors and to serve essential management access needs (NPS, 1984). Park transportation systems provide a critical role in shaping the experience of visitors and their perceptions on the role of Prince William Forest Park (Louter, 2006). On a more local level, in a recent survey conducted for Prince William Forest Park, the need for adequate and appropriately located parking facilities was rated as extremely important by 47% of respondents (Lawson, et. al., 2006).

Parking facilities for visitors wishing to access the hiking trails or primitive campsites in the Chopawamsic Backcountry Area consist of a small gravel parking lot located off Breckenridge Road (see Figure 2). This parking lot provides approximately 10 parking spaces for the eight primitive campsites. Therefore, the current lot would only provide two parking spaces for non-overnight visitors wishing to hike the Chopawamsic Trail if all eight campsites were in use. Adequate amounts of appropriately located parking facilities were rated as extremely important by 47% of respondents in a recent park survey (Lawson, et. al., 2006).

There is also a lack of modern restroom facilities for visitors using the Chopawamsic Backcountry Area. The only facility currently available is a portable toilet unit located adjacent to the gravel parking lot near the existing entrance from Breckenridge Road.

Visitors wishing to access the Chopawamsic Backcountry trail and primitive campsites would need an access path from the proposed parking area. The existing Bobcat Ridge Road, an old dirt fire road, runs from Joplin Road to the Chopawamsic Backcountry trail. Currently, Bobcat Ridge Road is littered with trash and woody debris. Therefore, this existing dirt road needs to be cleaned up to provide safe and efficient visitor access.

PROJECT BACKGROUND

This project was initiated primarily from discussions with Quantico about the need to improve security on the Marine Base. The Draft Recreation Plan for the Breckenridge Reservoir Area, prepared by Prince William Forest Park and Quantico directs the park to pursue a relocated public access route from Route 619 (Joplin Road), in order to remove general public access to the Marine Base from Breckenridge Road.

AGENCY RELATIONSHIPS

The Chopawamsic Backcountry Area contains land that was formerly part of Quantico. A discussion of the history of the land transfers and resolution of site boundaries is provided in the establishment section below.

PURPOSE AND SIGNIFICANCE OF THE PARK

Located in the southeast corner of Prince William County, Virginia, the 15,000 acre Prince William Forest Park is 32 miles south of Washington, DC, near the communities of Dumfries and Triangle. The park is bordered by VA 234 to the north and east, and VA 619 to the south and west. The park is within two physiographic provinces, the Piedmont and the Coastal Plain. These provinces exist in the middle of the northern and southern climates, a transition zone that supports many species in the outer limits of their ranges. The forests and waterways of the park create a wide diversity of habitat, vegetative communities, and species composition not generally found in any single forest type. Prince William Forest Park represents one of the largest examples of undeveloped land in the region, and is the third largest National

Park in the state of Virginia, and the largest piedmont forest in the National Park System. For these reasons, the Prince William Forest Park is a significant natural resource (NPS, 1999; NPS, 2004).

Within an hour's drive of more than four million people, Prince William Forest Park provides a rare undeveloped landscape of mixed hardwood forest and offers the visitor a variety of opportunities to experience the outdoors. The park hosts over 300,000 visitors annually (NPS, 2011b), with popular recreational activities that include camping, hiking, picnicking, and biking. The park offers 37 miles of hiking trails, three wooden bridges, five actively used cabin camps built by the Civilian Conservation Corps (CCC), the Cabin Branch Pyrite Mine ruins, 1800s era homesteads ruins and farms, and more than 25 miles of streams.

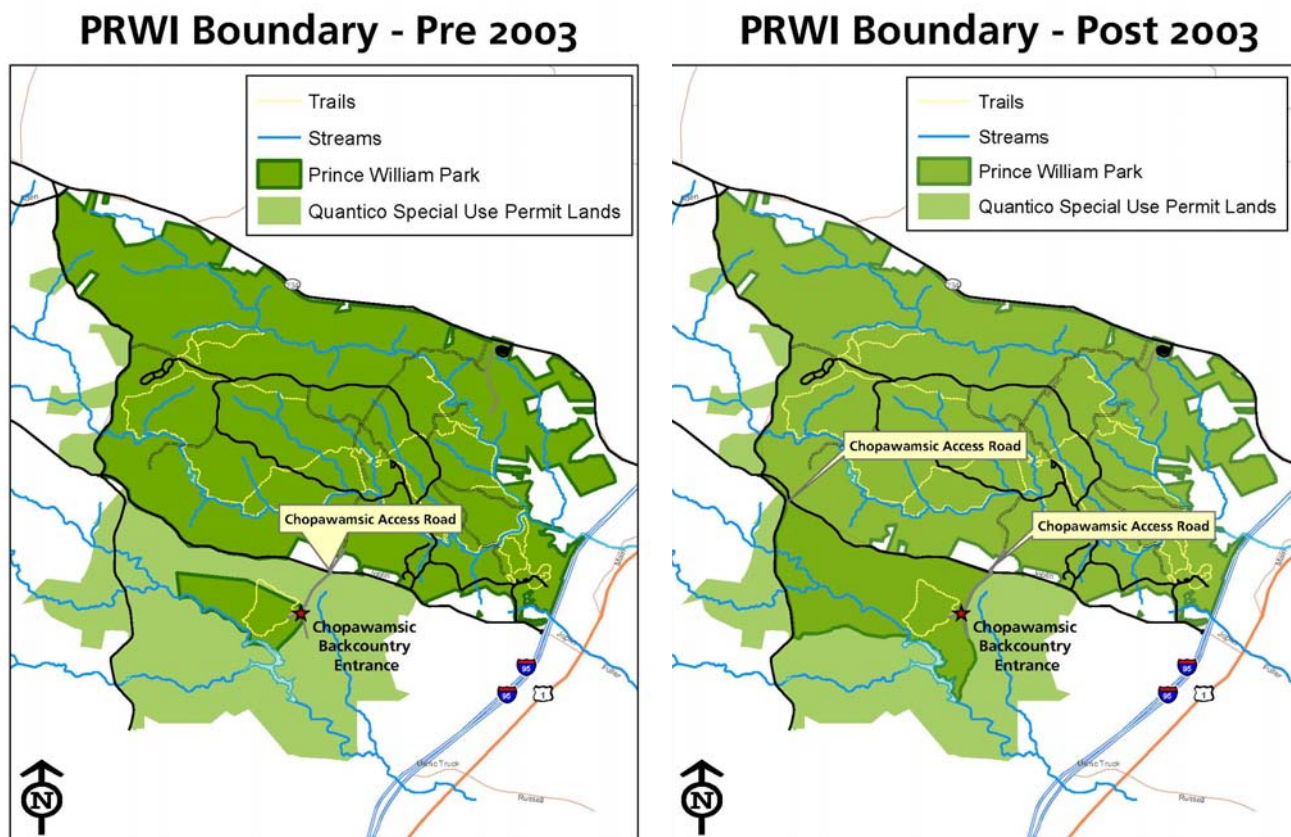
ESTABLISHMENT

Three factors led to the definition of new recreational goals in America and gave rise to the development of organized park and campground facilities around the turn of the century. These included the back-to-nature movement, the public's increasing amount of leisure time and the perception that spending it in a natural, non-urban environment was a healthy and relaxing pastime along with the ability to reach these park facilities by automotive transportation (NPS, 1989).

A solution to providing these natural environment recreational opportunities was included in the Emergency Conservation Work (ECW) Act, approved by Congress in 1933. This program included the creation of Recreational Demonstration Areas (RDAs). As described in the 1959 Prince William Forest Park Master Plan, as part of this effort, in 1933 the Federal Government began acquiring the land for the Chopawamsic RDA in part "to provide a suitable playground for the peoples of metropolitan Washington and Northern Virginia (NPS, 1959)" that would provide campsites for the experienced camper, and areas within the park for outdoor recreational activities such as hiking, picnicking, swimming and fishing. The ECW Act also established the Civilian Conservation Corps (CCC). During the 1930s, the CCC built roads, cabin camps, and lakes for urban middle and lower income populations (NPS, 1986).

The Chopawamsic RDA was turned over to the NPS in 1936 through an Executive Order signed by President Franklin D. Roosevelt. By this time, most of the recreational developments were in place, and the landscape was exhibiting signs of restoration through natural succession. Congress changed the name of the park to Prince William Forest Park in 1948. At this time, under Public Law 736, the conditional transfer of 4,862 acres to the Department of the Navy occurred with the understanding that the water quality of the Quantico Creek would continue to be protected. The law also authorized \$10,000 for the acquisition of up to 1,500 acres of private lands for the proper rounding out of the park boundaries, and after these acquisitions were complete, the acreage would be transferred to the Department of the Navy. However, funds were never allocated to complete Prince William Forest Park acquisitions and the Chopawamsic area remains part of Prince William Forest park. In 1998, the park and Quantico signed a memorandum of understanding that works toward a settling land issues, fulfilling the 1948 legislation, and solving the boundary and jurisdictional confusion.

In late 2002, Public Law 107-314 directed the transfer of jurisdictional land areas within the South Fork Quantico Creek watershed from Prince William Forest Park to Quantico. This Public Law also indicates that if the Department of Navy at any time determine that there is no longer a need for the approximately 3,500 acres in the watershed of Quantico Creek for its purposes, and it is declared excess, it would be offered to the Department of Interior. The pre-2003 and post-2003 park boundaries (corresponding to the period before and after Public Law 107-314, respectively) are shown below.



Today, a primary management objective of Prince William Forest Park is the protection of the Quantico Creek watershed through a combination of land acquisition, exchanges and transfers, internal land use practices, and active cooperation with adjacent property owners. Retaining part of the park's original name, the Chopawamsic Backcountry Area provides approximately 1,700 acres to explore. As described in the park's General Management Plan, the park primarily serves as a "cradle" for local indigenous species and as a natural human retreat from a burgeoning urban area (NPS, 1999).

NPS PLANS, POLICIES AND ACTIONS

The NPS is governed by laws, regulations, and management policies, and must adhere to these before, during, and following any management action.

National Environmental Policy Act, 1969, as amended

The NEPA was passed by Congress in 1969 and took effect on January 1, 1970. This legislation established this country's environmental policies, including the goal of achieving productive harmony between human beings and the physical environment for present and future generations. It provided the tools to implement these goals by requiring that every federal agency prepare an in-depth study of the impacts of "major federal actions having a significant effect on the environment" and alternatives to those actions. It also required that each agency make that information an integral part of its decisions. NEPA also requires that agencies make a diligent effort to involve the interested members of the public before they make decisions affecting the environment.

NEPA is implemented through regulations of the CEQ [40 CFR 1500-1508]. The NPS has in turn adopted procedures to comply with the act and the CEQ regulations, as found in DO-12: Conservation Planning, Environmental Impact Analysis, and Decision Making (NPS 2001) and its accompanying handbook. This document was prepared in accordance with these regulations.

National Historic Preservation Act, as amended through 2000 (16 U.S.C. 470)

The NHPA of 1966, as amended through 2000, protects buildings, sites, districts, structures, and objects that have significant scientific, historic, or cultural value. The act established affirmative responsibilities of federal agencies to preserve historic and prehistoric resources. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. A historic property is any “prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places” (36 CFR 800.16). The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations, “Protection of Historic Properties” (36 CFR Part 800), became effective January 11, 2001.

Endangered Species Act

Section 7 of the Endangered Species Act requires Federal agencies to insure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat.

Coastal Zone Management Act

The Coastal Zone Management Act provides for management of the nation's coastal resources, including the Great Lakes, and balances economic development with environmental conservation.

NPS Organic Act of 1916

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of Interior and the NPS to manage units “to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations” (16 USC § 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16 USC 1a-1). Despite these mandates, the Organic Act and its amendments afford the NPS latitude when making resource decisions that balance resource preservation and visitor recreation.

Because conservation remains predominant, the NPS seeks to avoid or to minimize adverse impacts on park resources and values. However, the NPS has discretion to allow impacts on park resources and values when necessary and appropriate to fulfill the purposes of a park (NPS 2006c sec. 1.4.3). While some actions and activities cause impacts, the NPS cannot allow an adverse impact that would constitute impairment of the affected resources and values (NPS, 2006c). The Organic Act prohibits actions that permanently impair park resources unless a law directly and specifically allows for the actions (16 USC 1a-1). An action constitutes an impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (NPS, 2006c). To determine impairment, the NPS must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect

effects of the impact; and the cumulative effects of the impact in question and other impacts” (NPS, 2006c).

NPS MANAGEMENT POLICIES

The *NPS Management Policies* 2006 (NPS, 2006c) is the basic NPS-wide policy document, adherence to which is mandatory unless specifically waived or modified by the NPS director or certain departmental officials, including the U.S. secretary of interior. Actions covered under this EA are in part guided by these management policies. Sections which are particularly relevant to this project are as follows:

Section 1.4: The Prohibition on Impairment of Park Resources and Values

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of Interior and the NPS to manage units “to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations” (16 USC § 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16 USC 1a-1).

NPS Management Policies 2006, Section 1.4.4, explains the prohibition on impairment of park resources and values:

While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the Nation Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

The NPS has discretion to allow impacts on park resources and values when necessary and appropriate to fulfill the purposes of a park (NPS 2006 sec. 1.4.3). However, the NPS cannot allow an adverse impact that would constitute impairment of the affected resources and values (NPS 2006 sec 1.4.3). An action constitutes an impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (NPS 2006 sec 1.4.5). To determine impairment, the NPS must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts” (NPS 2006 sec 1.4.5). A determination on impairment for the preferred alternative evaluated in this plan/EA is provided in Appendix C.

Section 4.4 – Management of Biological Resources

The National Park Service will maintain as parts of the natural ecosystems of parks all plants and animals native to park ecosystems. To achieve this, human impacts on native plants, animals, populations, communities, and ecosystems, and the processes that sustain them will be minimized.

Section 5.3.1 – Protection and Preservation of Cultural Resources

The NPS will employ the most effective concepts, techniques, and equipment to protect cultural resources against deterioration, environmental impacts, and other threats without compromising the integrity of the resources.

Director's Orders

Director's Orders supplement and may amend NPS Management Policies. The Director's Orders (DO) which are particularly relevant to this project are as follows:

Director's Order 28: Cultural Resources Management

DO-28 requires the NPS to protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with the policies and principles contained in the NPS Management Policies. It also indicates the NPS would comply with the substantive and procedural requirements described in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation and the 2008 Programmatic Agreement between the NPS, the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers. The Cultural Resource Management Guideline further implements the NPS Management Policies and contains park management standards and other requirements with which park managers must comply in carrying out their responsibilities. It outlines requirements for research, planning, and stewardship of cultural resources, compliance with Section 106 of the National Historic Preservation Act, as well as the management of archeological resources, cultural landscapes, historic and prehistoric structures, museum objects, and ethnographic resources.

Director's Order 77-1: Wetland Protection

DO-77-1 requires the NPS to protect wetlands in accordance with its responsibilities under Executive Order (E.O.) 11990.

Director's Order 77-2: Floodplain Management

DO-77-2 requires the NPS to preserve floodplain values and minimize potentially hazardous conditions associated with flooding in accordance with Executive Order 11988 (NPS, 2002).

General Management Plan

The 1999 General Management Plan for Prince William Forest Park established strategies to improve visitor experience and enhance public use of the park, while ensuring the long-term protection of the park's significant resources. While the plan does not call for the establishment of a new entrance, it does indicate that camping facilities would be improved.

Draft Recreation Management Plan for the Breckenridge Reservoir

Applicable to the approximately 1,700 acres south of State Route 619 within the boundaries of Prince William Forest Park, this draft plan outlines the joint recreation management efforts of the park and the Marine Corps Base, Quantico. In order to provide a suitable environment for the respective missions of both agencies, Prince William Forest Park agreed to pursue a relocated public access from Route 619 that would eliminate general public access from Breckenridge Road (NPS, 2011a).

SCOPING PROCESS AND PUBLIC PARTICIPATION

Scoping refers to the process used to gather information from the public and interested agencies to define project issues, alternatives, and data needs. Internal scoping typically includes a multidisciplinary team of NPS personnel along with interested federal, state and local agency representatives. External scoping is the process used to gather public input and may include scoping sessions, direct mailings, newsletters, ads, or open houses.

Internal scoping for this project formally began with the completion of the Environmental Screening Form (ESF). The ESF, which is typically used to identify potential issues and begin the Environmental Assessment process, was initiated in August 2006, and was completed in August 2008. The multidisciplinary project team held a meeting on September 30, 2008 to develop alternatives that would meet the purpose and need of this project. During this meeting, potential issues and possible impacts were identified, feasible alternatives were discussed and the existing site conditions were reviewed in the field. NPS held an additional meeting on January 12, 2010 to finalize the alternatives and the project purpose and need.

The NPS also conducted formal external scoping for this project. In 2006, Prince William Forest Park conducted a visitor and neighborhood resident survey to gather public input on targeted issues, including park access, services and facilities. The survey included an on-site survey, a mail survey sent to the four neighboring zip codes, in addition to an internet based survey.

To engage the public in the scoping process specifically for the Chopawamsic access project, Prince William Forest Park sent project information to approximately 400 individuals and organizations. In addition, a press release announcing the project and soliciting public comment was published in the Quantico Sentry. A public scoping meeting was held at Prince William Forest Park on October 21, 2010. No members of the public participated in the meeting and no public comments regarding the project have been received to date.

ISSUES AND IMPACT TOPICS

Issues describe problems or concerns associated with current impacts from environmental conditions or current operations, as well as problems that may arise from the implementation of an alternative. Issues were identified during the project planning by internal and external scoping.

The main issue associated with this proposed project is establishing the proposed new access point for the Chopawamsic Backcountry Area while minimizing impacts to sensitive resources. While there is a need for a new access point, additional parking spaces and restroom facilities in this area of Prince William Forest Park, the park is concerned with potential impacts to existing forest habitat and potential cultural resources. The issue was how to provide the required access and attendant features without impacting the identified sensitive resources.

IMPACT TOPICS ANALYZED IN THIS EA

The impact topics evaluated during this EA are discussed below. The impacts topics retained were evaluated for each alternative and are discussed in detail in the Affected Environment section of this EA. Scoping issues or impact topics that were considered, but were not evaluated further, are discussed in detail in impact topics dismissed from further analysis section of this chapter.

Vegetation - Under the action alternative, vegetation removal would be necessary to construct the gravel parking area and attendant features. Due to the impacts on vegetation under the action alternatives, this impact topic will be analyzed in this EA.

Soils - The park provides unique geologic resources due its location between the Coastal Plain and Piedmont physiographic provinces. Undulating topography, steep sided valleys and narrow ridge tops characterize the landscape within the park. In addition to the geological diversity, the park contains large pyrite deposits. The best example of the mineral deposits is at the confluence of the north and south branches of Quantico Creek, where crystalline formations can be seen. Under the action alternative, minor changes in the landscape would occur to create the gravel access road and parking lot in areas that are currently naturalized. No locally rare geological formations or geologic hazards are present within the project area. Any impacts to geology and topography would be negligible or less in intensity.

According to the Natural Resources Conservation Service soil survey, many of the soil types within the park are highly erodible. Since the action alternatives have the potential to increase erosion due to construction activities and increased visitor use, soils will be carried forward for further consideration.

Cultural Resources - The National Historic Preservation Act (NHPA; 16 USC 470 et seq.), NEPA, NPS 1916 Organic Act, the NPS *Management Policies 2006*, DO-12 (Conservation Planning, Environmental Impact Analysis and Decision-making), and NPS-28 (Cultural Resources Management Guideline) require the consideration of impacts on any cultural resources that might be affected, and NHPA, in particular, on cultural resources either listed in or eligible to be listed in the National Register of Historic Places (NRHP). Cultural resources include archeological resources, cultural landscapes, historic structures and districts, ethnographic resources, and museum objects, collections and archives.

Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties. The historic preservation review process mandated by Section 106 is outlined in regulations issued by the Advisory Council on Historic Preservation.

Cultural Landscapes - While there is no Cultural Landscape Report available for the Chopawamsic Backcountry Area of the Prince William Forest Park, Bobcat Ridge Road runs through the project area. This existing roadbed, which follows Bobcat Ridge, is being proposed as an access trail to the Chopawamsic Trail. Bobcat Ridge Road is considered a feature of the potential cultural landscape. Because all of the proposed alternatives will affect Bobcat Ridge Road, this topic will be carried forward for further consideration.

Visitor Use and Experience - The no action alternative would be expected to impact visitor use and experience due to continuing difficulty accessing the Chopawamsic Backcountry Area. The proposed project has the potential to increase visitor use and improve experience after construction. Due to the potential beneficial impacts on visitor use and experience, this impact topic will be analyzed in this EA.

Park Management and Operations - Due to the increased visibility of the proposed entrance, the action alternatives have the potential to increase public use of the area which would result in increased management effort for park staff. Therefore, this topic will be carried forward for further consideration.

IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

The following impact topics or issues were eliminated from further analysis based on the low potential for adverse impacts.

Water Resources - The NPS 2006 Management Policies state that the NPS has a responsibility to take all necessary actions to maintain or restore the quality of surface waters and ground waters within Prince William Forest Park consistent with the Clean Water Act and all other applicable federal, state, and local laws and regulations. The project area is within the Chopawamsic Creek watershed. While Breckenridge Reservoir and several streams are located in the Chopawamsic Backcountry Area of the park, no streams were identified by Prince William Forest Park staff in the project area during the wetland determination site visit.

Prince William County is located within the Chesapeake Bay watershed, which indicates that all of the creeks and streams in the County feed into the Potomac River and eventually the Chesapeake Bay. To protect the Bay, Prince William County adopted the Chesapeake Bay Preservation Act into its local ordinance in 1990. Within this ordinance, there are provisions for the protection of Resource Protection Areas (RPAs). RPAs include all water bodies with perennial flow, any adjacent wetlands, and a 100-foot protection buffer. In general, no development, land disturbance, or vegetation removal is allowed in an RPA without the approval of the Prince William County Department of Public Works. However, with approval, vegetation can be removed within the 100 foot buffer zone for the following reasons (PWC, 2008b):

- For water dependent uses, such as docks, piers and outfalls.
- To create a water access path (boardwalk, trail), as long as it does not cause erosion.
- To provide for shoreline erosion control, provided that the buffer is replanted with native, woody vegetation.
- To remove dead, dying or diseased trees and shrubs, and to remove noxious weeds or invasive exotic plants.
- For utilities, public roads and driveways.
- To provide limited water views, but removed vegetation must be replaced with other lower growing vegetation to provide equivalent water quality protection.

Groundwater within the park is susceptible to the effects of pollution due to the sandy nature of the soils. Infiltration of surface water into the ground occurs from all pervious surfaces within the park. The stormwater pollution prevention mitigation measures implemented during the project would prevent the infiltration of any hazardous substances into the groundwater. As a result, no impacts to the groundwater would be expected. Since no impacts to the coastal zone, groundwater or surface water are expected under any of the alternatives, this impact topic has been dismissed from further evaluation.

Wetlands - In accordance with NPS Director's Order 77-1 which implements Executive Order 11990, NPS is required to avoid impacting wetlands whenever there is a practical alternative. The NPS utilizes the Fish and Wildlife Service, U.S. Department of the Interior publication Classification of Wetlands and Deepwater Habitats of the United States, 1979, to classify wetlands. For identification purposes,

wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year. A wetland determination was prepared for the project area by the park staff on October 20, 2010. The investigation concluded that no wetlands are located within the project area. A copy of the wetland determination data forms completed by the park are provided in Appendix B. Since no impacts to wetlands would occur under any of the alternatives, this impact topic was dismissed.

Floodplains - In compliance with Executive Order 11988, it is NPS policy to preserve floodplain values and minimize potentially hazardous conditions associated with flooding (NPS, 2002). According to the Federal Emergency Management Agency (FEMA) floodplain map for the park, no FEMA designated 100-year floodplain is present in the project area. Furthermore, no impacts to natural floodplain values would occur. In addition, the project would not be in support of floodplain development that could adversely affect the natural resources and function of the floodplain. Director's Order 77: Floodplain Management (NPS, 2002) indicates that a Statement of Findings would only be required when locating structures in a floodplain or when impacts to natural floodplain values would occur. Since none of the identified alternatives support development in the floodplain or impact natural floodplain values, this topic has been dismissed from further evaluation.

Wildlife - The NPS 2006 Management Policies state that the NPS has a responsibility to maintain all animals native to park ecosystems. One component of this protection includes the minimization of, human impacts on native plants, animals, populations, communities, and ecosystems, and the processes that sustain them.

The park provides habitat for a diverse group of wildlife including approximately 23 fish species, 24 amphibian species, 27 reptile species, 105 bird species and 38 types of mammals (NPS, 2008). Aquatic habitat within the park is available in Chopawamsic Creek and all contributing streams, as well as in the ponds and wetlands. These support a diverse population of benthic macroinvertebrates, aquatic breeding amphibians and fish. No streams or wetlands are located within or near the project area so no impacts on aquatic wildlife would occur under any alternative.

Mammal species thriving in the park include white-tailed deer (*Odocoileus virginianus*), wild turkey (*Meleagris gallopavo*), fox (*Urocyon cinereoargenteus cinereoargenteus*) and (*Vulpes vulpes fulva*) and beavers (*Castor canadensis*). Also abundant are small mammals, reptiles and amphibians. American black bears (*Ursus americanus*), coyotes (*Canis latrans*) and bobcats (*Lynx rufus rufus*) have been observed in the park and in the surrounding lands but the population size and distribution within the park are unknown. These larger predators are relatively sensitive to human disturbances and their numbers are decreasing in other areas of the piedmont (NPS, 2008). Owls (*Aegolius acadicus*), hawks (*Buteo spp.* and *Accipiter spp.*), pileated woodpeckers (*Dryocopus pileatus*), warblers (*Dendroica spp.*), bluebirds (*Sialia sialis*) and other songbirds are known to inhabit the park. Bald eagles (*Haliaeetus leucocephalus*) have been observed passing through the area, although they are not known to nest in the park (NPS, 2008).

The maximum area of disturbance from the parking lot footprint under the action alternatives would be 0.5 acres, and the adjacent habitat includes over 1,000 acres of relatively undisturbed forest. Any displaced terrestrial wildlife species would be expected to mobilize to alternate habitat areas within the park. Because refuges for any displaced wildlife species would be available in the surrounding forest,

negligible impacts to native wildlife would be expected under any of the alternatives. As discussed in the section below, no impacts to any rare, threatened or endangered wildlife are expected. Based on the negligible impacts on terrestrial and aquatic wildlife as a result of either of the action alternatives, this topic was dismissed from further evaluation.

Rare, Threatened, and Endangered Species - The only federally threatened or endangered species known to occur within the park is the small whorled pogonia (*Isotria medeoloides*), a federally threatened orchid. Habitat for this species in Virginia consists of deciduous mid-successional forests with fairly sparse ground cover. Intensive grazing by the white tailed deer is reported as the biggest threat to long-term survival within the park. Surveys for *I. medeoloides* have been conducted and the known colonies are all outside the project area (Van Alstine and A. Belden Jr., 2007 and Brumback, 2007). NPS sent coordination requests to the Virginia Department of Conservation and Recreation (VDCR) and the Department of Agriculture and Consumer Services (VDACS) and the United States Fish and Wildlife Service (USFWS) on April 26, 2010. Copies of the coordination letters sent to VDCR, VDACS and USFWS are provided in Appendix A. The NPS has been in consultation with the USFWS concerning this project through September 2011. No response has been received from USFWS to date. Based on previous consultations and the absence of the species identified in the project area during the 2007 survey conducted by William Brumback, the New England Wildflower Society Conservation Director, the NPS indicated that the action alternatives are not likely to adversely affect *I. medeoloides* (NPS, 2010). A copy of the 2007 survey is provided in Appendix E.

An important component of the preservation of this species under the Endangered Species Act is the designation of critical habitat for threatened and endangered species. Critical habitat areas are designated geographic locations occupied by a threatened or endangered species which contain those physical or biological features essential to the conservation of the species. It may also include areas outside the geographical area occupied by the species when it has been determined that such areas are essential for the conservation of the species. There is no designated critical habitat within the park for any federally listed species. Based on the lack of critical habitat present within the park, the absence of *I. medeoloides* colonies in the vicinity of the project area, and that the action alternatives are not likely to adversely affect *I. medeoloides*, this topic was dismissed from further analysis in this EA.

Scenic Resources (aesthetics and viewsheds) - Prince William Forest Park is a 15,000-acre piedmont forest system which provides a rare undeveloped landscape of mixed hardwood forest with diverse, quality visual and aesthetic resources. The action alternatives have the potential to impact visual and aesthetic resources. The action alternatives would result in short-term, negligible localized adverse impacts on the visual quality of the park due to the presence of construction equipment and materials. The NPS Management Policies require that visual intrusions from construction activities be kept to a minimum. Therefore, to reduce these impacts, the proposed staging area for the action alternatives would be in the proposed parking area, which would remain inaccessible to the public during the construction activities. The proposed location of parking lot is in an area that is rarely accessed by visitors and does not provide a rare scenic aesthetic or viewshed. The resulting impacts on scenic resources from the presence of the parking area would be a long-term negligible impact. The no action alternative would have no impact on scenic resources. Since any of the alternatives would have only a negligible impact on the visual resources within the park, this impact topic was dismissed.

Archeological Resources – To identify potential archeological resources, the Louis Berger Group, Inc. (Berger) was contracted to complete a Phase I archeological survey of the proposed parking lot area. The Phase I survey included surface inspection, shovel testing, and metal detecting over approximately 1.8 acres. No archeological sites were defined and no further archeological work was recommended for the proposed parking lot. Should previously unknown cultural resources be encountered during construction activities, work would be halted in the discovery area and the park would consult according to 36 CFR 800.13 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990. Because no known archeological resources would be affected by any of the proposed actions, and because conditions would be in place regarding inadvertent discovery of previously unknown archeological sites, archeological resources are dismissed as a separate impact topic.

Historic Structures and Districts – No known historic structures or districts are present in the project area. This impact topic was dismissed from further analysis.

Ethnographic Resources - Ethnographic resources are the cultural and natural features of a park that are of traditional significance to traditionally associated peoples. These peoples have been associated with a park for two or more generations, and their interests in the park's resources began before the park was established (NPS, 2006c). The park cultural resource specialists have reviewed the proposed project and have determined that no ethnographic resources are present within the project area (NPS, 2009). Because no known ethnographic resources would be affected by the proposed actions and because mitigations would be in place to protect any human remains, funerary objects, sacred objects, or objects of cultural patrimony inadvertently discovered, ethnographic resources have been dismissed as an impact topic.

Museum Collections – Implementation of any alternative under consideration would have no effects upon museum collections (historic artifacts, natural specimens, and archival and manuscript material) and therefore, museum collections are dismissed as an impact topic.

Human Health and Safety - The NPS is committed to providing high quality opportunities for visitors and employees to enjoy parks in a safe and healthy environment. Furthermore, the NPS strives to protect human life and provide for injury-free visits. Safety applies to both park visitors and park employees. The park roadways provide access for emergency services, NPS resource management, maintenance personnel, park visitors and members of the community. Under any of the alternatives, an access point to the Chopawamsic Backcountry Area would be available. No new types of permissible recreational activities are planned for this area of the park. The area would continue to be used only for hiking and camping. Since impacts to human health and safety would not be expected under any of the alternatives, this impact topic has been dismissed.

Transportation - Park records indicate that Prince William Forest Park receives over 325,000 visitors annually (NPS, 2011b) and the average daily traffic on the park roadways for 2007 was 160 vehicles per day (EFLHD, 2007). However, according to park use statistics, the Chopawamsic Backcountry Area receives approximately 300 visitors per year (NPS, 2011b). Under the no action alternative, access into the Chopawamsic Backcountry Area would continue to be from Breckenridge Road. An increase in visitor use of the area is expected result from the construction of the new access point. Vehicles would also have to turn from Joplin Road, which has heavier traffic volumes than Breckenridge Road. However, the resulting impacts on traffic would be minor since these improvements aren't expected to result in more than minor increases in use of the area, particularly during times of peak traffic on Joplin

Road. Because the resulting negative impacts on traffic and transportation under any of the alternatives would be minor or less in intensity, this impact topic was dismissed from further analysis in this EA.

Climate Change and Sustainability - Impacts of the proposed actions on climate change would be mainly due to emissions of nitrous oxides and carbon dioxide from the burning of fuel in vehicles and equipment during construction. In addition, the removal of vegetation would proportionally remove the ability of that vegetation to sequester carbon. These emissions and the reduced carbon sequestration could result in incremental increases in “greenhouse gases” that contribute to global climate change. Most of the observed temperature increases can be attributed to human activities that contribute heat-trapping gases to the atmosphere (IPCC 2007). However, these emissions and loss in carbon sequestration would be negligible in comparison to other local and regional sources of greenhouse gas emissions. Therefore, climate change and sustainability were dismissed from further analysis in this document.

Environmental Justice - Presidential Executive Order 12898, General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. According to the Environmental Protection Agency, environmental justice is the:

“...fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.”

The goal of ‘fair treatment’ is not to shift risks among populations, but to identify potentially disproportionately high and adverse effects and identify alternatives that may mitigate these impacts. Both minority and low-income populations are present in the vicinity of Prince William Forest Park; however, environmental justice is dismissed as an impact topic for the following reasons:

- The park staff and planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.
- Implementation of the proposed alternatives would not result in any identifiable adverse human health effects. Therefore, there would be no direct or indirect adverse effects on any minority or low-income population.
- The impacts associated with implementation of the proposed alternatives would not disproportionately affect any minority or low-income population or community.
- Implementation of the proposed alternatives would not result in any identified effects that would be specific to any minority or low-income community.
- Any impacts to the socioeconomic environment would not appreciably alter the physical and social structure of the nearby communities of Prince William County.

Impairment

According to NPS Management Policies 2006, an action constitutes an impairment when an impact “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” (NPS 2006, sec. 1.4.5). Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts. An impact on any park resource or value may constitute an impairment, but an impact would be more likely to constitute an 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 to the opportunity for enjoyment of the park; or
- identified as a goal in the park’s general management plan or other relevant NPS planning documents

Impairment findings are not necessary for visitor experience or park operations because impairment findings relate back to park resources and values, and these impact areas are not generally considered to be park resources or values according to the Organic Act, and cannot be impaired the same way that an action can impair park resources and values. A draft impairment determination for the NPS preferred alternative is provided in Appendix C of this document. Park resources considered in this determination include soils, vegetation and cultural landscapes. A final impairment determination will be provided in the decision document developed on the findings of this EA.

ALTERNATIVES

INTRODUCTION

NEPA requires that federal agencies explore a range of reasonable alternatives. The alternatives under consideration must include the “no action” alternative as prescribed by 40 CFR 1502.14. Project alternatives may originate from the proponent agency, local government officials, members of the public at public meetings, or during the early stages of project development. Alternatives may also be developed in response to comments from coordinating or cooperating agencies. The alternatives analyzed in this document, in accordance with NEPA, are the result of design scoping, internal scoping and public scoping. These alternatives meet the management objectives of the park while also meeting the purpose and need for the proposed action. Project alternatives that were considered but failed to meet the purpose and need for the project, created unnecessary adverse resource impacts or conflicted with the management of the park or its resources were dismissed from further analysis.

For this EA, the NPS evaluated a range of alternatives. The alternatives dismissed from consideration are described in the subsection entitled “Alternatives Considered but Dismissed,” following this discussion. Three alternatives were carried forward for analysis:

- Alternative A – No Action Alternative
- Alternative B – New Parking Area and Restroom Facility, Restricted Use (Preferred)
- Alternative C – New Parking Area and Restroom Facility, Unrestricted Use

ALTERNATIVE A: NO ACTION - Under the no action alternative, the NPS would continue to operate and manage the Chopawamsic Backcountry Area of Prince William Forest Park under its current conditions. Visitors wishing to access the Chopawamsic Backcountry Area would be required to obtain permission by stopping by the park visitor center and personnel from both Prince William Forest Park and Quantico would continue to lock and unlock their respective agency gates on Breckenridge Road to provide visitor access to the either the Chopawamsic Backcountry Area or to the cemeteries.

ALTERNATIVE B: NEW PARKING AREA AND RESTROOM FACILITY, RESTRICTED USE (NPS PREFERRED) – This alternative establishes a new entrance at an existing but currently unused fire road (Bobcat Ridge Road), which can be accessed from Route 619 (Joplin Road) near mile post 22. Bobcat Ridge Road has existed for over 30 years, and was once a drivable route to the Chopawamsic Trail. The clean up of Bobcat Ridge Road from Joplin Road to the Chopawamsic Backcountry Trail would consist of clearing trash and woody debris. Bobcat Ridge Road would serve as a portion of the footpath between the new parking area and the Chopawamsic Backcountry Trail. As shown on the maps of the various options in the affected environment chapter, a small footpath would be used to direct visitors from the parking area to Bobcat Ridge Road, which would provide access to the hiking trail.

There are six options for the parking lot design; three designs providing approximately 20 parking spaces and three designs providing approximately 40 parking spaces. Each design includes an open gravel parking lot, vehicle bumpers, an ADA compliant handicap parking space and an ADA accessible vault toilet. The vault toilet is expected to require a footprint of 7.5 feet by 16 feet and would be approximately 5 feet deep. A conceptual plan for the vault toilet is provided in Appendix D.

The parking lot options are shown in Table 1 below.

Table 1: Parking Lot Options

Parking Lot Option	Parking Spaces	Footprint (acres)	Parking Spaces per Acre*
Option 1	20	0.19	105
Option 1a	39	0.32	121
Option 2	20	0.15	133
Option 2a	31	0.21	147
Option 3	20	0.37	54
Option 3a	44	0.5	88
*Parking spaces per acre were calculated to compare the overall concentration of parking spaces within the proposed parking lot footprint. For example, Option 2 provides the most concentrated parking, while Option 3a provides the least.			

All options would include a paved apron from Route 619 that would extend approximately 20 to 30 feet down the entrance road. A swinging gate would be placed at the end of the paved apron to prevent unauthorized access. The paved apron would provide a space for visitors to park and exit their vehicles to unlock the gate. The park would work with the Virginia Department of Transportation to locate signs identifying the new entrance into the Backcountry Area from both the westbound and eastbound lanes of Route 619.

Conceptual drawings indicating the location and orientation of the parking lot options in relation to Joplin Road and the 1.8 acre project area are provided in Figures 3 through 5. Figure 6 shows all of the parking lot options, along with the bathroom and handicap parking space locations.

Operationally, under this alternative, access to the Chopawamsic Backcountry Area would be restricted, meaning that visitors wishing to access the area would be required to obtain a permit and a key from park staff at the visitor center. The gate would remain locked at all times. A permit would also be required for campers. The park would continue to limit the number of individuals in the Chopawamsic Backcountry Area to 50. Approved recreational activities would include hiking, camping and fishing. No bicycles or boats would be permitted.

The park has determined that option 2 is the preferred option since it provides the most parking spaces per acre and will meet the estimated demand for parking in this area in the short-term. This design also allows for the expansion of the lot to provide 11 additional spaces if future visitor use of the area increases to the point of needing additional parking capacity.

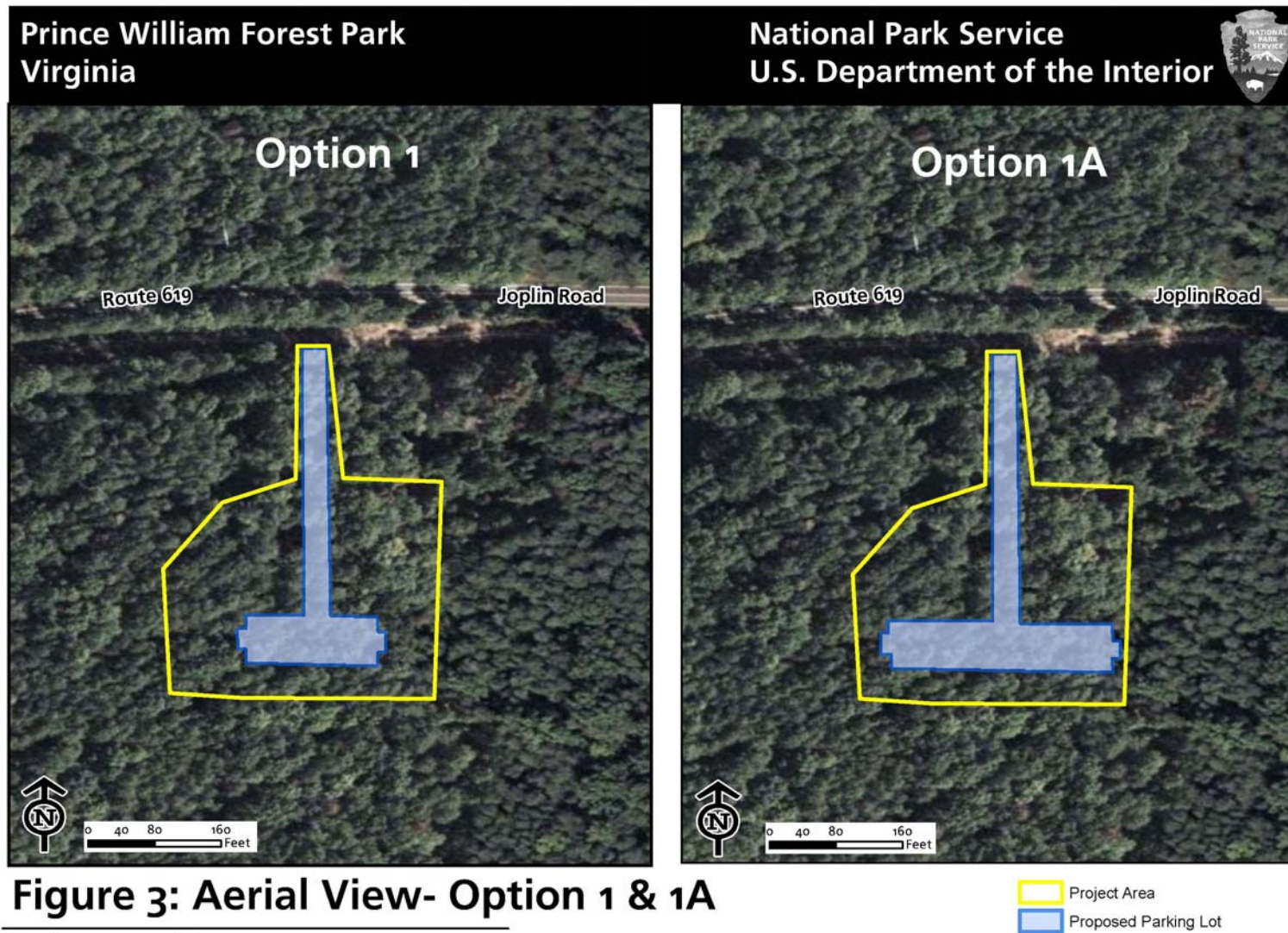


Figure 3: Aerial View- Option 1 & 1A

Environmental Assessment
Proposed Chopawamsic Access

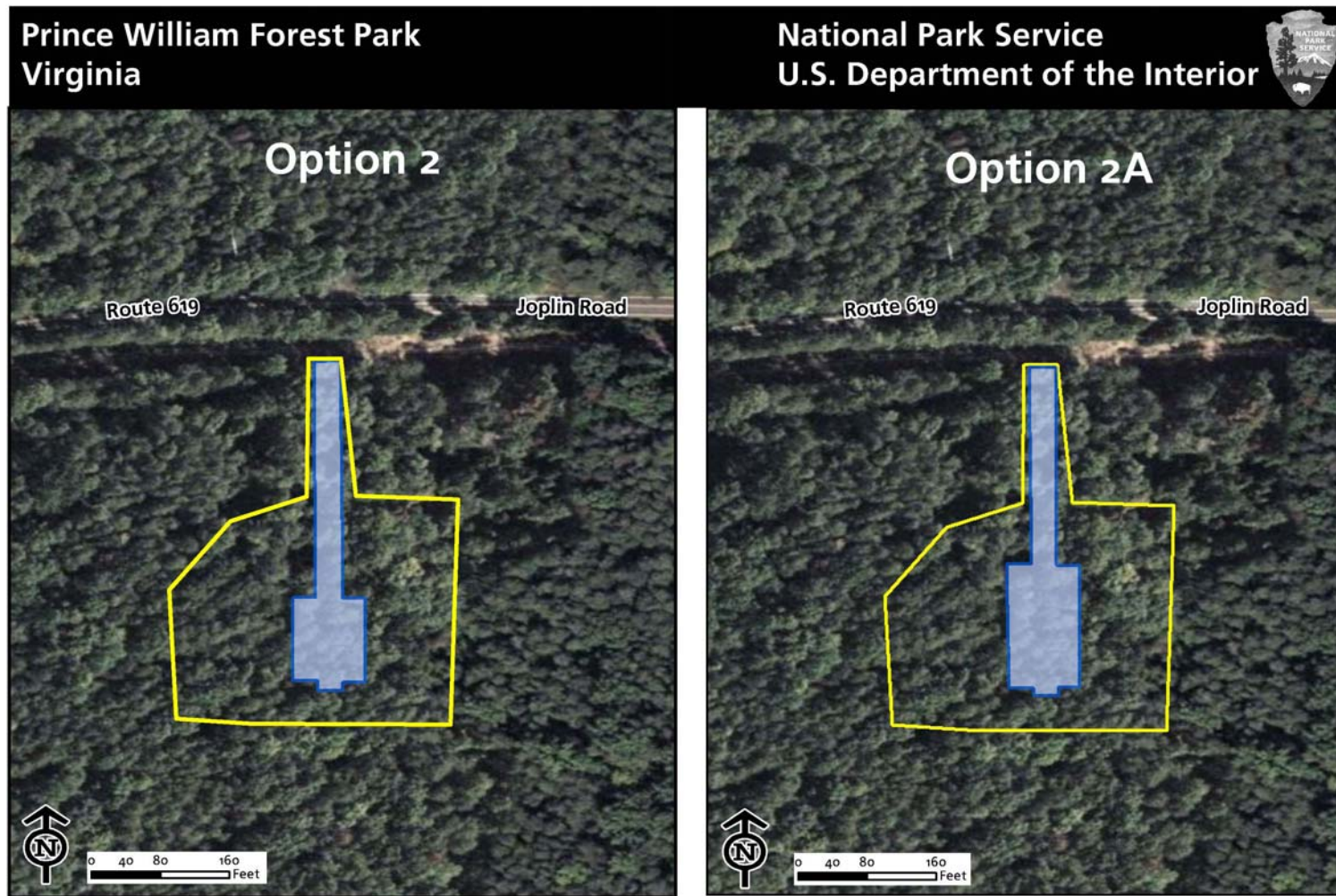


Figure 4: Aerial View- Option 2 & 2A

Environmental Assessment
Proposed Chopawamsic Access

Project Area
Proposed Parking Lot

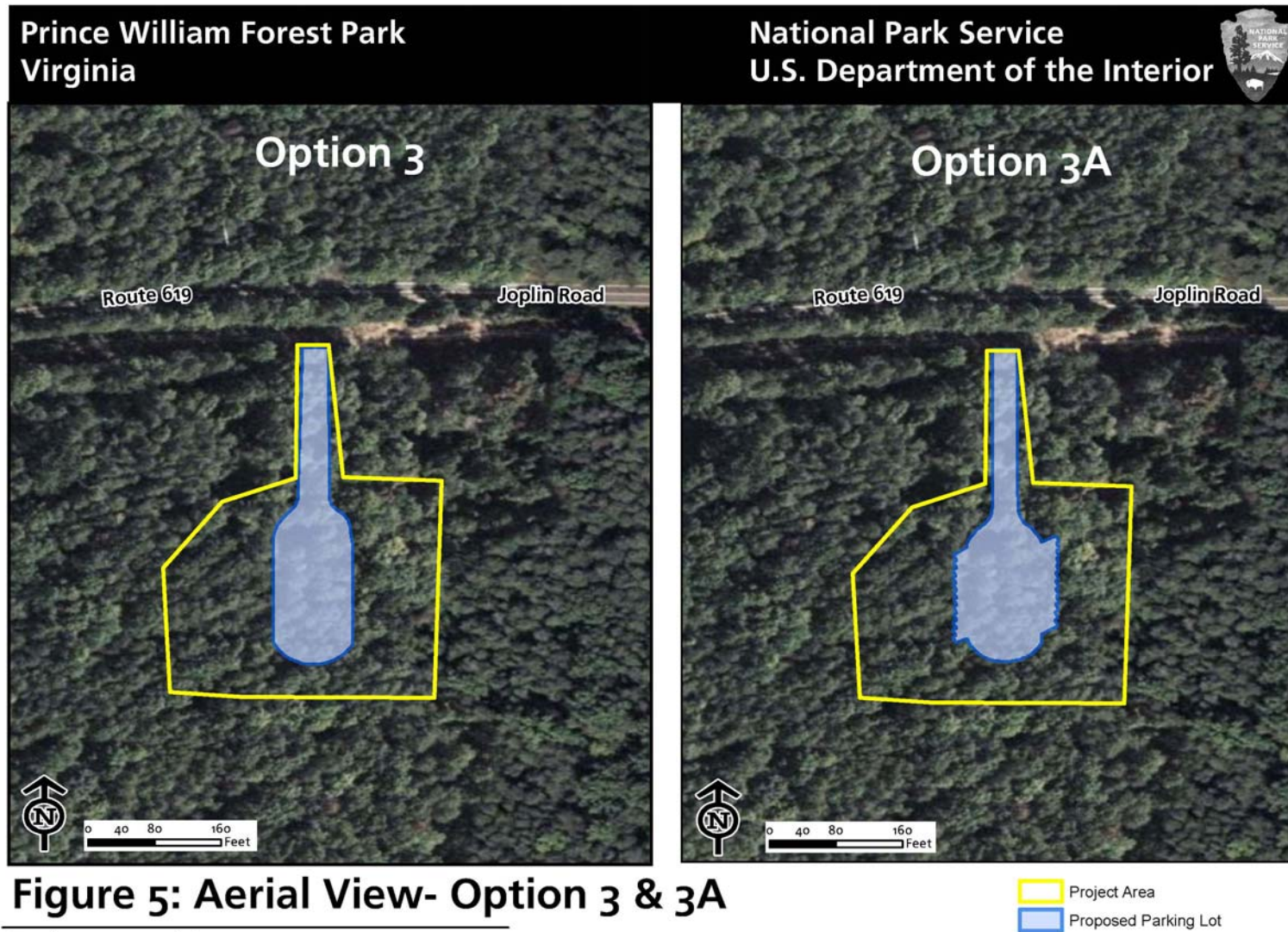
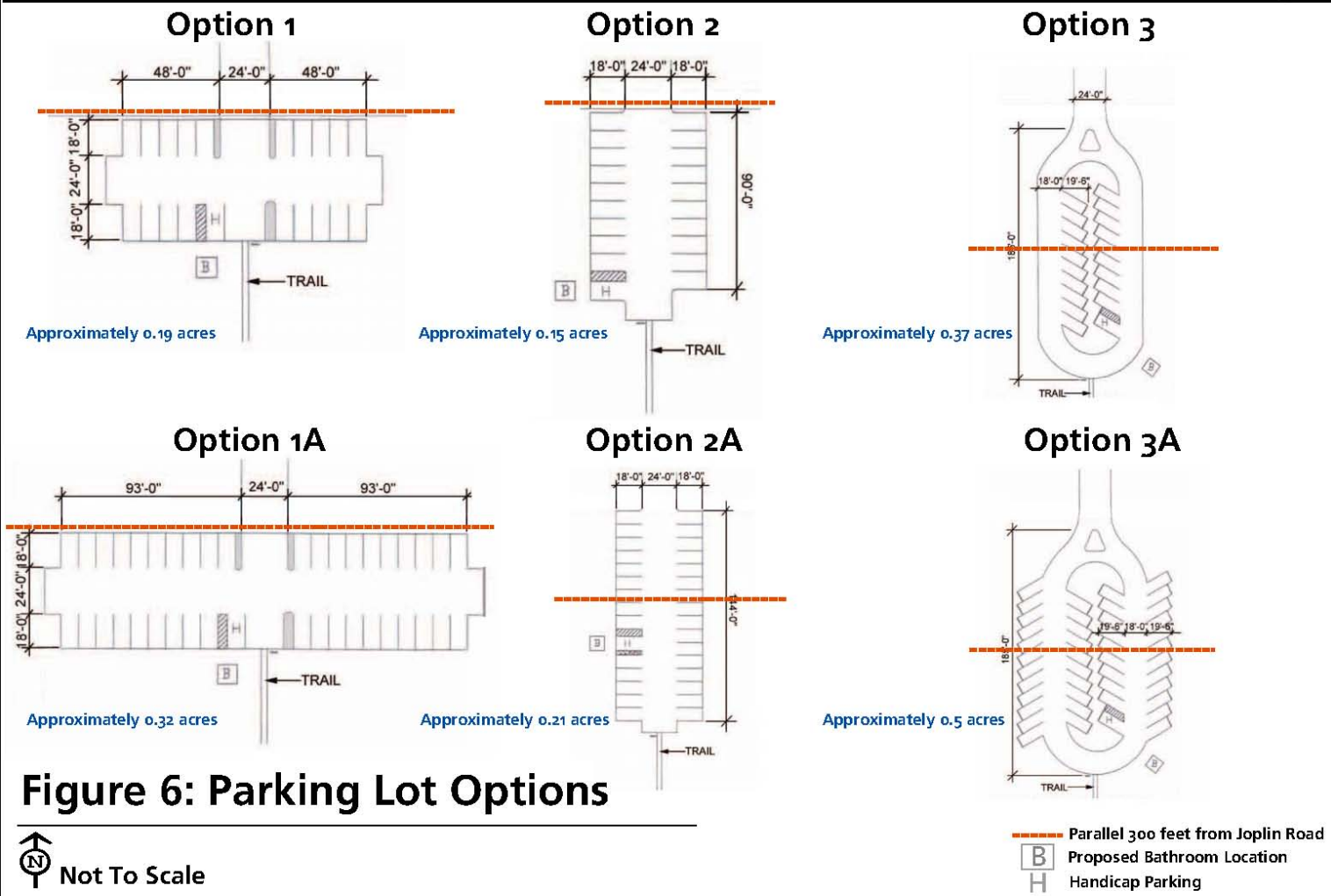


Figure 5: Aerial View- Option 3 & 3A

Environmental Assessment
Proposed Chopawamsic Access

Prince William Forest Park Virginia

National Park Service U.S. Department of the Interior



ALTERNATIVE C: NEW PARKING AREA AND RESTROOM FACILITY, UNRESTRICTED USE –

Under this alternative, the NPS would rehabilitate Bobcat Ridge Road, construct a new gravel parking area and vault toilet in the Chopawamsic Backcountry Area, identical to the preferred alternative. The same six parking lot options would be evaluated. However, under this alternative, the Chopawamsic Backcountry Area would be unrestricted, meaning that it would be open during the day to an unlimited number of visitors. The gate would remain open during the day and closed when the park closes at dusk.

CONSTRUCTION STAGING – Since the project includes the installation of a gravel parking area, the material and equipment staging would be located within the footprint of the selected gravel parking lot area. Material and equipment staging is expected to be minimal as the equipment and materials will be stored at the park maintenance yard at the end of each day.

MITIGATION MEASURES OF THE ACTION ALTERNATIVES

The NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of natural and cultural resources and the quality of the visitor experience, the following protective measures would be implemented as part of the selected action alternative. The NPS would implement an appropriate level of monitoring throughout the construction process to help ensure that protective measures are being properly implemented and are achieving their intended results.

General Mitigation Measures:

- The NPS project manager would ensure that the project remains confined within the parameters established in the compliance documents and that the mitigation measures are properly implemented.
- Construction zones outside of the existing disturbed area would be identified and fenced with construction fencing or some similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction.
- Staging areas would be fenced. Any temporary fencing established around staging areas would be inspected at least weekly, and corrective actions would be taken to maintain the integrity of the tortoise barrier.
- All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the construction zone, as defined by the construction zone fencing. This includes necessary temporary structures such as erosion control fencing.
- All tools, equipment, barricades, signs, surplus materials, and rubbish would be removed from the project work limits upon project completion. Any asphalt surfaces damaged due to work on the project would be repaired to original condition. All demolition debris would be removed from the project site, including all visible concrete and metal pieces.
- Contractors would be required to properly maintain construction equipment (i.e., mufflers) to minimize noise from use of the equipment.
- A hazardous spill plan would be in place, stating what actions would be taken in the case of a spill and identifying preventive measures to be implemented, such as the placement of refueling facilities, storage, and handling of hazardous materials, etc.

- Equipment used on the project would be maintained free of external petroleum based products while working at the project locations.
- Where appropriate, vegetable or mineral oil based grease, hydraulic oil, and bar and chain oil would be used. These lubricants are less toxic than typical lubricants and are biodegradable.
- All equipment on the project would be maintained in a clean and well functioning state to avoid or minimize contamination from automotive fluids; all equipment would be checked daily.

Cultural Resource Mitigation Measures:

- If during construction, archaeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the NPS can complete its compliance responsibilities under 36 CFR Part 800. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3002) would be followed. If non-Native American human remains are inadvertently discovered, the NPS shall follow the Department of the Interior's guidelines concerning human remains and any applicable state laws.
- Project design would minimize adverse effects to Bobcat Ridge Road by avoiding cutting, scraping, grading, or other excavation to the roadbed, adding a protective layer of mulch or gravel to the roadbed where needed to control erosion, and limiting use of the roadbed trail to foot traffic except for emergency vehicles.

ALTERNATIVES CONSIDERED BUT DISMISSED

Council of Environmental Quality (CEQ) regulations for implementing NEPA require that Federal agencies explore and objectively evaluate all reasonable alternatives to the preferred alternative, and to briefly discuss the rationale for eliminating any alternatives that were not considered in detail. This section describes those alternatives that were eliminated from further study and documents the rationale for their elimination.

During the course of internal scoping, all of the alternatives considered were carried forward for analysis in this EA. Therefore, there are no alternatives considered but dismissed.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The NPS is required to identify the environmentally preferred alternative in its NEPA documents for public review and comment. The NPS, in accordance with the Department of the Interior policies contained in the Departmental Manual (516 DM 4.10) and the Council on Environmental Quality's (CEQ) *NEPA's Forty Most Asked Questions*, defines the environmentally preferred alternative (or alternatives) as the alternative that best promotes the national environmental policy expressed in NEPA (Section 101(b) (516 DM 4.10). In their *Forty Most Asked Questions*, CEQ further clarifies the identification of the environmentally preferred alternative, stating "Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (Q6a).

After completing the environmental analysis, the NPS identified alternative A (no action alternative) as the environmentally preferable alternative in this EA because it best meets the definition established by the CEQ. This alternative would prevent impact to any natural or cultural resources. Specifically, the no action alternative:

- Offers a long-term sustainable solution for preservation of the park's significant resources and provides continued public use and park enjoyment for future generations; and
- Assures a safe and aesthetically pleasing environment with a variety of individual choices without degradation of natural or cultural resources.

A summary of the environmental consequences is provided in Table 2.

Table 2 – Summary of Environmental Consequences

Impacted Resource	Alternative A - No Action	Alternative B – New Entrance and Restroom Facility - Restricted	Alternative C – New Entrance and Restroom Facility - Unrestricted
Vegetation	Implementation of the no action alternative would result in no impacts to vegetation. There would be no cumulative impacts.	Implementation of alternative B would result in short and long-term, negligible to moderate adverse impacts to vegetation due to the disturbance of up 0.5 acres of vegetation, including the removal of up to 189 trees, for the construction of the gravel parking area, access road and vault toilet, and as a result of increased visitor use. Cumulative impacts to vegetation would be long-term, minor and adverse.	Implementation of alternative C would result in short and long-term, negligible to minor adverse impacts to vegetation due to the disturbance of up 0.5 acres of vegetation, including the removal of up to 189 trees, for the construction of the gravel parking area, access road and vault toilet, and as a result of increased visitor use. Cumulative impacts to vegetation would be short and long-term, minor and adverse.
Soils	Implementation of the no action alternative would result in no impacts to soils. There would be no cumulative impacts.	Implementation of alternative B would result in short and long-term, negligible to minor impacts to soils resulting from the proposed improvements and the increased visitor use. Cumulative impacts to soil would be long-term, minor and adverse, with the proposed project contributing a negligible increment.	Implementation of alternative C would result in short and long-term, negligible to moderate adverse impacts to soils resulting from the proposed improvements and the increased visitor use. Cumulative impacts to soil would be short and long-term, minor adverse, with the proposed project contributing a negligible increment.
Cultural Resources	The No Action Alternative would result in short-term and long-term minor adverse impacts on the potential cultural landscape, due to continued degradation of Bobcat Ridge Road. Cumulative impacts would be long-term minor adverse, with the project contributing a negligible increment.	The preferred alternative would result in short-term and long-term minor adverse and long-term beneficial impacts on the potential cultural landscape. The proposed changes would alter the northern section of Bobcat Ridge Road, resulting in long-term, minor, adverse impacts to the potential cultural landscape, and the clean up of the roadbed would have a short-term, negligible to minor, adverse and long-term beneficial impact. Cumulative impacts would be long-term, minor, adverse, and long-term beneficial, with the project contributing a negligible increment.	Alternative C would result in short and long-term minor adverse and long-term beneficial impacts on the potential cultural landscape. The proposed changes would alter the northern section of Bobcat Ridge Road, resulting in long-term, minor, adverse impacts to the potential cultural landscape, and the clean up of the roadbed would have a short-term, negligible to minor, adverse and long-term beneficial impact. Cumulative impacts would be long-term, minor, adverse, and long-term beneficial, with the project contributing a negligible increment.

Table 2 – Summary of Environmental Consequences, continued

Impacted Resource	Alternative A - No Action	Alternative B – New Entrance and Restroom Facility - Restricted	Alternative C – New Entrance and Restroom Facility - Unrestricted
Visitor Use & Experience	The no action alternative would have a long-term negligible adverse impact on visitor use and experience due to the appearance and condition of the existing facilities and the lack of easy access to the Chopawamsic Backcountry Area. For visitors desiring a more primitive experience in an area of the park not often utilized, the no action alternative would be a long-term beneficial impact on visitor use and experience. Cumulative impacts would be long-term minor adverse..	The preferred alternative would have a short-term negligible adverse and a long-term beneficial impact on visitor use and experience based the short-term impacts during construction and the improved facilities post-construction. For visitors that prefer a more primitive experience, opening this area of the park to more visitors would be a long-term moderate adverse impact on visitor use and experience. Cumulative impacts would be minor long-term adverse, with the project contributing a negligible increment.	Alternative C would have a short-term minor adverse and a long-term beneficial impact on visitor use and experience based the short-term impacts during construction and the improved facilities post-construction. For visitors that prefer a more primitive experience, opening this area of the park to unlimited visitors would be a long-term moderate adverse impact on visitor use and experience. Cumulative impacts would be minor long-term adverse, with the project contributing a negligible increment.
Park Management and Operations	The no action alternative would have no impact on park management and operations. There would be no cumulative impacts.	The preferred alternative would have short and long-term minor adverse and long-term beneficial impacts on park management and operations due to the increased efficiency provided by the new entrance, the additional law enforcement monitoring that would be required and the staff involvement during the construction phase of the project. Cumulative impacts would be long-term minor and adverse, with the project contributing a negligible increment.	Alternative C would have short-term minor adverse, long-term moderate adverse and long-term beneficial impacts on park management and operations due to the open public access and the increased efficiency provided by the new entrance, the additional law enforcement monitoring that would be required and the staff involvement during the construction phase of the project. Cumulative impacts would be long-term minor adverse, with the project contributing a negligible increment.