



Environmental Assessment

The John F. Kennedy Center for the Performing Arts Expansion Project

October 2014



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ENVIRONMENTAL ASSESSMENT

THE JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS EXPANSION PROJECT

October 2014

The Kennedy Center for the Performing Arts
Washington, DC

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PROJECT SUMMARY

INTRODUCTION

The John F. Kennedy Center for the Performing Arts (Kennedy Center) is proposing to expand the existing Edward Durell Stone building to provide approximately 60,000 square feet of additional space for classrooms, rehearsal rooms, event spaces, and offices. In addition, the Kennedy Center is looking at ways to improve visitor access to and from the Kennedy Center, the National Mall and Memorial Parks (NAMA), the Rock Creek paved Recreation Trail, the Potomac River waterfront, and surrounding areas. The project potentially falls within the Rock Creek and Potomac Parkway (RCPP), which is under the jurisdiction of the National Mall and Memorial Parks (NAMA), a unit of the National Park System administered by the National Park Service (NPS). The National Capital Planning Commission (NCPC) is reviewing the project under its authorities specified in the National Capital Planning Act (40 USC § 8722 (b)(1), (d)). Therefore, the NPS and NCPC are acting as co-lead federal agencies in preparation of this Environmental Assessment (EA) in cooperation with the Kennedy Center and the Federal Highways Administration – Eastern Federal Lands.

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality's Regulations for Implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508); Department of the Interior implementing regulations (43 CFR 46.100); NCPC's implementing regulations (69 FR 41299); NPS Director's Order 12 (DO-12): *Conservation Planning, Environmental Impacts Analysis and Decision-Making* (NPS 2001a); and the National Capital Planning Act, the NPS and NCPC have prepared this EA to identify alternatives and assess the potential impacts of the proposed action. Concurrently, the agencies have been conducting consultation in accordance with Section 106 of the National Historic Preservation Act (NHPA).

PURPOSE OF AND NEED FOR ACTION

The purpose of the proposed project is to expand the Kennedy Center's existing facilities by adding additional classrooms, rehearsal rooms, event spaces, and offices adjacent to the Kennedy Center. Additionally, the Kennedy Center envisions improving greater multimodal access to and from the Kennedy Center, NAMA, the Rock Creek Paved Recreation Trail, the Potomac River waterfront, and surrounding vicinity.

The project is needed because the Kennedy Center currently has no dedicated classrooms, a limited number of rehearsal rooms, and no dedicated event space. The Kennedy Center offers more than 30 different educational programs in the areas of performance, teaching and learning, partnerships, and career development for young artists. However, with no dedicated facilities, these programs are currently conducted in make-shift spaces designed for other purposes. Multifunctional rooms, such as the Atrium and Foyers, conference rooms, hallways and rehearsal rooms, currently serve as event space, classrooms, exhibition space, and circulation and storage areas (The Kennedy Center 2013). Due to lack of rehearsal space, rehearsals occur in the Atrium, a carpeted room, which is not acoustically or otherwise conducive for rehearsals. Musicians often have to warm up in hallways or bathrooms, because there is no adequate practice space. Providing 60,000 square feet of additional space on-site for dedicated classrooms, additional large rehearsal rooms, additional office space, and alternate spaces for special events would free up spaces in the main building for more suitable uses,

such as meeting rooms, rehearsal space, and exhibition use, during the daytime and weekends during non-performance times.

In addition, there is no direct bike/pedestrian access to and from the Kennedy Center to the east, or southeastward to Rock Creek Paved Recreation Trail, NAMA, and the Potomac River. The only bike/pedestrian access from the Potomac riverfront to the Kennedy Center is provided by a series of crosswalks across F Street NW and the RCPP, approximately 0.25 miles north of the south parking garage. This lack of a direct and convenient path limits visitor access between the Kennedy Center, NAMA, the Rock Creek Paved Recreation Trail, and the Potomac River waterfront. This lack of a direct and convenient path not only limits visitors' access to both NPS and Kennedy Center amenities, but also creates a disconnect between the Kennedy Center, which is the United States' living memorial to President John F. Kennedy, those other presidential memorials found within the National Mall. These include: the Washington Monument National Memorial; Thomas Jefferson Memorial National Memorial; Lincoln Memorial National Memorial; and Franklin Delano Roosevelt Memorial National Memorial. In addition, Theodore Roosevelt Island (TR Island), which is also the Presidential Memorial to Theodore Roosevelt and administered by the George Washington Memorial Parkway, is located directly across from the Kennedy Center on the western edge of the Potomac River. The TR Memorial is accessible via the Theodore Roosevelt Memorial Bridge (I-66). Creating a more direct and convenient link would benefit visitors to the Kennedy Center, NAMA, the Rock Creek Paved Recreation Trail, the Potomac River waterfront, and the Theodore Roosevelt Memorial Bridge by providing a convenient and logical bike\pedestrian connection and expanded interpretation opportunities of the area's presidential memorials.

OVERVIEW OF THE ALTERNATIVES

This EA analyzes the No Action Alternative along with two action alternatives for expansion of the John F. Kennedy Center. Alternative A - No Action provides a basis for comparing the management direction and environmental consequences of the other alternatives. Under Alternative B – Three Land-Based Pavilions, the Kennedy Center would be expanded to the south. The expansion would include the construction of three land-based pavilions, two of which would be connected below grade. These pavilions would be the site for rehearsal spaces, offices, classrooms, lecture halls, gallery space, and multipurpose space. The South Terrace would be redesigned to remove a section of the concrete perimeter wall to incorporate the area into a designed landscape, including reflecting pools. Under Alternative C – Two Land-Based Pavilions and One River Pavilion, the Kennedy Center would be expanded to the south. The expansion would include the construction of two land-based pavilions, which would be connected below grade. These pavilions would contain rehearsal spaces, offices, classrooms, lecture halls, gallery space, and multipurpose space. The South Terrace would be redesigned to remove a section of the concrete perimeter wall to incorporate the area into a designed landscape, including new reflecting pools. A third pavilion would consist of a floating river pavilion, approximately 6,500 square feet in size on the Potomac River. Two options have been considered to provide access to the river pavilion. Option 1 would entail an at-grade crossing of RCPP from the Kennedy Center to the Rock Creek Paved Recreation Trail and the river pavilion. Access to the river pavilion would be provided by a pedestrian connection from the Rock Creek Paved Recreation Trail. Option 2 would provide a single bridge crossing over RCPP that would connect the expansion on land to the river pavilion as well as a pedestrian connection from the Rock Creek Paved Recreation Trail to the river pavilion.

Section 1504.14(d) of CEQ's Regulations for Implementing NEPA requires the federal agency to identify a preferred alternative in the EA if one has been identified. The preferred alternative is the alternative the NPS and NCPC believes would best accomplish the project's goals and objectives, while meeting the purpose and need. In selecting a preferred alternative, the NPS and NCPC must consider the associated impacts to natural and cultural resources.

The NPS, NCPC, and the Kennedy Center have identified Alternative C – Two Land-Based Pavilions and One River Pavilion as the preferred alternative. The process by which the preferred alternative was identified involved coordination between the Kennedy Center, NPS, NCPC, the U.S. Commission of Fine Arts (CFA), and other interested parties during the scoping process. The impacts of the preferred alternative are evaluated in this EA. No major impacts are anticipated as a result of this project.

NOTE TO REVIEWERS AND RESPONDENTS

We value and welcome your input on this project. The public comment period closes on November 10, 2014. The preferred system for receiving public comments electronically is through the NPS Planning, Environment, and Public Comment (PEPC) website, where the EA is publicly posted on the internet. The PEPC database is a tool used by the NPS to manage official correspondence and analyze public comment in the planning process. The website address is <http://parkplanning.nps.gov/KennedyCenter>. To complete a comment form online, from the list of projects, click on the Kennedy Center Expansion Project. In the left menu, click Document List, then Environmental Assessment, and Comment on Document.

You can also mail comments to:

Ms. Claudette Donlon,
Executive Vice President
The John F. Kennedy Center for the Performing Arts
2700 F Street NW
Washington D.C. 20566

Note to Reviewers and Respondents: If you wish to comment on the EA, you may submit comments electronically or directly by mail. 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 may request in your comment that your personal identifying information be withheld from public review, we cannot guarantee that we will be able to do so.

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CHAPTER 1: PURPOSE AND NEED

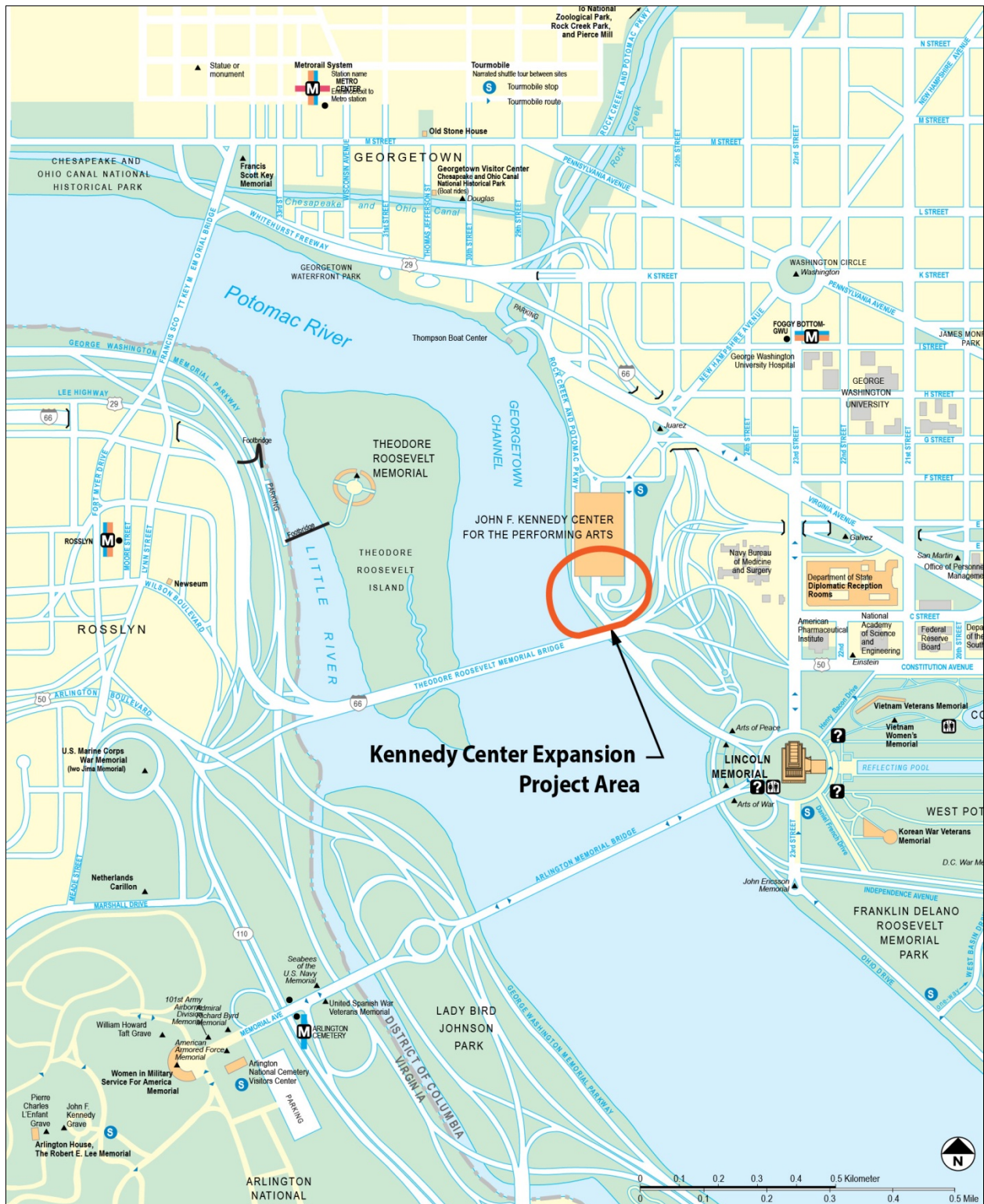
INTRODUCTION

The John F. Kennedy Center for the Performing Arts (Kennedy Center) is proposing to expand the existing Edward Durell Stone building to provide approximately 60,000 square feet of additional space. In addition, the Kennedy Center is looking at ways to improve visitor access to and from the Kennedy Center, the National Mall and Memorial Parks (NAMA), the Rock Creek Paved Recreation Trail, the Potomac River waterfront, and surrounding areas. The project potentially falls within the Rock Creek and Potomac Parkway (RCPP), which is under the jurisdiction of NAMA, a unit of the National Park System administered by the National Park Service (NPS). The National Capital Planning Commission (NCPC) is reviewing the project under its authorities specified in the National Capital Planning Act (40 USC § 8722 (b)(1), (d)). Therefore, in accordance with the National Environmental Policy Act (NEPA) of 1969, the NPS and NCPC acting as co-lead federal agencies have prepared this EA in cooperation with the Kennedy Center and the Federal Highways Administration – Eastern Federal Land to identify alternatives and assess the potential impacts of the proposed action. Concurrently, the agencies have been conducting consultation in accordance with Section 106 of the National Historic Preservation Act (NHPA).

The Kennedy Center is the United States' living memorial to President John F. Kennedy, with more than 2,000 performances and audiences and visitors that number three million annually. Located at 2700 F Street NW in Washington, DC at the intersection of New Hampshire Avenue NW and the RCPP (Figure 1), the Kennedy Center was constructed between 1964 and 1971. The Kennedy Center, a congressionally designated national showcase for the performing arts, is operated as a public and private partnership and, as such, receives federal funding each year to pay for maintenance and operation of the building. This EA analyzes the potential environmental impacts resulting from the implementation of the No Action Alternative along with action alternatives for expanding the Kennedy Center in accordance with the NEPA of 1969; the Council on Environmental Quality's Regulations of Implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508); Department of the Interior implementing regulations (43 CFR 46.100); NCPC's implementing regulations (69 FR 41299); and NPS Director's Order 12 (DO-12): *Conservation Planning, Environmental Impacts Analysis and Decision-Making* (NPS 2001a); and the National Capital Planning Act (40 USC § 8722 (b)(1), (d)).

PURPOSE OF AND NEED FOR ACTION

The purpose of the proposed project is to expand the Kennedy Center's existing facilities by adding additional classrooms, rehearsal rooms, event spaces, and offices adjacent to the Kennedy Center. Additionally, the Kennedy Center envisions improving greater multimodal access to and from the Kennedy Center, NAMA, the Rock Creek Paved Recreation Trail, the Potomac River waterfront, and surrounding vicinity.

**Figure 1: Project Area Map**

The project is needed because the Kennedy Center currently has no dedicated classrooms, a limited number of rehearsal rooms, and no dedicated event space. The Kennedy Center offers more than 30 different educational programs in the areas of performance, teaching and learning, partnerships, and career development for young artists. However, with no dedicated facilities, these programs are currently conducted in make-shift spaces designed for other purposes. Multifunctional rooms, such as the Atrium and Foyers, conference rooms, hallways and rehearsal rooms, currently serve as event space, classrooms, exhibition space, and circulation and storage areas (The Kennedy Center 2013). Due to lack of rehearsal space, rehearsals occur in the Atrium, a carpeted room, which is not acoustically or otherwise conducive for rehearsals. Musicians often have to warm up in hallways or bathrooms, because there is no adequate practice space. Providing 60,000 square feet of additional space on-site for dedicated classrooms, additional large rehearsal rooms, additional office space, and alternate spaces for special events would free up spaces in the main building for more suitable uses such as meeting rooms, rehearsal space, and exhibition use during the daytime and weekends during non-performance times.

In addition, there is no direct bike/pedestrian access to and from the Kennedy Center to the east, or southeastward to Rock Creek Paved Recreation Trail, NAMA, and the Potomac River. The only bike/pedestrian access from the Potomac riverfront to the Kennedy Center is provided by a series of crosswalks across F Street NW and the RCPP, approximately 0.25 miles north of the south parking garage. This lack of a direct and convenient path limits visitor access between the Kennedy Center, NAMA, the Rock Creek Paved Recreation Trail, and the Potomac River waterfront. This lack of a direct and convenient path not only limits visitors' access to both NPS and Kennedy Center amenities, but also creates a disconnect between the Kennedy Center, which is the United States' living memorial to President John F. Kennedy and those other presidential memorials found within the National Mall. These include: the Washington Monument National Memorial; Thomas Jefferson Memorial National Memorial; Lincoln Memorial National Memorial; and Franklin Delano Roosevelt Memorial National Memorial. In addition, Theodore Roosevelt Island (TR Island), which is also the Presidential Memorial to Theodore Roosevelt and administered by the George Washington Memorial Parkway, is located directly across from the Kennedy Center on the western edge of the Potomac River. TR Island is accessible via the Theodore Roosevelt Memorial Bridge (I-66). Creating a more direct and convenient link would benefit visitors to the Kennedy Center, NAMA, the Rock Creek Paved Recreation Trail, the Potomac River waterfront, and the Theodore Roosevelt Memorial Bridge by providing a convenient and logical bike/pedestrian connection and expanded interpretation opportunities of the area's presidential memorials.

OBJECTIVES

Objectives are "what must be achieved to a large degree for the action to be considered a success" (NPS 2001a) and represent more specific statements of purpose and need. All alternatives identified for detailed analysis must meet all objectives to a large degree and must resolve the purpose of and need for the action. The following objectives were identified by the planning team for this project:

- Improve the use and function of the South Terrace
- Provide dedicated space for classrooms and rehearsal rooms
- Create an addition that complements the Edward Durell Stone building and its surrounding context

- Provide alternate spaces for events that do not pose the same logistical challenges as the current event spaces on the upper floor of the main building
- Enhance the landscape to provide a more welcoming environment for the public and provide enhanced views from the interiors of the buildings
- Create an addition that is a fully integrated part of the Kennedy Center with convenient connections between the existing facilities, the addition, the Rock Creek Paved Recreation Trail, and the surrounding vicinity.

PROJECT AREA

The Kennedy Center is located at 2700 F Street NW in Washington, DC at the intersection of New Hampshire Avenue NW and the RCPP. The Kennedy Center is bounded to the north by F Street NW and to the south by a parking area, which serves as a buffer between the Kennedy Center, the Potomac Expressway and Interstate 66 (Theodore Roosevelt Memorial Bridge). The project area is defined as the area between the existing Edward Durell Stone building and Interstate 66/U.S. Route 50 (Figure 1). The existing site layout and the existing conditions are shown in Figure 2 and Figure 3.

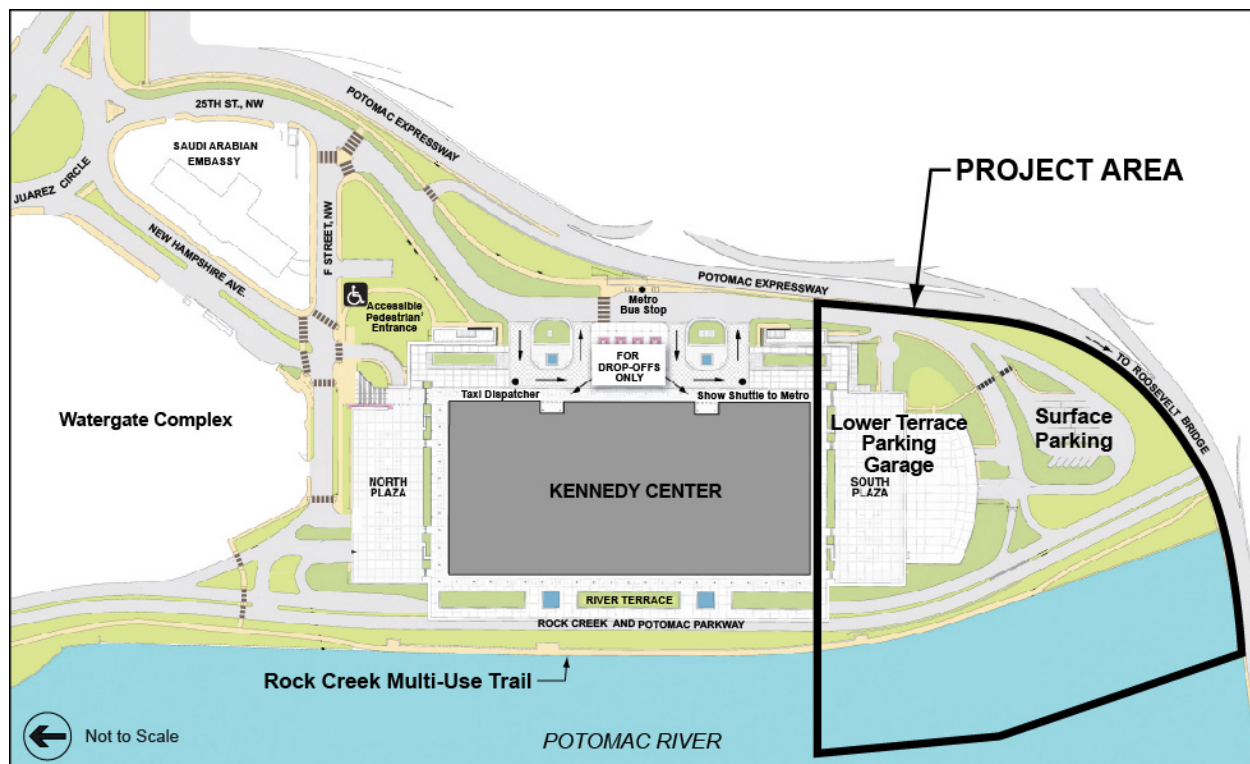


Figure 2: Existing Site Layout



Figure 3: Project Area

PROJECT BACKGROUND

Construction of the Kennedy Center began in 1964 and the facility opened to the public in 1971 with a dual mission to serve the country as the national memorial to President John F. Kennedy and as the national cultural center, providing the best of arts and arts education locally and nationally. In 1972, the Board of Trustees requested assistance from the Congress to cope with the millions of memorial visitors to the Center. In 1994, Congress directed that the Kennedy Center be transferred from the NPS to become a bureau of the Smithsonian Institution and enacted P. L. 103-279, authorizing the transfer to the Board of all appropriated fund responsibilities, including 55 FTE, and all unexpended balances of funds previously appropriated to the NPS.

Since the start of fiscal year 1995, the Board has been responsible for all operations of the Kennedy Center, including both the management and expenditure of appropriated funds for operation, maintenance, and capital repair of the presidential monument, and management of non-appropriated fund activities. Public Law 109-54, the Interior and Related Agencies appropriations bill for fiscal year 2006, appropriated approximately \$31 million for the building's operations, maintenance, and capital repair. The direct Federal funding provided to the Kennedy Center is used only for the operation, maintenance, and capital repair of the presidential monument.

In 2012, in an effort to address its expanded programming needs, the Kennedy Center, in partnership with Cooper, Robertson & Partners, prepared a feasibility study entitled *The John F. Kennedy Center for the Performing Arts South Campus Feasibility Study Report* (Cooper Robertson 2012). The purpose of the study was to explore the viability of undertaking an expansion project at the Kennedy Center to accommodate the inadequacies found at the Center today. The feasibility study concluded that the location of the existing parking garage south of and contiguous with the original Edward Durell Stone building was the best site for the building expansion (Cooper Robertson 2012).

Following the release of the feasibility study, the Kennedy Center conducted a year-long architect selection process. Ultimately, four firms presented their vision of the Kennedy Center expansion to

the selection committee. The selection committee unanimously recommended the firm of Steven Holl Architects to the Kennedy Center Board of Trustees.

Since the completion of the architect selection process, concept level designs for the proposed expansion have been developed. These concepts form the basis for the alternatives studied in this EA. In July and September 2013, these designs were presented to the U.S. Commission of Fine Arts (CFA) and the NCPC, respectively. The Kennedy Center submitted interim designs to the CFA in January 2014 and to NCPC in February 2014. Preliminary and Final designs will be submitted to both Commissions in the Fall 2014/Winter 2015.

SIGNIFICANCE OF THE KENNEDY CENTER

As described in the Determination of Eligibility (DOE) for the National Register of Historic Places (NRHP), the Kennedy Center has the unique distinction of serving as both a national performing arts center and as the only national memorial to assassinated President John F. Kennedy within the Nation's Capital. Because the building was completed in 1971 and is a congressionally designated presidential memorial, National Register Criterion Consideration F, for commemorative properties, and National Register Criterion Consideration G, for properties less than fifty years old, were also applied in evaluating the building. The focus of this determination of eligibility is the building exterior. Thus, the evaluation of integrity and list of character-defining features address only exterior elements.

Less than two weeks after President Kennedy's assassination, a bill was introduced to Congress to amend the National Cultural Center Act, championed by the late President, to name the center after the President and dedicate it as a memorial in his honor. The Kennedy Center was constructed between 1964 and 1971 and is the most highly visible example of the Formalist style of architecture by Edward Durell Stone within Washington, DC. Edward Durell Stone is a nationally recognized master architect of the Modern Movement. The thin-clad marble curtain walls, the site and location of the glass curtain walls, the roof overhang and marble-paneled fascia, and the exterior columns, among many other design elements, all are contributing features to the building's historic significance.

The Kennedy Center is currently one of the nation's busiest performing arts facilities and includes nine theaters and stages that attract audiences and visitors totaling 3 million annually (Public Law 112-457).

PURPOSE AND SIGNIFICANCE OF THE NATIONAL MALL AND MEMORIAL PARKS

Between 1933 and 1934, federal parkland in the District of Columbia was consolidated under the management of the NPS. In the years that followed, a number of major memorials were added to the area that would come to be known as NAMA.

Purpose

As stated in the Foundation Statement for NAMA, the purpose of NAMA is to:

- Preserve, interpret, and manage federal park lands in the National Capital on the land delineated by the L'Enfant Plan and the 1902 Senate Park Improvement Plan (commonly referred to as the McMillan Plan), including green spaces, vistas, monuments, memorials, statues, historic sites, cultural landscapes, and natural and recreation areas;

- Preserve places where important events in U.S. history occurred;
- Provide opportunities for visitor contemplation, celebration, commemoration, citizen participation, recreation, and demonstration, where the full expression of the constitutional rights of speech and peaceful assembly occur; and
- Maintain space for the symbols and icons of our nation and its ideals (e.g., equality, freedom, and democracy).

In addition to the National Mall, additional park areas throughout northwest Washington, DC are managed by NAMA, including the portion of the RCPP and Rock Creek Paved Recreation Trail that runs parallel to the Kennedy Center up to Virginia Avenue NW.

Significance

Park significance statements capture the essence of a park's importance to the nation's natural and cultural heritage. Understanding park significance helps managers make decisions that preserve the resources and values necessary to the park's purpose. The portion of the RCPP in the project vicinity is part of NAMA and contributes to its significance.

The areas under NPS stewardship are some of the oldest public lands in our nation, dating from 1791, when the District was established. These areas are vital components of the historic federal city. Much of the area managed by NAMA reflects the physical expression of the historic L'Enfant and McMillan plans with a coordinated system of radiating avenues, parks, and vistas laid over an orthogonal grid, which was both symbolic and innovative for the new nation.

In addition, the iconography, architecture, Presidential Memorials, and open spaces within NAMA commemorate individuals and events that symbolize the principal symbols of America's heritage. NAMA has served as the setting for numerous historic events of national significance, provides a globally recognized platform to exercise democratic First Amendment rights, and has served as the setting for national celebrations, parades, festivals, ceremonies, and rallies, as well as local and regional events.

PURPOSE AND SIGNIFICANCE OF THE ROCK CREEK AND POTOMAC PARKWAY

Purpose

Rock Creek and Potomac Parkway extends from the southern border of the National Zoo to West Potomac Park and the Lincoln Memorial. The Rock Creek and Potomac Parkway was established by the Public Buildings Act of March 4, 1913. According to Section 22 of that legislation, the Rock Creek and Potomac Parkway exists to connect Rock Creek Park and the National Zoological Park (National Zoo) to Potomac Park with a scenic road;

- to prevent pollution and obstruction of Rock Creek Park areas that contain tributaries to Rock Creek exist, to preserve the flow of water in Rock Creek,
- to prevent the pollution of Rock Creek and the Potomac River, and
- to preserve forests and natural scenery in and around Washington, D.C.

The portion of Rock Creek and Potomac Parkway that runs from Virginia Avenue, NW to Potomac Park, and runs parallel to the Kennedy Center, is administered by NAMA. That portion that runs

from Virginia Avenue, NW, north to the National Zoo, is administered by Rock Creek Park (HABS 1992).

Significance

Rock Creek and Potomac Parkway is significant for its role in the development of Washington, for its status as one of the best-preserved examples of the earliest stage of motor parkway development, and for its physical design, which combines landscape architecture, engineering, and architecture to provide an attractive and useful local park and commuter artery. The parkway played a significant role in the McMillan Commission's 1901-02 plan for the improvement of Washington's parks and public buildings. It was designed to replace a polluted river valley with a picturesque drive and bridle path linking the two main elements of the city's park system (HABS 1992).

The parkway is 2.5 miles long and only a few hundred yards wide. Construction of the parkway began in the 1920s, and it officially opened in 1936. The winding four-lane road dominates the parkway landscape, but the parkway also includes a paved recreation trail and several quiet park areas. Because the plans for Rock Creek and Potomac Parkway evolved over so many years, it is difficult to apportion credit for its design. As landscape architecture expert for the McMillan Commission and the Commission of Fine Arts, Frederick Law Olmsted, Jr., exerted considerable influence on the parkway's overall design and supervised its gradual refinement (NPS 2006d).

By the time the parkway was completed, the rising popularity of the automobile and rapid suburban growth transformed it into a major commuter route. The parkway's narrow, twisting roadway, with its abrupt entrance roads, long stretches of undivided two-way traffic, and monumental crossing bridges, reflects the earliest era of motor parkway design. The parkway maintains a high degree of historical integrity despite considerable pressure to modernize the roadway during the 1940s-50s. The RCPP Historic District was listed in the National Register of Historic Places (NRHP) on May 4, 2005 and has been documented in Historic American Buildings Survey (HABS) No. DC-697.

APPLICABLE FEDERAL LAWS, EXECUTIVE ORDERS, AND REGULATIONS

The NPS, NCPC, and the Kennedy Center are governed by laws, regulations, and management plans before, during, and following any management action considered under NEPA analysis. The following are those that are applicable to the proposed action.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969, AS AMENDED

The NEPA was passed by Congress in 1969 and took effect on January 1, 1970. This legislation established the country's environmental policies, including the goal of achieving productive harmony between human beings and the physical environment for present and future generations. The law provides 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. NEPA requires 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 Council on Environmental Quality (CEQ) [40 CFR 1500-1508], Department of the Interior implementing regulations (43 CFR 46.100); NCPC's

implementing regulations (69 FR 41299);. The NPS has in turn adopted procedures to comply with the act and the CEQ regulations, as found in DO-12 and its accompanying handbook. This EA was prepared in accordance with these regulations.

NATIONAL HISTORIC PRESERVATION ACT OF 1966, AS AMENDED

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 affords 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 Code of Federal Regulations (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” (Part 800), became effective January 11, 2001.

ENDANGERED SPECIES ACT

The Endangered Species Act of 1973 protects rare, threatened, and endangered species. According to the Endangered Species Act, “all Federal departments and agencies shall seek to conserve endangered species and threatened species: and “[e]ach Federal agency shall...insure that any action authorized, funded, or carried out by such agency...is not likely to jeopardize the continued existence of any endangered species or threatened species.” The U.S. Fish and Wildlife Service (USFWS) (non-marine species) and the National Marine Fisheries Service (NMFS) (marine species, including anadromous fish and marine mammals) administer the Endangered Species Act. The effects of any agency action that may affect endangered, threatened, or proposed species must be evaluated in consultation with either the USFWS or the NMFS, as appropriate. Implementing regulations that describe procedures for interagency cooperation to determine the effects of actions on endangered, threatened, or proposed species are contained in 50 CFR 402.

RIVERS AND HARBORS ACT

The Rivers and Harbors Act of 1899 protects navigable waters, protects waters from pollution and serves as a precursor to the Clean Water Act of 1972. Section 9 of the Rivers and Harbors Act of 1899 (33 USC 401, et seq.) prevents unauthorized obstruction or alteration of any navigable water of the United States. Section 10 (33 USC 403) of the Rivers and Harbors Act prohibits construction, excavation, or deposition of materials in, over, or under such waters, or any work which would affect the course, location, condition, or capacity of those waters. Section 10 requires a permit from the U.S. Army Corps of Engineers (USACE) for the construction, excavation, or deposition of materials in, over, or under waters of the U.S., or any work which would affect the course, location, condition, or capacity of those waters. The geographic jurisdiction of the Rivers and Harbors Act includes all navigable waters of the United States which are defined (33 CFR Part 329) as, “those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce.” The Potomac River, inland to the mean high water line, defined in the project area as the existing seawall, falls under Section 10 jurisdiction. The agencies with jurisdiction for Sections 9 and 10 of the Rivers and Harbors Act are the U.S. Coast Guard and USACE.

CLEAN WATER ACT

The Clean Water Act (CWA) established the basic structure for regulating pollutant discharges to navigable waters of the U.S. The law sets forth procedures for effluent limitations, water quality standards and implementation plans, national performance standards, and point source (such as municipal wastewater discharges and nonpoint source programs). The CWA also establishes water quality certifications under Section 401, the National Pollutant Discharge Elimination System (NPDES) under Section 402, and permits for dredged or fill material under Section 404. The USACE has been charged with evaluating federal actions that result in the potential degradation of waters of the United States and issuing permits for actions consistent with the CWA. In the District of Columbia, the USACE has a joint permit process with the DC Department of the Environment (DDOE).

ENERGY INDEPENDENCE AND SECURITY ACT OF 2007

The Energy Independence and Security Act of 2007 was enacted to increase energy efficiency and the availability of renewable energy. Provisions of the act performed various functions including increasing the renewable fuel standard, setting a target to raise fuel economy standards, providing a plan of efficiency standards for light bulbs and the eventual phasing out of most common incandescent light bulbs, implementing energy efficient technologies in federal buildings, investing in geothermal technology, increasing funding and research for carbon capture and sequestration technology, and providing stormwater runoff requirements for federal development projects (USSC-ENR N.D.).

HISTORIC SITES ACT OF 1935

This act declares as national policy the preservation for public use of historic sites, buildings, objects, and properties of national significance. The law authorizes the Secretaries of the Interior and NPS to restore, reconstruct, rehabilitate, preserve, and maintain historic or prehistoric sites, buildings, objects, and properties of national historical or archeological significance.

NATIONAL CAPITAL PLANNING ACT

The National Capital Planning Act establishes the NCPC as the central planning agency for the federal government in the National Capital Region (NCR). The Act provides for the agency's essential functions, including development of a Comprehensive Plan for the NCR; review of federal and some District of Columbia proposed developments and projects; review of DC zoning amendments; annual review of the Federal Capital Improvements Program and the DC Capital Improvements Program; and the development of special planning projects. NCPC must undertake an environmental review in accordance with NEPA to inform its analysis of federal project proposals that are located within the District of Columbia.

NPS ORGANIC ACT OF 1916

By enacting the Organic Act of 1916, Congress directed the U.S. Department of the Interior and the NPS to manage units of the national park system “*to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations*” (16 U.S. Code [USC] 1). The Redwood National Park Act of 1978 (Redwood Amendment) reiterates

this mandate by stating that the 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). Congress intended the language of the Redwood Amendment to reiterate the provisions of the Organic Act, not to create a substantively different management standard. The House committee report described the Redwood Amendment as a “*declaration by Congress*” that the promotion and regulation of the national park system is to be consistent with the Organic Act. The Senate committee report stated that under the Redwood Amendment, “*the Secretary has an absolute duty, which is not to be compromised, to fulfill the mandate of the 1916 Act to take whatever actions and seek whatever relief as will safeguard the units of the national park system.*” Although the Organic Act and the Redwood Amendment use different wording (impairment and derogation) to describe what the NPS must avoid, both acts define a single standard for the management of the national park system—not two different standards. For simplicity, NPS Management Policies 2006 uses impairment, not both statutory phrases, to refer to that single standard.

Park managers must also not allow uses that would cause unacceptable impacts. These are impacts that fall short of impairment, but are still not acceptable within a particular park’s environment. According to the NPS Management Policies 2006 (NPS 2006, Section 1.4.7, 12), “*for the purposes of these policies, unacceptable impacts are impacts that, individually or cumulatively, would*

- *be inconsistent with a park’s purposes or values, or*
- *impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or*
- *create an unsafe or unhealthful environment for visitors or employees, or*
- *diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values, or*
- *unreasonably interfere with*
 - *park programs or activities, or*
 - *an appropriate use, or*
 - *the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park, or NPS concessioner or contractor operations or services.*”

Because park units vary based on their enabling legislation, natural resources, cultural resources, and missions, management activities appropriate for each unit, and for areas in each unit, vary as well. An action appropriate in one unit could impair or cause unacceptable impacts to resources in another unit.

NATIONAL PARKS OMNIBUS MANAGEMENT ACT OF 1998

The National Parks Omnibus Management Act of 1998 (16 USC 5901 et seq.) directs the NPS to obtain scientific and technical information for analysis. The NPS handbook for DO-12 states that if “such information cannot be obtained due to excessive cost or technical impossibility, the proposed alternative for decision would be modified to eliminate the action causing the unknown or uncertain impact or other alternatives would be identified” (Section 4.4).

THE ROCK CREEK AND POTOMAC PARKWAY AUTHORIZATION (PUBLIC BUILDINGS ACT OF MARCH 4, 1913)

Section 22 of the Public Buildings Act of March 4, 1913, in the form finally passed and approved by President William Howard Taft on his last morning in office, began as follows:

“That for the purpose of preventing the pollution and obstruction of Rock Creek and of connecting Potomac Park with the Zoological Park and Rock Creek Park, a commission, to be composed of the Secretary of the Treasury, the Secretary of War, and the Secretary of Agriculture, is hereby authorized and directed to acquire, by purchase, condemnation, or otherwise, such land and premises as are not now the property of the United States in the District of Columbia shown on the map on file in the office of the Engineer Commissioner of the District of Columbia, dated May seventeenth, nineteen hundred and eleven, and lying on both sides of Rock Creek, including such portion of the creek bed as may be in private ownership, between the Zoological Park and Potomac Park; and the sum of \$1,300,000 is hereby authorized to be expended toward the requirement of such land. That all lands now belonging to the United States or to the District of Columbia lying within the exterior boundaries of the land to be acquired...are hereby appropriated to and made apart of the parkway herein authorized to be acquired. One-half of the cost of the said lands shall be reimbursed to the Treasury of the United States out of the revenues of the District of Columbia....”

AMERICANS WITH DISABILITIES AND ARCHITECTURAL BARRIERS ACT

Pursuant to the Americans with Disabilities Act (ADA) of 1990 and the Architectural Barriers Act of 1968, all public buildings, structures, and facilities must comply with specific requirements related to architectural standards, policies, practices, and procedures that accommodate people with hearing, vision, or other disability, and other access requirements. Public facilities and places must remove barriers in existing buildings and landscapes, as necessary and where appropriate.

EXECUTIVE ORDER 11988, FLOODPLAIN MANAGEMENT

This executive order directs the NPS to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. NPS complies with this executive order through the guidance outlined in Director's Order 77-2 (DO 77-2).

DIRECTOR'S ORDER 28: CULTURAL RESOURCE MANAGEMENT

NPS DO-28 directs the NPS to protect and manage cultural resources in its custody through effective research, planning, and stewardship in accordance with the policies and principals contained in the original NPS Management Policies 1998. The NPS management policies document was last updated in 2006, and all guidelines should be followed according to the most recent version. This DO provides the fundamental concepts of cultural resource management for the NPS. The cultural resource management guidelines address cultural landscapes stating, “preservation practices [should be implemented] to enable long-term preservation of a resource’s historic features, qualities, and materials [of a cultural landscape].”

PUBLIC LAW 112-131, JOHN F. KENNEDY CENTER REAUTHORIZATION ACT OF 2012

The John F. Kennedy Center Reauthorization Act of 2012 amends the John F. Kennedy Center Act to authorize the Board of Trustees of the Kennedy Center to construct the expansion project and be responsible for the planning, design, engineering and construction of the expansion project. It states that all activities carried out for this project shall be within the mission of the Kennedy Center to serve as the national center for the performing arts, and the costs of planning, design, engineering, and construction of the expansion project shall be paid for using nonappropriated funds. The Act defines the term “expansion project” to mean an addition to the south end of the building of the Kennedy Center that is less than 100,000 square feet; will improve the existing accessibility and education functions of the Center; and will become part of the existing structure of the Center. It also states that the Board of the Kennedy Center may acknowledge private contributions used in carrying out the expansion project in the interior of the project, but may not acknowledge such private contributions on the exterior of the project

LOCAL LAWS, PLANS, REGULATIONS, AND POLICIES***THE COMPREHENSIVE PLAN FOR THE NATIONAL CAPITAL REGION: DISTRICT ELEMENTS; PARKS, RECREATION, AND OPEN SPACES: SECTION 1.1.2: CONSIDERATION OF FEDERAL PARKLAND***

The District Elements of the Comprehensive Plan for the National Capital Regions state the District of Columbia will work with federal agencies to evaluate the role that federal lands play in meeting the recreational needs of District residents, particularly for regional parks and sports complexes. These federal resources are used by city residents and; therefore, should be considered when assessing the need for local park improvements.

THE L'ENFANT & THE MCMILLAN PLANS

In 1791, George Washington hired Pierre L'Enfant to design the city of Washington. L'Enfant developed a Baroque plan that features ceremonial spaces and grand radial avenues, while respecting natural contours of the land. The result was a system of intersecting diagonal avenues superimposed over a grid system. The avenues radiated from the two most significant building sites that were to be occupied by houses for Congress and the President (NPS 2003). The avenues were to be wide and lined with trees. Important structures, monuments and fountains were to be erected to visually connect ideal topographical sites throughout the city.

The foremost manipulation of L'Enfant's plan began in the 19th century and was codified in 1901 when the McMillan Commission (established in 1901) directed urban improvements that resulted in the most elegant example of City Beautiful tenets in the nation. L'Enfant's plan was magnified and expanded during the early decades of the 20th century with the reclamation of land for waterfront parks, parkways, an improved Mall, and new monuments and vistas. The commission focused upon restoring the Mall to the greensward envisioned by Pierre L'Enfant. The plans of the McMillan Commission called for the re-landscaping of the ceremonial core, consisting of the Capitol Grounds and Mall and includes extensions west and south of the Washington Monument; consolidating city railways and alleviating at-grade crossings; clearing slums; designing a coordinated municipal office complex in the triangle formed by Pennsylvania Avenue, 15th Street, and the Mall; and establishing a comprehensive recreation and park system that would preserve the ring of Civil War fortifications around the city (NPS 2003).

EXTENDING THE LEGACY PLAN (1997) AND THE WASHINGTON WATERFRONTS PLAN (1999)

In 1997, the NCPC completed the plan entitled *Extending the Legacy: Planning America's Capital for the 21st Century*, which is the current guiding document for the monumental core. This plan provides a framework that expands upon the L'Enfant Plan and the McMillan Plan. The plan favors preserving the open landscape of the monument grounds and also redefines the monumental cores, extending its boundaries along North Capitol, South Capitol, and East Capitol Streets. For the Kennedy Center, the Plan envisioned a lively public gathering space perched atop a deck that spanned the Freeway below and connected the front of the Center directly to the city street network north and east. The central focus of the Legacy plaza was an amphitheater surrounded by pedestrian space and flanked by two new buildings on the north and south. Twenty-Fifth Street and 26th Street were shown extended into the site, demarcating the east and west sides of the plaza respectively. A new surface-level E Street NW joined the plaza to 23rd Street NW to the east.

Additionally, the *Washington Waterfronts: an Analysis of Issues and Opportunities along the Potomac and Anacostia Rivers* (NCPC 1999), was developed to study the waterfront as a resource that belongs to all of the people of the United States and to the residents of the District of Columbia. The challenge in determining the best use of this natural resource is to ensure that future development supports the goals and objectives of both the Comprehensive Plan for the National Capital and *Extending the Legacy*. Careful attention should be given to appropriate use, density, and design to ensure success. Specifically, it addressed ways for the NPS and the Kennedy Center to improve the connection between the Kennedy Center and the waterfront.

THE MEMORIALS AND MUSEUMS MASTER PLAN (2001)

The NCPC's Memorials and Museums Master Plan (NCPC 2001) was generated out of the recognition that the popularity of the monumental core may soon surpass its capacity to accommodate new monuments and memorials in a setting that remains historic, open, and beautiful. The goal of the plan was to identify and promote new sites outside the monumental core to disperse new monuments and memorials to protect the environment and character of the National Mall. The basis for memorial location is the Commemorative Works Act of 1986, which provides standards for the placement of memorials on certain federal land in Washington, DC, and its environs.

The plan also ensures that future generations will have preeminent sites for memorials and museums in the national capital. The plan shows how to meet demand for museums and commemorative works while protecting the National Mall and preserving other existing museum and memorial settings. NCPC developed the plan in consultation with the two other review bodies that approve the location and design of commemorative works on federal land—the U.S. Commission of Fine Arts and the National Capital Memorial Advisory Commission which is administered by the NPS and chaired by the NPS Director.

The plan identifies two candidate sites located at or near the Kennedy Center, one at the E Street expressway interchange on the east side of the Kennedy Center and another on the west side of the Kennedy Center on the Potomac River side of the RCPP.

COMPREHENSIVE PLAN FOR THE NATIONAL CAPITAL: FEDERAL ELEMENTS (2004)

In August 2004, NCPC adopted the Comprehensive Plan for the National Capital: Federal Elements. The plan is a statement of goals, principles, and planning policies for the growth and development of the National Capital during the next 20 years. The plan encompasses all federal lands in Washington, DC and the surrounding areas, including Montgomery and Prince George's Counties in Maryland; Arlington, Fairfax, Loudoun, and Prince William Counties in Virginia; and all cities within the boundaries of those counties. The federal elements of the Comprehensive Plan for the National Capital identify and address the current and future needs of federal employees and visitors to the Nation's Capital; provide policies for locating new federal facilities and maintaining existing ones; guide the placement and accommodation of foreign missions and international agencies; promote the preservation and enhancement of the region's natural resources and environment; protect historic resources and urban design features that contribute to the image and functioning of the Nation's Capital; and, working with local, state, and national authorities, support access into, out of, and around the Nation's Capital that is as efficient as possible for federal and nonfederal workers.

MONUMENTAL CORE FRAMEWORK PLAN

The Monumental Core Framework Plan (Framework Plan) is a multi-agency effort led by NCPC with CFA. This planning effort shows how to create new and accessible destinations for cultural attractions throughout the city. The Framework Plan provides a comprehensive approach to easing demand for construction on the National Mall in addition to creating attractive urban locations throughout the city. The Plan was adopted by NCPC and CFA in 2009. The Framework Plan calls for strengthening the connection between the Kennedy Center and the monumental core.

TRANSFER OF JURISDICTION BETWEEN FEDERAL AND DISTRICT OF COLUMBIA AUTHORITIES – 40 U.S. CODE § 8124

Federal and District of Columbia authorities administering properties in the District that are owned by the Federal Government or by the District may transfer jurisdiction over any part of the property among or between themselves for purposes of administration and maintenance under conditions the parties agree on. The NCPC shall recommend the transfer before it is completed.

SCOPING PROCESS AND PUBLIC PARTICIPATION

NEPA regulations require an “early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.” To determine the scope of issues to be analyzed in depth in this EA, internal and external scoping meetings were conducted. Scoping is the effort to involve agencies, organizations, and the public in determining the issues to be addressed in the environmental document.

A public scoping period was announced by the NPS and NCPC and took place from July 15 through August 30, 2013. Advertisements were placed in *The Washington Post* (July 12, 2013) and *Current* newspapers (July 17, 2013) to announce the project and public scoping period as well as invite the public to attend an open house scoping meeting on July 22, 2013. On July 12, 2013, the NPS and NCPC distributed an email announcement and letter regarding the scoping period and meeting to area interest groups and individual parties identified by the project team. The Kennedy Center also issued a press release on their public website. In addition to these notices, NPS posted project information on the NPS PEPC website. The advertisements, the press release, and PEPC provided a project overview and invited the public to participate in the scoping process. Members of the public were invited to submit comments on the project electronically through the NPS PEPC website and by mailing written comments to the project team.

On July 22, 2013, the advertised public scoping meeting was held at the Kennedy Center’s South Millennium Stage. The public scoping meeting provided a forum for the project team to present the proposed action to the public and explain the NEPA and NHPA processes. The scoping meeting began at 6:30 pm and continued until 8:30 pm. Meeting attendees were provided a brief overview of the meeting format as they signed in. The meeting was held in an open house format. Informational displays were arranged at various stations around the meeting room, with NCPC, NPS, Kennedy Center, and consultant staff on hand throughout the meeting to address questions and listen to the public. Comment forms were available to the public for written comments.

A total of 14 individuals signed in at the public scoping meeting. Five comments were received during the scoping period, all of which were in support of the project moving forward. One commenter expressed the need for noise control during construction activities and that senior citizen access should be included in project design. Also, the commenter requested that the project design not impinge on the views of the District’s scenery from nearby apartments. A second comment indicated that the proposed actions should include pedestrian and cycling access improvements to connect the Kennedy Center with other destinations, such as Georgetown. It was also suggested that an advisory committee of citizens be formed to discuss public needs associated with the Kennedy Center area. The third commenter indicated that the Kennedy Center should be developed in a manner consistent with expansion of its surroundings; specifically, development should be coordinated with future reconfiguration of the Roosevelt Bridge. A fourth commenter suggested the use of existing terrace space for the expansion. Another correspondence emphasized the need for a design that matches the existing architectural quality of the Kennedy Center. The final commenter called for an analysis of impacts to parking, transit, and traffic resulting from the expansion project in the EA.

Along with the purpose and need for the proposed action, these considerations and concerns guided the development of alternatives and contributed to the selection of impact topics as identified in the EA.

ISSUES AND IMPACT TOPICS

ISSUES

Issues and concerns affecting the proposed action were identified by project team specialists, from NAMA, NCPC, the Kennedy Center and its consultants, and also through public scoping and agency consultation. Resources of concern are discussed within “Chapter 3: Affected Environment” and are analyzed in “Chapter 4: Environmental Consequences.”

The primary issues associated with the proposed action are:

- Potential impacts to water quality and to threatened and endangered species from the construction of the river pavilion
- The architectural compatibility of the design that is consistent to the historic character of the Kennedy Center, while providing the functionality to meet the project’s purpose and need.
- Minimization of potential impacts to users of the RCPP, the Rock Creek Paved Recreation Trail, and the Kennedy Center during construction; and avoidance of potential conflicts between Kennedy Center patrons and recreational users of the Rock Creek Paved Recreation Trail.

IMPACT TOPICS ANALYZED IN THIS EA

Impact topics are resources of concern that would be affected, either beneficially or adversely, by the range of alternatives. Impact topics were identified based on federal laws, regulations, Executive Orders, NPS Management Policies 2006 (NPS 2006a), from DO-12 (NPS 2001a), and from the NPS and NCPC’s knowledge of limited or easily impacted resources. Specific impact topics were developed to ensure the alternatives were compared based on the most relevant topics. As a means of evaluation, impact topics included in this document were analyzed in detail to compare the environmental consequences of the No Action Alternative with the action alternatives.

Water Quality

The Kennedy Center is adjacent to the north bank of the Potomac River. Under the action alternatives, erosion and sediment control would be necessary during construction to protect river waters from sediment transport. Also, under Alternative C, a floating river pavilion would be constructed. Based on the potential for water quality impacts caused by construction activities onshore and within the Potomac River, water quality has been retained for further analysis in this EA.

Floodplains

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps show that portions of the project area are located within the 100-year FEMA floodplain of the Potomac River; therefore, floodplains was retained as an impact topic in this EA. DO 77-2 applies to all proposed NPS actions that could increase flood risks, or adversely affect the natural function and values of floodplains. This includes proposed actions that are functionally dependent on locations in proximity to the water. Under DO 77-2, the NPS requires development of a Statement of Findings (SOF) when relocation of the proposed development outside of floodplains is not practical. The SOF describes the rationale for site selection, the risk associated with the site, and flood mitigation plans (NPS 2004b). Based on the

potential for impacts to the functions and values of the floodplain, a Floodplain SOF has also been included in this EA.

Rare, Threatened, and Endangered Species

The Endangered Species Act provides for the protection of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend. Section 7 of the Endangered Species Act requires federal agencies to ensure 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.

The USFWS, NMFS and DDOE were contacted with a request for information about federally listed species within the vicinity of the Kennedy Center. The NMFS responded in a letter dated September 10, 2013 that the endangered shortnose sturgeon (*Acipenser brevirostrum*) and all five distinct population segments of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) are known to occur in the Potomac River. Due to the potential for impacts to the sturgeon populations, rare, threatened, and endangered species has been analyzed as an impact topic in this EA.

Cultural Resources

The NHPA, NEPA, NPS Organic Act, NPS 2006, DO-12 (*Conservation Planning, Impact Analysis and Decision-making*), and NPS-28 (*Cultural Resources Management*) require the consideration of impacts on any cultural resource that might be affected by a proposed federal action. The NHPA specifically requires consideration of impacts on a cultural resource either listed in, or eligible to be listed in, the NRHP. Cultural resources include archeological resources, historic structures and districts, cultural landscapes, ethnographic resources, and museum objects, collections, and archives.

Cultural resources within the area of potential effects include the RCPP, which was listed in the NRHP on May 4, 2005, under the multiple property listing "Parkways of the National Capital Region, 1913-1965," and the Kennedy Center, which was determined eligible for the NRHP by the District of Columbia Historic Preservation Office (DC HPO) on February 13, 2012. Other resources within the area of potential effects include the Arlington Memorial Bridge and Related Structures, Arlington Ridge Park, the East and West Potomac Parks Historic District, the George Washington Memorial Parkway, the Georgetown Historic District, Lady Bird Johnson Park, the Lincoln Memorial, the Lincoln Memorial grounds, the Memorial Avenue corridor, the Old Naval Observatory, the Potomac Annex Historic District, Theodore Roosevelt Island, and the Watergate. Due to the presence of these resources, historic structures, historic districts, and cultural landscapes have been retained for detailed analysis in this EA.

Visitor Use and Experience

During construction, visitors to the RCPP, the Rock Creek Paved Recreation Trail, and the Kennedy Center would be disrupted as construction zones and staging areas would limit trail widths and detract from the visitor experience. The proposed action would benefit the experience of visitors by promoting pedestrian access between the Kennedy Center, Rock Creek Paved Recreation Trail, and surrounding points of interest; by encouraging interaction with the Potomac riverfront; and by providing a connection to the other Presidential Memorials in the area. As a result, visitor use and experience has been retained for further analysis in this EA.

Human Health and Safety

Currently, pedestrian access from the Potomac riverfront to the Kennedy Center is provided by a series of crosswalks across F Street NW and the RCPP. The proposed expansion would potentially provide direct access via an at-grade crosswalk from the vehicle entrance to the Kennedy Center along the RCPP to the Rock Creek Paved Recreation Trail or by a pedestrian bridge from the Kennedy Center to the proposed floating river pavilion. In addition, the proposed bridge would provide wheelchair users with a connection between the river pavilion and the Kennedy Center.

During construction, risks to the health and safety of those using the RCPP and the Rock Creek Paved Recreation Trail, visitors to the Kennedy Center, and construction workers would result from the proximity of vehicle traffic on the RCPP. Protective measures would be applied to minimize these risks. Based on the potential for impacts resulting from construction and the change in access, human health and safety was retained for further analysis in this EA.

Operations and Management

The RCPP and the Rock Creek Paved Recreation Trail are managed and operated by NPS. The Kennedy Center operates 365 days a year and supports its own Facilities Management and Operations Division. Short-term impacts to NPS and Kennedy Center operations would occur due to construction of the proposed alternatives. One of the action alternatives may require the transfer of land from the NPS to the Kennedy Center, and the Kennedy Center would assume subsequent management responsibilities. As a result, there would be changes in scheduled maintenance, preventive maintenance, security, visitor services, and operations administration. Therefore, the proposed alternatives were assessed to determine their effect on operations and management.

Traffic and Transportation

During construction of the proposed expansion, maintenance of traffic including partial lane closures of the RCPP and a temporary detour of the Rock Creek Paved Recreation Trail would be required. Upon completion, the proposed expansion of the Kennedy Center would provide an additional access point to the Kennedy Center from the Rock Creek Paved Recreation Trail. Due to the potential effects to pedestrians, bicyclists, and traffic, traffic and transportation has been retained for further analysis in this EA.

IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

The impact topics listed below would have no effect, a negligible effect, or in some specific cases, a minor effect on the environment for each alternative evaluated in this document. For specific definitions of negligible and minor impacts, please refer to “Chapter 4: Environmental Consequences.” However, in general, negligible effects are effects that are localized and immeasurable. Topics that have either no, negligible, or minor effect are briefly discussed in this section of the EA and then dismissed from further consideration or evaluation.

Geology, Topography, and Soils

The portion of the project area upland of the seawall is characterized by low relief and gently sloping topography dominated by developed land areas. The project area is located in the Atlantic Coastal Plain Physiographic Province. During the late 1800s, continued flooding of the Potomac River in and around the project area caused the USACE to begin the long-term project of dredging a deep channel

in the River. The dredge material was used to create the existing river banks and most of the East and West Potomac Parks which were once tidal basins. The area behind the seawall consists entirely of fill materials to a depth of 20 feet.

Minor ground disturbance would likely occur during construction of the proposed action. The proposed action would not require excavation or grading in a way that would disrupt any geologic or topographic resource. Additionally, only minor soil disturbance would occur during construction of the proposed expansion of the Kennedy Center; therefore, geology, topography, and soils were dismissed from further analysis.

Vegetation

Vegetation within the project area consists primarily of maintained lawn and landscape trees. A survey of the Kennedy Center/RCP, dated March 3, 1995 identified 29 trees along the trail, adjacent to the Kennedy Center. The most prevalent species among the trees is Japanese flowering crabapple (*Malus floribunda*), comprising 75 percent of the total trees. Additional species identified in the survey were red maple (*Acer rubrum*), scarlet oak (*Quercus coccinea*), and Japanese flowering cherry (*Prunus x yedoensis*). None of the trees are unique or would be characterized as specimen trees. On the south side of the Kennedy Center, vegetation is supported by a concrete planter following the perimeter of the terrace which is planted with Japanese holly (*Ilex crenata*) shrubs. The rest of the landscape on the south side consists of landscaped grasses and trees surrounding the parking lot. All of the plant species found along the RCP are common in the Washington, DC area.

The proposed action would result in the removal of existing landscaped areas around the parking garage entrances and the surface parking lot, but this would not affect any species of concern. The river pavilion would require the removal of the managed turf along the Rock Creek Paved Recreation Trail under the proposed action. Removal of trees and turf would result in a negligible adverse impact to vegetation; however, new landscaping would be installed, including green roofs, turf, shrubs, grasses, and trees to enhance the landscape, resulting in a net increase in vegetated areas. Because there is a negligible impact to vegetation, this impact topic was dismissed from further analysis.

Wildlife

Wildlife within the project area is characteristic of an urban environment, and consists primarily of avian species. Birds commonly observed are those associated with human activity and include house sparrows, European starlings, common grackles, and rock doves (pigeons). Other bird species present are those associated with edge habitats created by plantings of trees and shrubs and include gray catbirds, northern mockingbirds, eastern phoebes, blue jays, and northern cardinals. Canada geese and mallards have adapted to human presence and are common along the water edges of the Potomac River. Mammals present include Eastern chipmunks, gray squirrels, and occasional Norway rats, house mice, and beavers. Trees and shrubs planted for landscaping purposes provide nesting sites, food, and cover for many of the wildlife species present.

The proposed actions would only cause a negligible disruption to wildlife during construction because the project area is located within an urban- and human-dominated landscape surrounded by major access roads and buildings with limited habitat for wildlife. While impacts to landscaped vegetation for the construction of the action alternatives would occur, areas would be revegetated upon construction completion. Impacts to migratory birds including nesting habitat are not

anticipated. Should this change, the Kennedy Center and its contractors would comply with the specifications of the Memorandum of Understanding to Promote the Conservation of Migratory Birds. Therefore, wildlife has been dismissed from detailed analysis.

Wetlands

The Kennedy Center is located on the north bank of the Potomac River, a traditional navigable waterway under the jurisdiction of the USACE. The Potomac River watershed includes parts of Maryland, Pennsylvania, Virginia, West Virginia, and the District of Columbia. The Potomac River flows through Washington, DC, and continues south to meet the Chesapeake Bay at Point Lookout, Maryland.

Under Alternative C, a floating river pavilion would be constructed on the Potomac River. The river pavilion would be anchored either in the river or via a stiff arm from the seawall to the river pavilion. A Section 401/Section 404 and/or a Section 10 permit approvals would be obtained for the placement of an anchoring system within the riverbed. The Potomac River in this area is considered a deep water habitat under the Cowardin Classification system. In this area, the river is approximately 20 feet deep which prevents vegetative growth on the river bottom; therefore, any shading caused by the river pavilion would not impact submerged aquatic vegetation.

Pedestrian access connections to the river pavilion would be from the seawall, which is considered uplands. In order to protect the river from unmanaged sediment during construction of the pedestrian access, erosion and sediment control plans would be prepared for approval by DDOE and implemented during construction. These plans would minimize the transport of sediment or any other byproducts of construction from entering into the Potomac River and affecting its water quality.

Kennedy Center staff coordinated with the NPS's Water Resources Division to determine if any additional NPS compliance was required for potential impacts to wetlands. NPS stated that because the water depth of the Potomac River at the proposed location for the river pavilion is greater than 6.5 feet at low tide, there is no need for any additional compliance or mitigation as described under DO 77-2. The Potomac River in this area is considered a deep water habitat under the Cowardin Classification system and is not under NPS' jurisdiction per DO 77-2. Lastly, that access to the river pavilion would be coming from the seawall which is considered uplands, and there would be no affect to wetlands.

Because of the size of the Potomac River and the fact that the area in question is open water with the shoreline consisting of seawall, Alternative C would have negligible long-term adverse impacts to the functions and values of the Potomac River as a wetland. In addition, any anchoring of the river pavilion would likely be placed in water greater than 6.5 feet deep; thus there would be no impacts to submerged aquatic vegetation. Therefore, wetlands has been dismissed as an impact topic in this EA. Impacts to water quality are discussed in Chapter 4.

Archeological Resources

A Phase I Archeological analysis was performed for the Kennedy Center expansion (Stantec 2014). Historic maps and aerial photographs dating from 1818 to 1963 were reviewed to analyze changes in the location of the Potomac River shoreline and the topography within the Kennedy Center property over time. This analysis shows that the shoreline expanded to the west and south of the Kennedy

Center and the property has been raised by as much as 19 feet to 29 feet by adding fill. The eastern half of the Kennedy Center property is the location of the Potomac River shoreline through the mid-1800s, while the western half of the property is land made from the spoils of river dredging conducted during the 1880s to 1890s and later. The date when fill was placed over the entire property is not known, but it could be associated with previous river dredging events. This information suggests that now-buried, intact landforms are present across much of the land based portion of the Kennedy Center expansion project area.

The land based portions of the Kennedy Center expansion project have a high potential for both Native American and Historic period archeological resources. Native American sites are often clustered along large rivers such as the Potomac River, and the presence of the nearby Potomac River Flats would provide easy access to sources of food. Historic period resources that may be present in this area include the former C&O Canal (aka Washington City Canal), as well as wharves, shipyards, and structures that were once present along the former shore of the Potomac River as depicted on 19th century maps.

Cut and fill analysis and geotechnical borings suggest that the location of the land-based pavilions are covered by as much as 15 feet to 29 feet of fill. Based on subsurface profiles in these areas, the land-based pavilions will extend between 10 feet and 13 feet below current grade (Langan 2013) and would not extend below fill levels. However, pilings would extend below each pavilion to an unknown depth. Archaeological resources could be impacted if the pilings extend more than 2 feet to 5 feet below the proposed bases of the land-based pavilions. No additional archaeological investigations are recommended at the land-based pavilion locations. If the proposed pilings extend more than 2 feet to 5 feet below the proposed bases, geoarchaeological investigations would be conducted to determine whether intact land surfaces are present. If such land surfaces are present and would be impacted by construction of the land-based pavilions, a program of archaeological investigations to identify, evaluate, and mitigate any adverse effects to archaeological resources present is recommended (Stantec 2014).

The river pavilion is located in what has been interpreted to be the Pleistocene epoch Potomac River channel (Lee Decker and Baynard 2009); and therefore, has a low potential for inundated terrestrial archeological sites. In addition, no shipwrecks on the river bottom at this location were identified in databases reviewed for this project. Finally, the river pavilion is south of former 19th- and 20th-century wharves and shipyards. Therefore, there appears to be no potential for archaeological resources in the area of the proposed river pavilion. As such, no additional archaeological investigations are recommended for the river pavilion (Stantec 2014).

Museum Collections

According to DO-24 Museum Collections, the NPS requires the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, NPS museum collections. None of the proposed alternatives would have a direct effect on recognized museum collections (historic artifacts, natural specimens, and archival and manuscript material); therefore, museum collections were dismissed from further analysis.

Ethnographic Resources

The NPS defines ethnographic resources as any “site, structure, object, landscape or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it” (DO-28, Cultural Resources Management Guidelines, P. 181, NPS 2006b). According to DO-28 and Executive Order 13007 on sacred sites, the NPS should try to preserve and protect ethnographic resources. No known properties in proximity to the study area meet the definition of an ethnographic resource; therefore, ethnographic resources was dismissed as an impact topic.

American Indian Traditional Cultural Properties

Secretarial Order 3175 requires that any anticipated impacts to Indian Trust resources from a proposed action by Department of Interior agencies be explicitly addressed in environmental documents. The Federal Indian Trust is a legally enforceable obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of Federal law with respect to American Indian and Alaskan native tribes. No known American Indian traditional cultural properties exist in proximity to the study area.

Section 106 acknowledges that tribes may have interest in geographic locations other than their seat of government. On October 28, 2013 the Delaware Nation was invited to participate in the Section 106 consultation for the project. NPS, NCPC, and the Kennedy Center met with the Delaware Nation on November 25, 2013 and submitted a copy of the Phase I Archeological Report to the tribe on May 7, 2014. No response was received from the Delaware Nation. The lands comprising the Kennedy Center and the RCPP are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians; therefore, American Indian traditional cultural properties was dismissed from further analysis.

Land Use

The Rock Creek Paved Recreation Trail and the Kennedy Center would still support recreational and open space land use, and the RCPP would continue to function as a roadway. In the District of Columbia, land development is administered by the DC Office of Zoning (DCOZ). However, the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail are federal lands. As a result, no zoning code is specified by the DCOZ for land within the project area.

The project area would still support the designated activities of the park zone such as driving, trail use, and preservation of the historic parkway. Impacts to designated park activities will be described under Visitor Use and Experience, while impacts to the historic parkway are discussed under Cultural Resources in Chapters 3 and 4. Therefore, because the proposed actions would have no impact on existing land use or zoning, land use was dismissed from further analysis.

Socioeconomics

An analysis of impacts to the human environment, including economic, social, and demographic elements in the area of proposed action is required by NEPA. The socioeconomic environment of the project area consists of local, regional, and national businesses, government agencies, residences, and tourist attractions.

Construction of the Kennedy Center expansion would result in a short-term need for construction workers, but the number of workers would be minimal and most of them would already be employed, and there would be no effect to the population, income, or employment base of the surrounding community. The need for construction workers would provide minimal increases in employment opportunities and revenues for local businesses, but any increases would be below the level of detection due to the scale of the local economy. Because the proposed actions would result in long-term negligible impacts to residents and tourists and short-term negligible impacts due to construction activities, socioeconomics was dismissed from further analysis.

Environmental Justice

Executive Order 12898 requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. According to the 10-year U.S. Census (U.S. Census N.D.), the minority community of Washington, DC, in 2010 was approximately 61.5 percent. Across the country, minority populations comprised 27.6 percent of the total population. Annual updates of U.S. Census data provide estimates of demographic characteristics. The most recent updates to data pertaining to age and poverty level demographics were released in 2008 and 2009, respectively (U.S. Census 2010). In 2008, the percentage of individuals living below the poverty level in Washington, DC, was estimated to be 16.9 percent, higher than the national average of 13.2 percent. In 2009, the estimated percentage of individuals age 65 and older in Washington, DC was 11.7 percent, lower than the national average of 12.9 percent. Minority and low-income populations are present in Washington, DC; however, no populations were identified as disproportionately impacted by the proposed alternative. Therefore, environmental justice was dismissed as an impact topic.

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. These emissions 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, the emissions from the proposed project 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.

CHAPTER 2: 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. Any action alternative analyzed must meet the management objectives of the NPS, either wholly or partially, while also meeting the purpose of and need for the project.

Since the completion of the architect selection process, concept level designs for the proposed expansion have been developed in conjunction with the Kennedy Center. The Kennedy Center and its consultants have worked with NCPC, NPS, CFA, and the interested public to consider viable alternatives. The alternatives analyzed in this document and those dismissed from consideration are the result of this collaboration.

Three alternatives (the No Action Alternative and two action alternatives) were carried forward for further analysis in this EA. Additionally, options for access to the River Pavilion were considered. These alternatives are described in detail below.

ALTERNATIVE A – NO ACTION

The No Action Alternative represents a continuation of the existing conditions, operations and maintenance of the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail. The Kennedy Center would not be expanded to the south. Multifunctional rooms, such as the Atrium and Foyers, the Millennium Stage, conference rooms, hallways, and rehearsal rooms would continue to serve as event space, classrooms, exhibition space, as well as circulation and storage areas.

The NPS manages the RCPP and the Rock Creek Paved Recreation Trail. The Kennedy Center is supported by its own Facilities Management and Operations Division, which manages the building and grounds. Activities of the Division include:

- Routine duties required for daily operation of the facility and grounds, such as janitorial services, landscaping, and maintenance and repairs of all building systems;
- Preventive and predictive maintenance of the facility and grounds;
- Security and fire/life safety functions to maintain a safe and secure building and grounds; and
- Services related to the maintenance of memorial components of the institution, such as displays and signage.

These functions are carried out by a combination of in-house staff and contractors and would continue under No Action Alternative. Details regarding current visitor use and operations and management are provided for in the “Affected Environment” chapter of this EA.

ALTERNATIVE B – THREE LAND-BASED PAVILIONS

Under Alternative B, the Kennedy Center would be expanded to the south. The expansion would include the construction of three land-based pavilions (Figure 4). Pavilions 1 and 2 would be connected below grade and would be the site for rehearsal spaces, offices, classrooms, lecture halls, and multipurpose space. Pavilion 1 would have a footprint of 3,300 square feet and Pavilion 2 would

have a footprint of approximately 6,200 square feet. Both pavilions would extend approximately 31 feet above grade. A third pavilion, with a footprint of approximately 6,500 square feet, would provide an enclosed interactive learning space to function as an engaging environment where the public, especially young people, can explore and directly participate in the performing arts. This pavilion would be approximately 15 feet above grade.

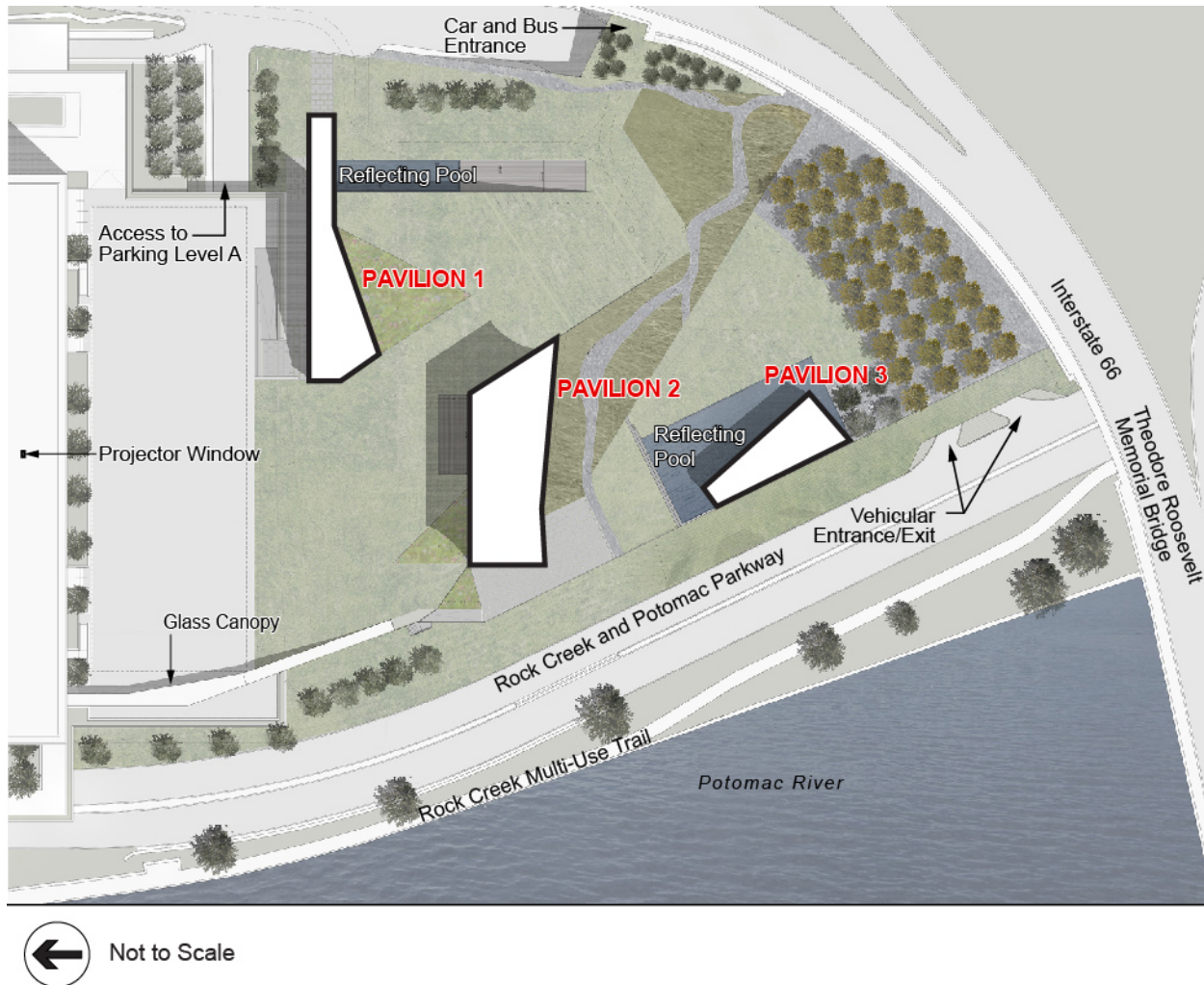


Figure 4: Three Land-Based Pavilion Concept

Under Alternative B, a new landscape design for the entire south end of the site would be created and would include plantings that would enhance the appearance of the plaza. This would involve removing a section of the concrete perimeter wall to incorporate the area into a designed landscape, including new reflecting pools. Alternative B would require removing a small section (approximately 2 feet square) of the existing Edward Durell Stone designed building to provide an opening for a projector in the south façade. This window opening would allow for simulcasts of live performances

to be displayed on the façade of Pavilion 2. Alternative B would also include the addition of a 10-foot high canopy walkway between the Edward Durell Stone Building and the proposed pavilions at the south end of the West Terrace to provide access into the pavilions.

A new vehicular entrance to the Kennedy Center on the south end of the site would be constructed. Vehicles would still be able to access the parking garage directly from RCPP on the western side of the site. Buses and shuttles would also be able to access the site from this entrance. Parking for buses and shuttles would be provided in a new parking area in an underground facility located directly under Pavilion 3. With the implementation of Alternative B, all construction activities would take place on Kennedy Center property.

ALTERNATIVE C – TWO LAND-BASED PAVILIONS & A RIVER PAVILION (PREFERRED ALTERNATIVE)

Under Alternative C, the expansion would include the construction of two land-based pavilions connected below grade that would be the site for rehearsal spaces, offices, classrooms, lecture halls, multipurpose space, and a river pavilion (Figure 5). Pavilion 1 would have a footprint of 3,300 square feet and Pavilion 2 would have a footprint of approximately 6,200 square feet. Both pavilions would extend approximately 31 feet above grade.

Land-Based Pavilions

Under this alternative, a new landscape design of the entire south end of the site would be created and would include plantings that would enhance the appearance of the plaza. This would involve removing a section of the concrete perimeter wall to incorporate the area into a designed landscape, including new reflecting pools. Alternative C would require removing a small section (approximately 2 square feet) of the existing Edward Durell Stone designed building to provide an opening for a projector in the south façade. This window opening would allow for simulcasts of live performances to be displayed on the façade of Pavilion 2. Alternative C would also include the addition of a 10-foot high canopy walkway between the Edward Durell Stone Building and the proposed pavilions at the south end of the West Terrace to gain entry into the pavilions.

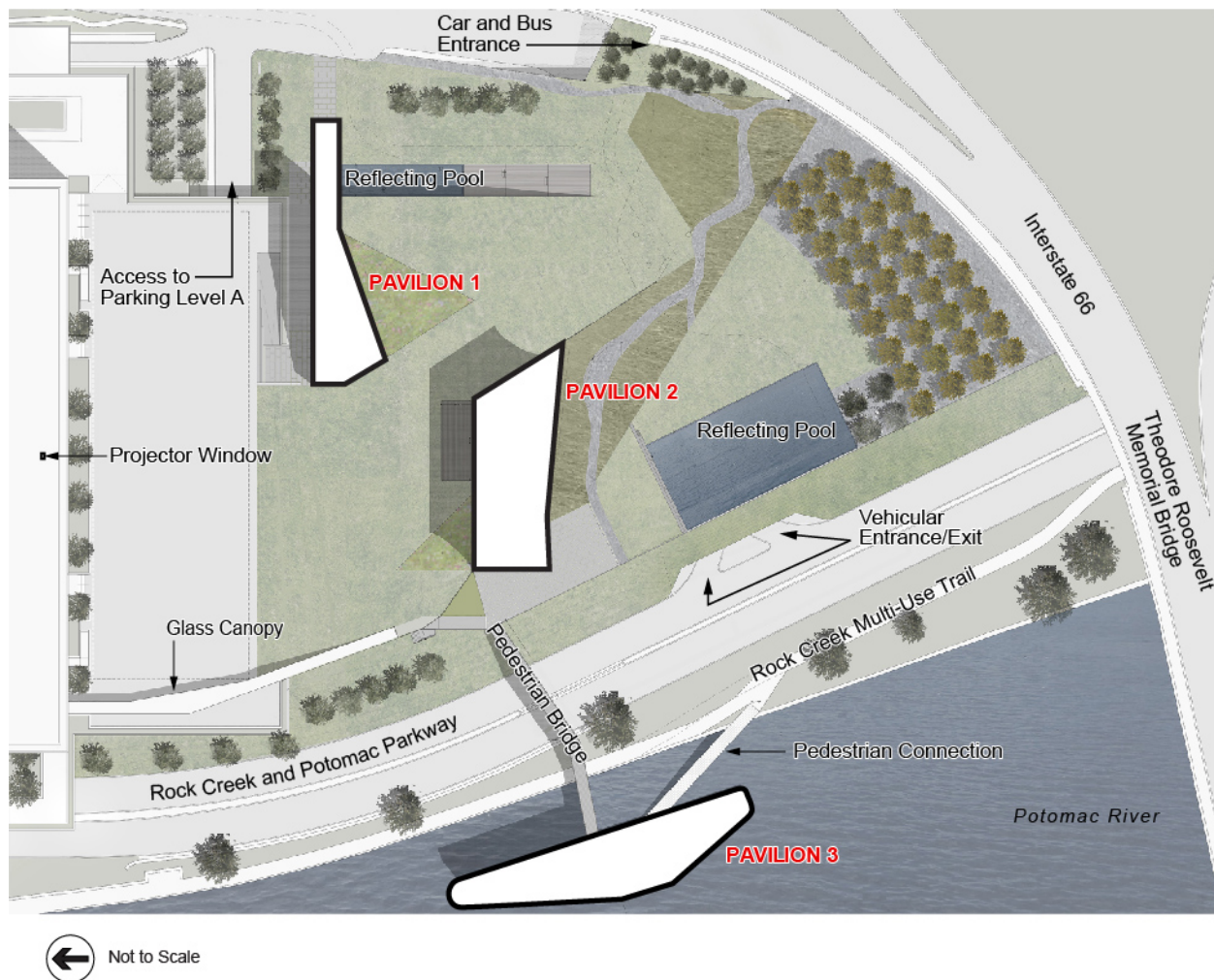
A new vehicular entrance to the Kennedy Center on the south end of the site would be constructed. Vehicles would still be able to access the parking garage directly from RCPP on the western side of the site. Buses and shuttles would also be able to access the site from this entrance. Parking for buses and shuttles would be provided in a new parking area in an underground facility.

River-Based Pavilion

A third pavilion would be located on a floating pier, approximately 6,500 square feet in size, on the Potomac River. The pier itself would float on the river surface. This pavilion would consist of an approximate 3,900 gross square-foot two-story structure. The first floor would provide interactive learning space which would function as an engaging environment where the public, especially young people, can explore and directly participate in the performing arts. A café would be constructed on the second floor. The pier would also include approximately 1,100 square-feet of open outdoor space. A marine engineer, who specializes in floating pavilions, would design and engineer the river pavilion such that its hull and its anchoring system would withstand the effects of not only high velocity water flows during storm events, but also sustained impact loads from ice and debris. For the management of the riverfront areas, jurisdiction and further maintenance responsibilities of the river pavilion would be transferred from the NPS to the Kennedy Center. Any damage to the seawall

caused by the river pavilion and supporting structures would be the responsibility of the Kennedy Center. The river pavilion would have similar operating hours as those of the Kennedy Center (10 a.m. to midnight). In the event of extreme inclement weather, Kennedy Center staff would close the river pavilion or the river pavilion would have curtailed hours, particularly during the winter months. The Kennedy Center would outline specific operation procedures for the river pavilion within an Operations and Maintenance Plan.

The proposed methods that are being considered for anchoring the pier are discussed in further detail below. With the implementation of Alternative C, the majority of construction activities and the location of permanent structures would be within the 32-foot clear space between the RCPP and the Rock Creek Paved Recreation Trail. This alternative would not include a landing or bulkhead to accommodate water taxi access to the site.



Anchoring Option: Telescoping Piles

Under this concept approximately eight telescoping piles would be necessary to support the floating pier and anchor it to the river bottom. The piers would be telescopic to allow the pier to float with the tides and would be designed to provide vertical movements necessary to accommodate river flood stages. The piles would be installed into drilled shafts secured with concrete or would be driven into the river bottom (see Figure 6). It is anticipated that less than 50 square feet of the river bottom would be disturbed under this method. No dredging or placement of fill material would be necessary for the construction.



Figure 6: Example of Telescoping Piles

Anchoring Option: Anchors

Concept plans have been developed using the Seaflex® Hawser system for anchoring the pier. This system utilizes anchors secured to the river bottom. Flexible hawsers are attached to the anchors and to the lines that attach to the bottom of the floating pier (see Figure 7). The flexible hawsers allow the pier to float with the tides and during high river flow. The anchors used in this system would be driven into the river bottom or would be attached to concrete footings installed in the river bottom. Based on conceptual design, the proposed pier would require approximately 24 anchors and lines. It is estimated that no more than 50 square feet of the river bottom would be disturbed under this method.

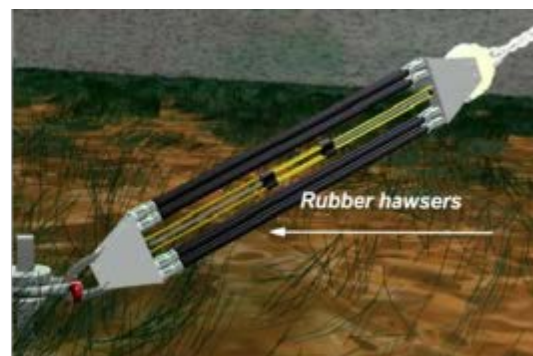
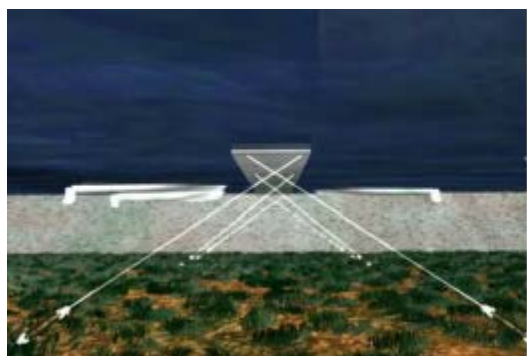


Figure 7: Example of Seaflex® Anchors



Figure 8: Example of Stiff Arms

Anchoring Option: Stiff Arms

The stiff arm system would provide a steel arm that would attach the floating pier to the existing bulkhead shoreline (Figure 8). The anchoring method used in this option would allow the pier to float with the tides and during high river flow. The river bottom would not be disturbed under this method.

Two options for access and for utility connections to the river pavilion are being considered under Alternative C and are described below.

RIVER ACCESS OPTION 1 – AT-GRADE STREET CROSSING

Option 1 would provide an at-grade street crossing of RCPP from the Kennedy Center to the Rock Creek Paved Recreation Trail (pursuant to Public Law 107-224). Access to the river pavilion would be provided by a pedestrian connection from the Rock Creek Paved Recreation Trail to the lower level of the river pavilion (Figure 9). This connection would be approximately 120-feet long.

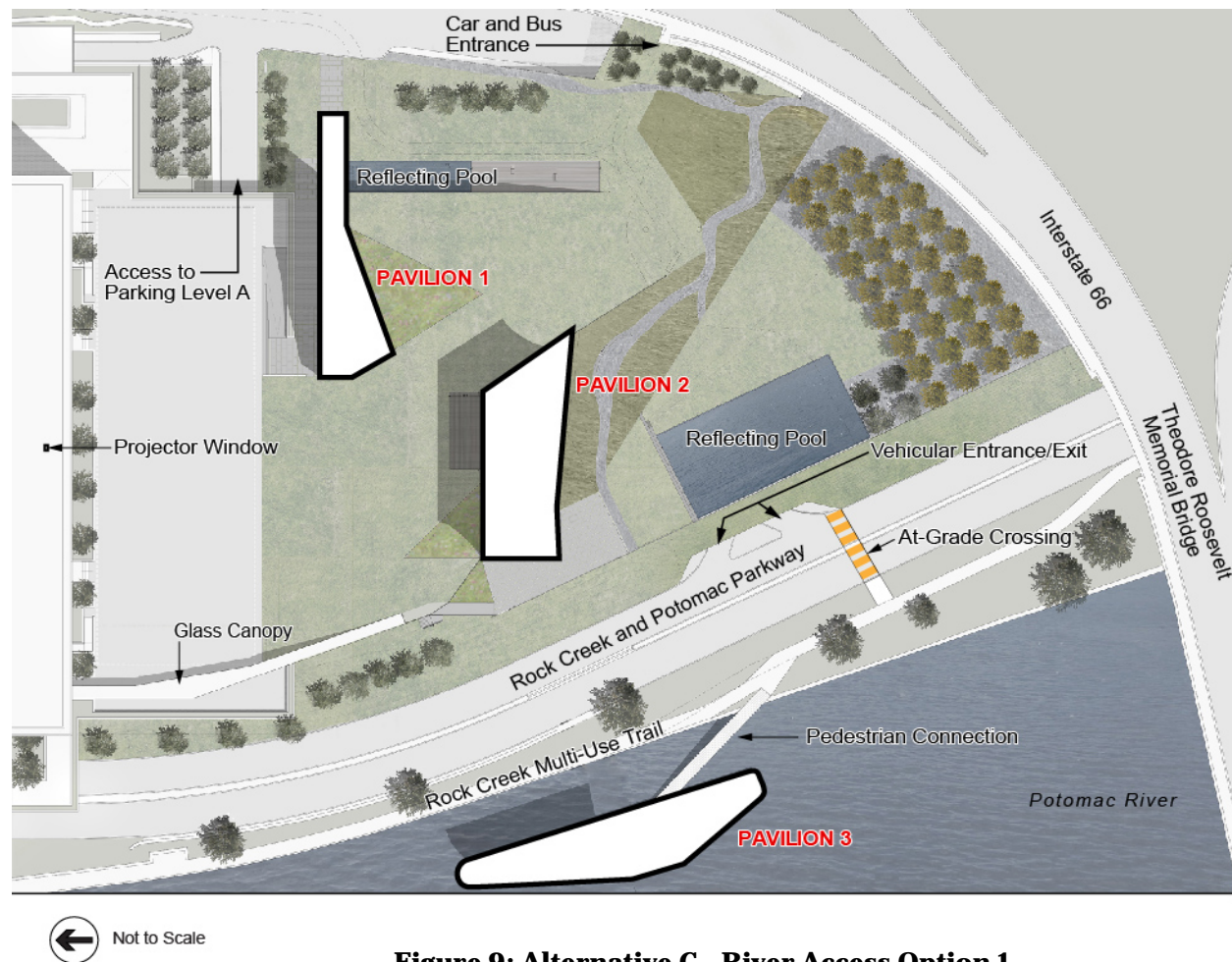


Figure 9: Alternative C - River Access Option 1

Maintenance vehicles would access the pavilion using the at-grade street crossing. Under this access option, employees and vendors would be required to use small, light-duty service vehicles to move tools, equipment, trash, catering supplies, and other maintenance materials from the Kennedy Center across the Rock Creek Paved Recreation Trail and the pedestrian connection to the lower level of the river pavilion.

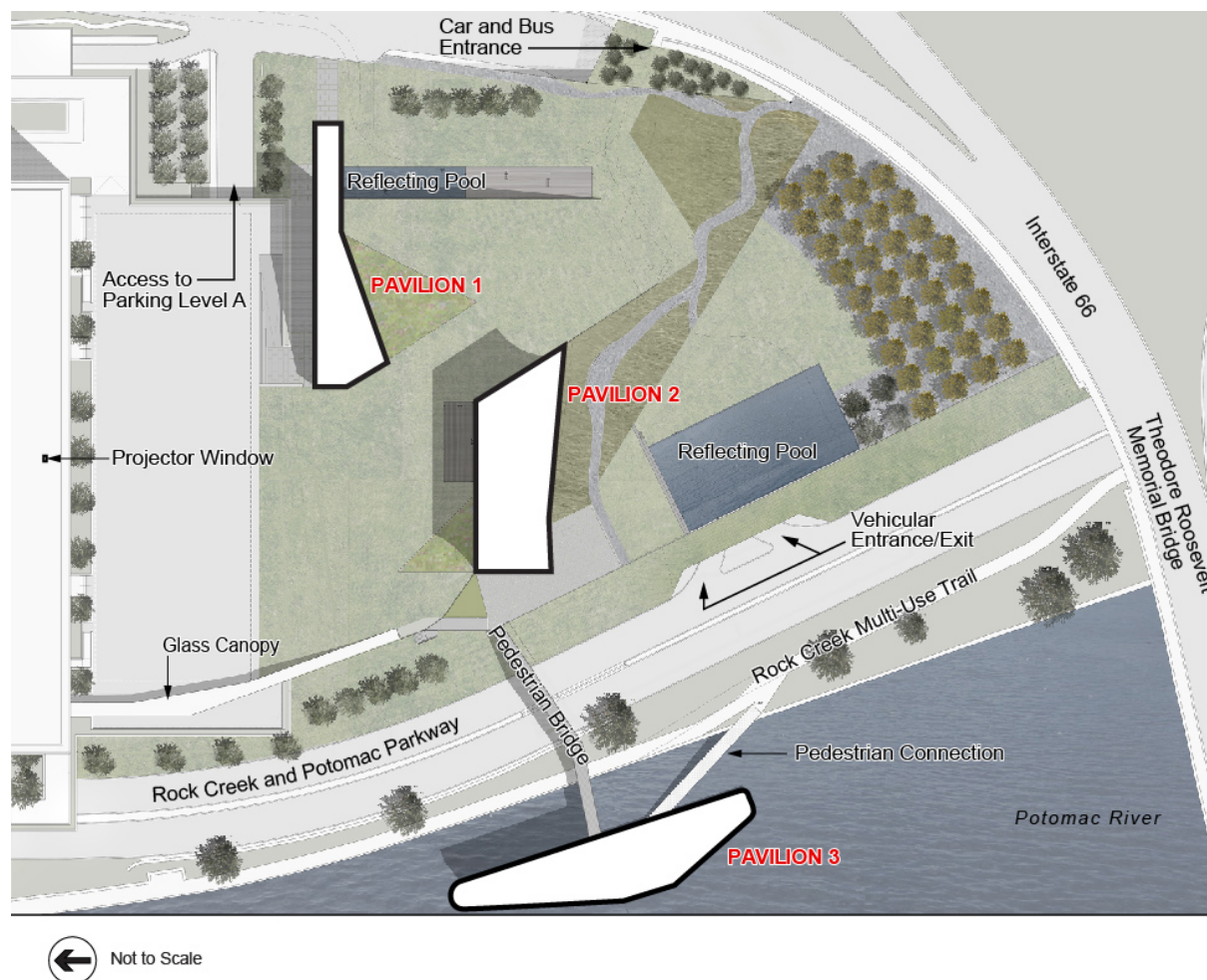
For utilities to the river pavilion, conduits for power, telecommunications, fire alarm, and security would be directionally bored under RCPP. A distribution cabinet for each system would then be

installed at-grade on land adjacent to the existing river wall. Power, telecommunications, fire alarm, and security would run from the systems distribution cabinets via four inch conduits to the river pavilion. A water line connection would be made inside a small underground vault (3-feet by 3-feet by 3-feet) located adjacent to the seawall. A 1.5-inch domestic water line would also be installed from the existing facility by directionally boring under the RCPP. Ejector pumps would be located within the river pavilion to pump sewage to a 3-inch sewage line. Sewage would then be discharged using surface mounted piping from the river pavilion to the shoreline, which would then transition to piping buried under the RCPP. The piping would tie into the internal sanitary sewer system for the proposed land-based expansion prior to connecting to the public main on the east side of the site.

***RIVER ACCESS OPTION 2 – PEDESTRIAN BRIDGE CROSSING OVER RCPP
(PREFERRED OPTION)***

Option 2 would provide a single pedestrian bridge crossing over RCPP that would connect the south terrace expansion on land to the river pavilion (pursuant to Public Law 107-224). The steel framed pedestrian bridge would be approximately 140-feet long and 9-feet wide. The bridge would be built to support small, light-duty vehicles (up to about 4,000 pounds) which would be used to carry tools, equipment, trash, catering supplies, and other maintenance materials from the Kennedy Center to the river pavilion. Additional access to the river pavilion by pedestrians would be provided by a pedestrian connection from the Rock Creek Paved Recreation Trail to the lower level of the river pavilion (Figure 10). This connection would be approximately 120-feet long. The final design of the bridge and connection would be approved by the NPS in coordination with other consulting parties. It would be designed within the guidelines set forth within the NHPA Section 106 MOA, and would be dependent upon approvals from both NCPC and CFA.

For utilities to the river pavilion, conduits for power, telecommunications, fire alarm, and security would be directionally bored under RCPP. A distribution cabinet for each system would then be installed at-grade on land adjacent to the existing river wall. Power, telecommunications, fire alarm, and security would run from the systems distribution cabinets via four inch conduits to the river pavilion. A water line connection would be made inside a small underground vault (3-feet by 3-feet by 3-feet) located adjacent to the seawall. A 1.5-inch domestic water line would also be installed from the existing facility by directionally boring under the RCPP. Ejector pumps would be located within the river pavilion to pump sewage to a 3-inch sewage line. Sewage would then be discharged using surface mounting piping from the river pavilion to the shoreline, which would then transition to piping buried under the RCPP. The piping would tie into the internal sanitary sewer system for the proposed land-based expansion prior to connecting to the public main on the east side of the site.



NPS TRANSFER OF JURISDICTION AND PERMITS UNDER ALTERNATIVE C

Prior to construction of Pavilion 3 and associated structures (i.e., pedestrian bridge), pursuant to 40 USC § 8124, the NPS would need to transfer jurisdiction of a portion of NPS administered property and certain air rights to the Kennedy Center. Under River Access Option 2, air rights over the parkway (approximately 805 square feet) would be needed for the pedestrian bridge and would require a jurisdictional transfer from NPS (40 U.S. Code § 8124). In addition, a jurisdictional transfer would be needed for the one support pier for the bridge on NPS property (approximately 5 to 10 square feet) under River Access Option 2.

In addition, the pedestrian connection (covering approximately 350 square feet of land) from the river pavilion to the existing Rock Creek Paved Recreation Trail would require a construction permit from NPS under either river access option. A right-of-way permit would be required in order to bore under RCPP for the installation of utility lines under either access option. Figure 11 shows the area of the different design elements requiring a permit or jurisdictional land transfer.

The Department of Interior has jurisdiction of the Potomac River bottom and has delegated authority to the NPS to administer permits for activities that affect the river bottom. Prior to construction, the Kennedy Center would obtain authorization for use of the river bottom, such as an NPS piling permit. One potential condition of the authorization would be that the construction

methods for anchoring the pavilion would be designed to be reversible in the event the river pavilion is removed in the future so that the river bottom can be restored. The Kennedy Center would continue to coordinate with the NPS during design on the appropriate permits for each design element.

After construction, under River Access Option 1, a special use permit would be required so that light-duty maintenance vehicles could cross RCPD to access the river pavilion and for future use or access of the Rock Creek Paved Recreation Trail. Permits from other agencies that would be required for implementation are described in Chapter 5 – Consultation and Coordination.

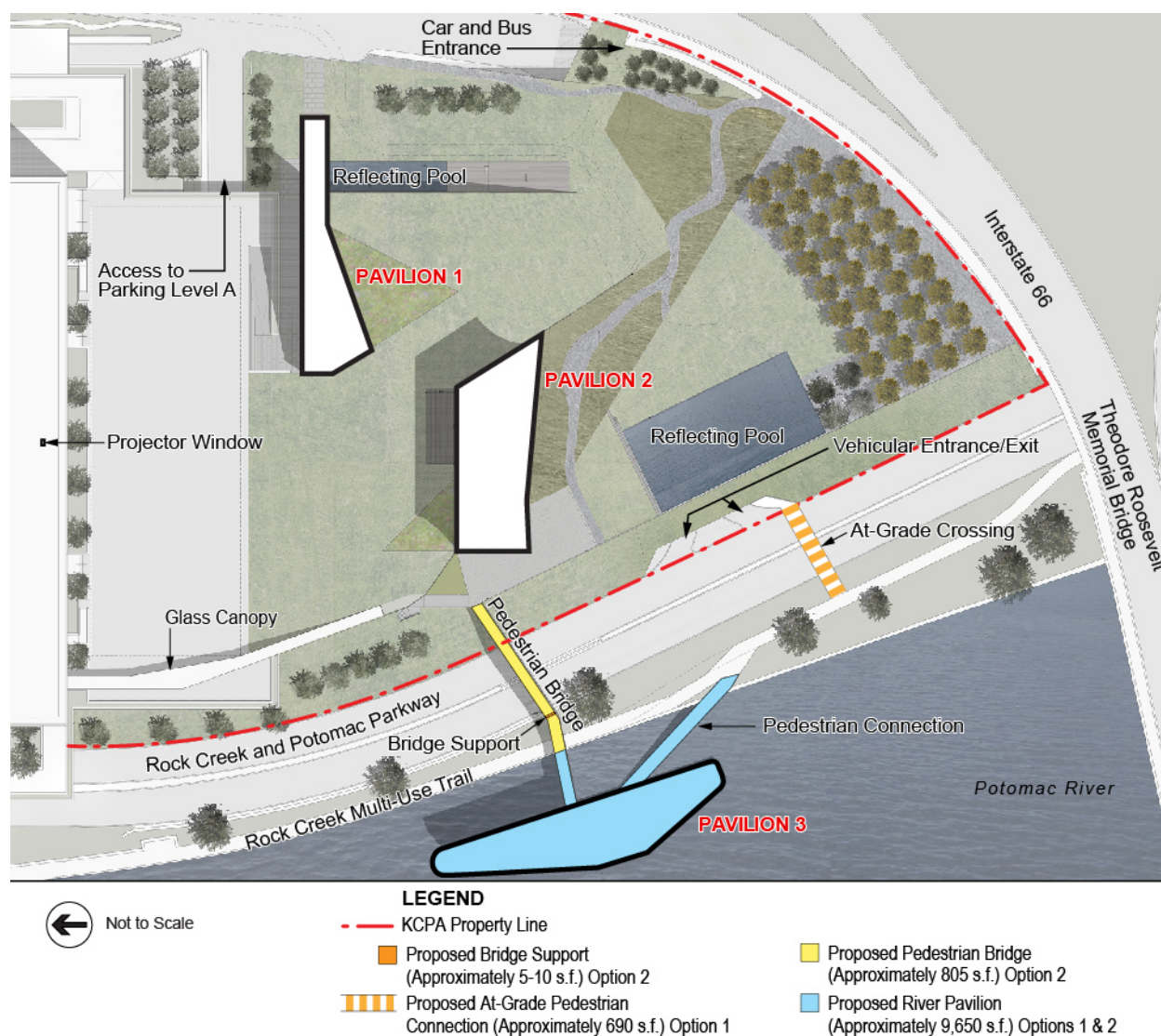


Figure 11: Area of Design Elements Requiring a Permit or Jurisdictional Land Transfer from NPS

CONSTRUCTION AND STAGING

Construction staging for the action alternatives would be accommodated onsite at the south end of the Kennedy Center. Depending on the method of construction, components of the river pavilion would be delivered by barge or truck to the site. The immediate area surrounding the pedestrian bridge along the river adjacent to the floating pavilion would be temporarily disturbed and used to construct the bridge and supporting pavilion infrastructure (see Figure 12 and Figure 13).

Public access to the Rock Creek Paved Recreation Trail would be maintained throughout construction and the Kennedy Center would minimize impacts to trail users by developing an NPS approved mitigation plan aimed at minimizing impacts to both trail users and those driving on the RCPP. The plan would define how the trail would be modified to maintain bike and pedestrian flow during construction of the pedestrian connection from the Rock Creek Paved Recreation Trail to the river pavilion (see Figure 13). Re-routing Rock Creek Paved Recreation Trail would provide space for a construction staging area for the pedestrian connection. The re-routing of the trail would be expected to last approximately six weeks and would not be concurrent with any additional closures of the trail or the RCPP.

In the event the stiff arm anchoring option is used for the river pavilion, the Rock Creek Paved Recreation Trail would be closed at night for up to 12 weeks to install the new foundations for the shore mounted river pavilion support. The trail would remain open during the day during this time period (see Figure 12). Flagmen would be utilized during construction to allow safe passage on the trail when equipment is being used or materials are being delivered. Trail users would be notified of any changes during construction by appropriate signage and/or other public notices in accordance with NPS procedures.

During construction, temporary closures to RCPP would occur. The easternmost northbound lane of the RCPP would be closed daily for up to eight weeks for construction of the new curb, gutter, and driveway apron. Closures would only occur in the evenings and would not be concurrent with any other closures. Temporary detours would be provided. See Figure 12 and Figure 13 for the limits of disturbance and construction staging areas. Under River Access Option 2, the RCPP would be closed during construction of the pedestrian bridge and the upper level of the river pavilion. In addition, the westernmost southbound lane of the RCPP would be closed for 10 weeks during construction of the pedestrian bridge pier and support. The RCPP would be closed between F Street NW and Ohio Drive NW. Traffic would be routed around the site using Interstate 66 and the Potomac River Freeway. It is expected that there would only be six closures, and they would be short in duration.

RCPP lane closures would occur outside of peak use hours to provide minimum disruption to users of the parkway. The Kennedy Center would provide advanced notification and appropriate signs to inform parkway users of closures and detours. Temporary lane closures would abide by the specifications of an approved Maintenance of Traffic (MOT) plan in order to provide a safe working environment and safe passage for motorists during construction. The use of NPS land and/or rerouting of traffic along RCPP would be done with the appropriate permits from the NPS. Construction noise would be controlled to comply with District of Columbia noise ordinances and regulations. Additionally, consideration would be made for performances and events staged in and around the Kennedy Center and National Mall during construction to minimize disruptions of these events.

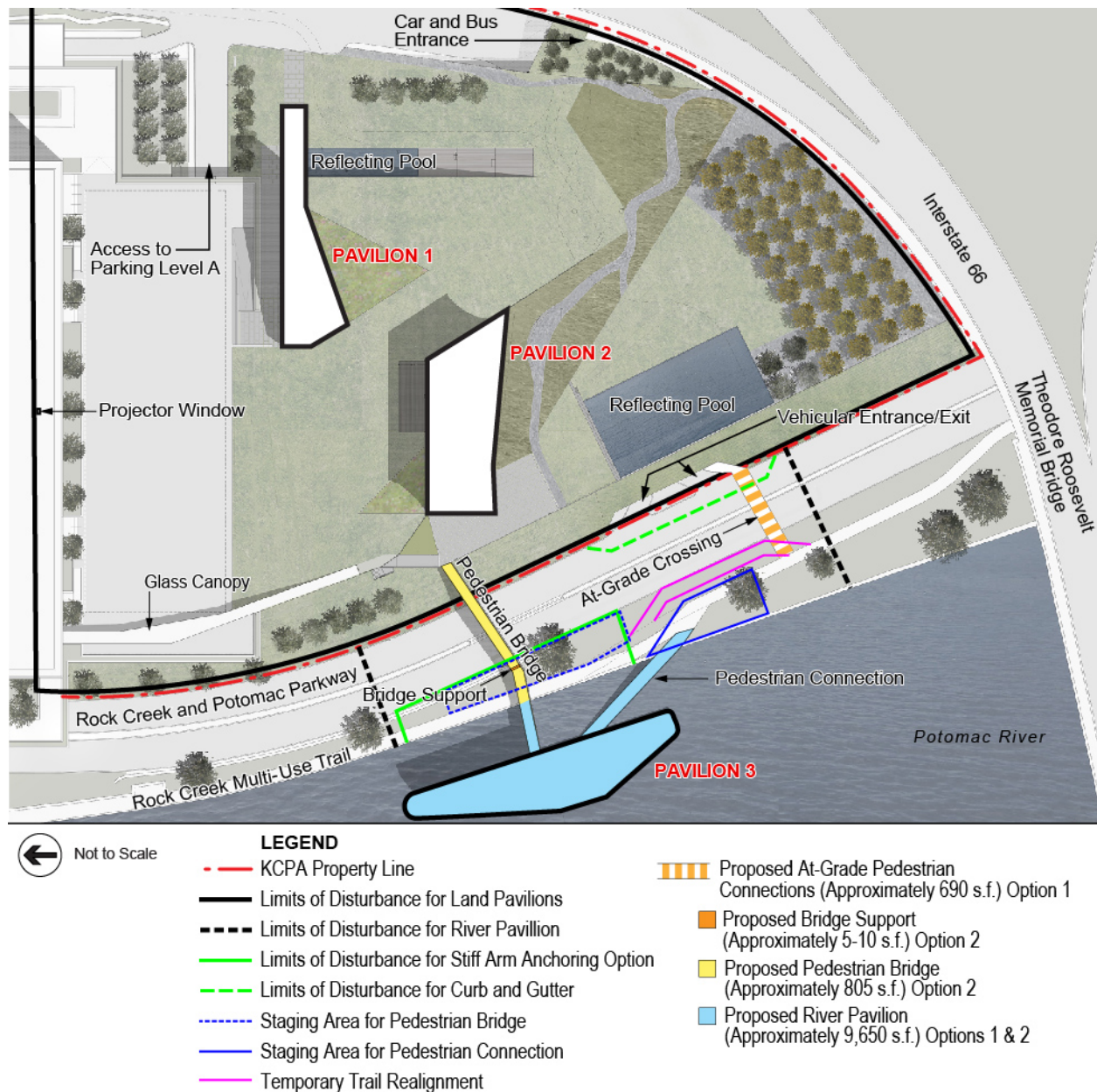


Figure 12: Proposed Construction Staging Area (Stiff Arm Option)

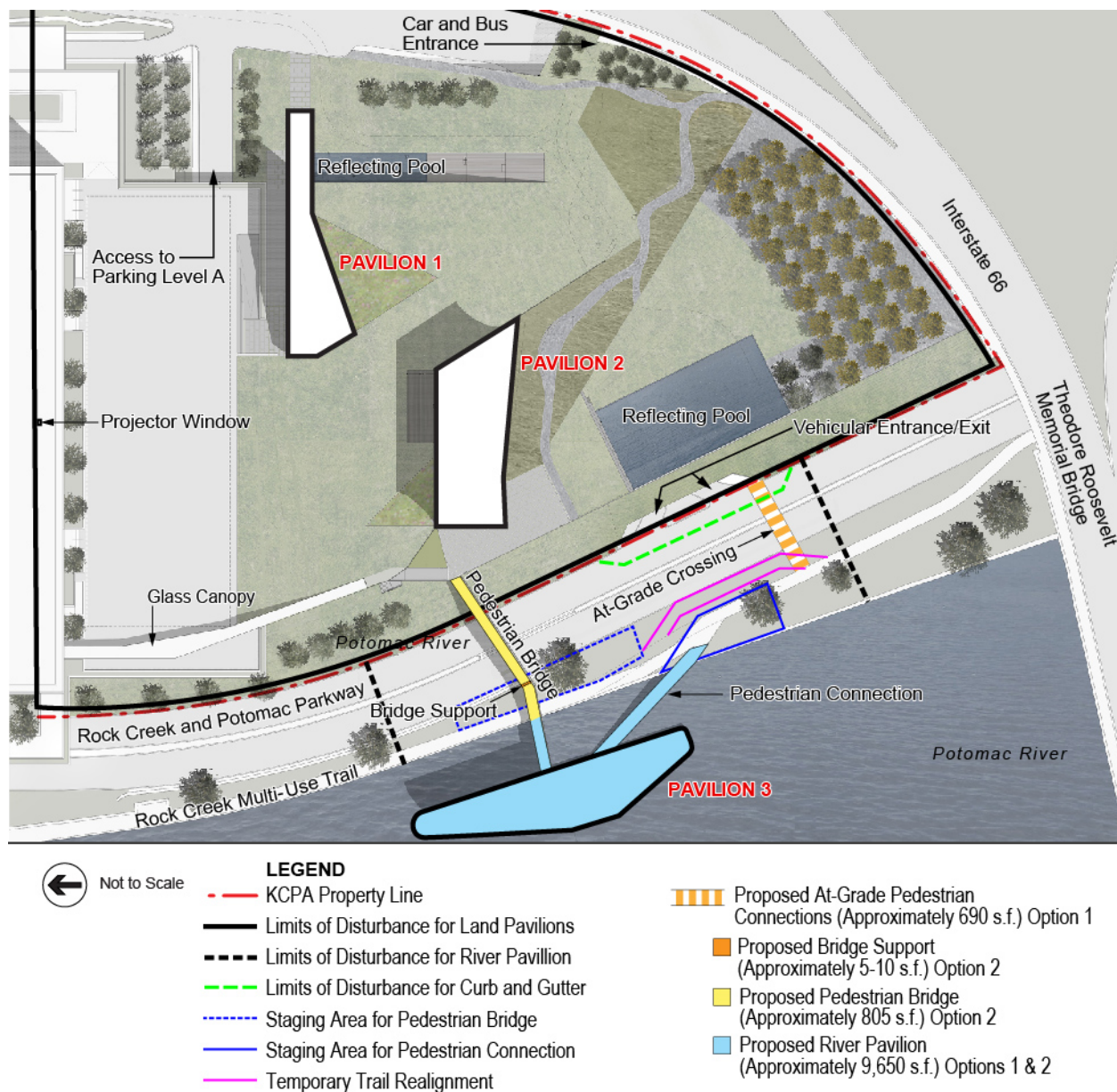


Figure 13: Proposed Construction Staging Area (Telescoping Pile or Anchoring Options)

MINIMIZATION AND MITIGATION MEASURES INCORPORATED INTO THE PREFERRED ALTERNATIVE

The NPS, NCPC, and the Kennedy Center place 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 Kennedy Center, through coordination with 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.

WATER QUALITY

Erosion and sediment controls would be employed as needed and as required by DC regulations during construction to reduce soil erosion. To limit the movement of sediments during construction, in-stream erosion control BMPs such as turbidity curtains would be utilized in the waterway.

FLOODPLAINS

The river pavilion would be designed and engineered such that its hull and its anchoring system would withstand the effects of not only high velocity water flows during historic storm events, but also sustained impact loads from ice and debris. The ice, wind, wave, and water velocity conditions would be modeled by an independently retained marine engineer and the results would be used by the design team to determine the design criteria. A monitoring and maintenance plan to inspect the pavilion at frequent intervals throughout the year would be developed. The plan would be based upon recommendations from a marine engineer and would provide specifications to remove any large debris that may become lodged against the pavilion, its support structures, or the seawall adjacent to the pavilion. The regular removal of debris would improve aesthetics and would minimize the potential of accumulated debris to impede river flows. Additional inspections and debris removal would be conducted in advance of predicted high river flows and following severe weather events that result in high river flows. The removal of debris in advance of predicted severe weather would ensure that river flows are unimpeded and that the maximum clear channel is available for river flows during flood events. Following flood stage flows and other severe weather events, any accumulated debris would be removed and the pavilion would be inspected for damage prior to re-opening the pavilion to the public. All debris and trash would be hauled away and legally disposed of.

THREATENED AND ENDANGERED SPECIES

Turbidity curtains or similar best management practices, installed prior to the migration period of the sturgeon (February 15 through June 15 time-of-year restriction), would be used to minimize the disturbances to the sturgeon and to prevent fish from entering the construction areas. Sediment erosion and control measures such as turbidity curtains would minimize the potential effects from sedimentation and would prevent fish from entering the work area.

CULTURAL RESOURCES

The construction of the proposed pedestrian access improvements would incorporate a design that is architecturally compatible with the Kennedy Center in accordance with the *Secretary of the*

Interior's Standards for the Treatment of Historic Properties with Guidelines for Treatment of Cultural Landscapes (NPS 1998). The proposed design would be reviewed and approved through consultation and coordination with CFA, NCPC, and interested parties. Both action alternatives would have an adverse effect under Section 106 of the NHPA. As a result the NPS, NCPC, and the Kennedy Center would develop a Memorandum of Agreement (MOA) with stakeholders to further identify mitigation appropriate for the project.

VISITOR USE AND EXPERIENCE

Visitors to the Kennedy Center, RCPP, and the Rock Creek Paved Recreation Trail would be notified in advance of construction activities. Potential notifications would include signage, postings to websites and social media webpages, and email blasts to interested parties identified during the planning process. In addition, construction activities would be coordinated with the Kennedy Center in a manner that would minimize disruptions during planned events. The trail would be re-routed during construction of the pedestrian connection to maintain bike and pedestrian flow. Flagmen would be utilized during construction to allow safe passage on the trail when equipment is being used, materials being delivered, or the bridge is being installed over the trail and parkway. A MOT plan would be implemented to minimize impacts on RCPP motorists. The Kennedy Center would develop an operations and maintenance plan for the river pavilion. The river pavilion's hours of operation would be similar to those of the Kennedy Center (10 a.m. to midnight) and the pavilion would close or have curtailed hours in extreme inclement weather, particularly during the winter months.

OPERATIONS AND MANAGEMENT

The Kennedy Center would develop an operations and maintenance plan for the river pavilion. The river pavilion's hours of operation would be similar to those of the Kennedy Center (10 a.m. to midnight) and the pavilion would close or have curtailed hours in extreme inclement weather, particularly during the winter months.

The river pavilion would be run by current Kennedy Center staff and volunteers, and it would be maintained by Kennedy Center facilities staff. All maintenance and service vehicles and crews would access the river pavilion via the pedestrian bridge.

TRAFFIC AND TRANSPORTATION

In order to mitigate impacts to traffic and transportation during construction, a MOT plan would be implemented to ensure a safe and continued flow of traffic during partial lane closures. This plan would include directional signage to inform travelers on the RCPP and the Rock Creek Paved Recreation Trail of all construction zones, associated speed limits, lane closures, and trail detours. Additionally, a public notice of the construction schedule would be provided to local media outlets. Temporary trail realignment would be used during construction to keep the trail open during construction. Flagmen would be utilized during construction to allow safe passage on the trail when equipment is being used, materials are being delivered, or the bridge is being installed over the trail and parkway. Construction vehicles would travel through the site to a staging area located on the south end of the Kennedy Center. Depending on the phasing of construction, a portion of the existing surface lot may be used for construction staging; therefore more parking for school buses would be provided along the curb area on the east side of the Kennedy Center. Shuttle buses would use the service tunnel on the east plaza for parking.

ALTERNATIVES CONSIDERED BUT DISMISSED

The Kennedy Center would like to expand on land that is currently part of the Center and, currently, there is no vacant property on the east side of the Center. Building on the east side requires a huge undertaking to lower Potomac Expressway and construct a deck upon which to build. The Center does not have the resources to do that and is cost prohibitive for the Center to undertake. Therefore, all alternatives considered to meet existing program needs were focused on the south end of the Center where there is available space. Multiple conceptual designs were developed during the design process and internal scoping to provide additional classroom space, rehearsal space, and offices. Some of the designs were determined to be incompatible or much less desirable than similar designs included in the analysis and were therefore not carried forward for analysis in this EA. Justification for eliminating these designs from further analysis was based on the following factors:

- Inability to meet project objectives
- Incompatibility with environmental or historic resources
- Economic infeasibility
- Duplication with other less environmentally damaging or less expensive alternatives

SINGLE ABOVE-GRADE STRUCTURE

Under this design the entire expansion would be constructed above-grade on top of the existing parking garage. This design would entail a large building footprint that would not integrate well with the historic site. With this design there would be no access to the Potomac River. In addition, this design does not integrate green space with the rest of the site. This alternative would not fully meet the objectives of the Kennedy Center expansion project and would not fulfill the purpose and need of the project. Therefore, a single above-grade structure was dismissed from further study.

SINGLE PARTIALLY ABOVE-GRADE STRUCTURE

Under this design a portion of the new proposed expansion would be constructed above-grade and a portion of it would be constructed below-grade, eliminating the existing parking garage. This design would entail a large building footprint that would not integrate well with the historic site. With this design there would be no access to the Potomac River. In addition, this design does not integrate green space with the rest of the site, because the south parking lot would remain as hardscape. Because this alternative would not fully meet the objectives of the Kennedy Center expansion project, and would not meet the purpose and need of the project, a single partially above-grade structure was dismissed from further study.

PEDESTRIAN ACCESS FROM THE KENNEDY CENTER RIVER TERRACE TO THE POTOMAC RIVERFRONT

This project was authorized by Public Law 107-224, the John F. Kennedy Center Plaza Authorization Act of 2002. The Act amends the John F. Kennedy Center Act to authorize “...the Secretary of Transportation to carry out a project for construction of a plaza adjacent to the John F. Kennedy Center for the Performing Arts, and for other purposes.” The Act directs the Secretary of Transportation to plan, design, engineer and construct the project, with the exception of the two proposed buildings flanking the proposed plaza. The Act directs the Board of Directors of the Kennedy Center for the Performing Arts to “...undertake such activities as may be necessary to construct buildings on the Plaza for the Project.”

In general, the Act outlined all of the responsibilities of the parties involved in planning, designing and constructing the project as outlined in the report of the Secretary of Transportation submitted to Congress under section 1214 of the Transportation Equity Act for the 21st Century (TEA-21 report).

Building on the Commission's Legacy Plan, the Federal Highway Administration produced the Kennedy Center Access Study in cooperation with the NPS, the District of Columbia Department of Public Works (now the District Department of Transportation), and the Kennedy Center. Section 1214 of the Act, subsection (a), relates to "Access to John F. Kennedy Center for the Performing Arts." The Act required the Secretary of Transportation to conduct a study of "...methods to improve pedestrian and vehicular access..." to the Kennedy Center. The Act further required FHWA to complete and transmit a report to the Committee on Environment and Public Works of the Senate, containing the results of the study with an assessment of the impacts associated with the implementation of each of the methods examined under the study. The Act authorized \$500,000 for fiscal year 1998 to be appropriated out of the Highway Trust Fund to carry out the study. The Kennedy Center Access Study is the study required under this Act.

In October 2003, after the passage of Public Law 107-224, the John F. Kennedy Center Plaza Authorization Act of 2002, FHWA, in cooperation with the Kennedy Center, NPS, NCPC, CFA, and DDOT, prepared the Kennedy Center Access Improvements Environmental Assessment and 4(f) Evaluation. This document analyzed the potential environmental impacts of implementing two action alternatives and the No Action Alternative for improved access to the Kennedy Center. The action alternatives in the Kennedy Center Access Improvements EA proposed pedestrian, vehicle, and bicycle circulation management improvements, including pedestrian access from the Kennedy Center River Terrace to the Potomac riverfront and Rock Creek Paved Recreation Trail (FHWA 2003).

Since the completion of the Kennedy Center Access Improvements EA, concept level designs for the proposed pedestrian access from the Kennedy Center River Terrace to the Potomac riverfront have been developed. In 2007, these designs were presented in a Concept Study Report produced by DDOT to NCPC and CFA. The Kennedy Center, with the support of the Federal Highway Administration, developed and evaluated concept level designs for pedestrian access from the Kennedy Center River Terrace to the Potomac Riverfront. Public scoping was conducted for the preparation of an EA in March 2011.

This original proposal was put on indefinite hold and was considered but dismissed as part of this proposed project because it did not meet the primary need of expanding its facilities to meet the increasing programmatic needs of the Kennedy Center. In addition, the actions proposed under this new proposal are not specifically authorized under Public Law 107-224. If the Kennedy Center decided to once again move forward with this original proposal, a separate compliance process would be required that would be entirely separate from this proposal.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The NPS is required to identify the environmentally preferable 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 preferable 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 preferable 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).

Based on the analysis of environmental consequences of each alternative, the No Action Alternative is the environmentally preferable alternative. The No Action Alternative was chosen because it causes the least damage/change to the physical environment and best protects an important cultural resource of national importance. As described in the Environmental Consequences Chapter, Alternatives B and C have an adverse effect on the Kennedy Center and RCPP, which is not the case under the No Action Alternative. For this reason, Alternative A is the environmentally preferable alternative.

Table 1: Summary of Environmental Consequences

Impacted Resource	Alternative A No Action	Alternative B Three Land Based Pavilions	Alternative C Two Land Based Pavilions & One River Pavilion
Water Quality	Alternative A would have long-term, negligible adverse impacts to water quality due to continued stormwater runoff from impervious surfaces and because existing stormwater management systems are not designed to current standards. When combined with the impacts of other past, present, and future projects, Alternative A would slightly lessen the overall beneficial cumulative effects.	Alternative B would result in short-term negligible adverse impacts to water quality due to ground disturbance required for construction. The use of sediment and erosion controls during construction would be provided, in accordance with DC regulatory requirements, and stormwater management would be provided for all new construction. Long-term, the implementation of green roofs and better stormwater management practices over existing conditions would reduce stormwater runoff from the Kennedy Center and would benefit water quality, although the benefits to the water quality of the Potomac River would not be measurable given the overall magnitude of the watershed. The reduction in stormwater runoff under Alternative B would contribute to the overall beneficial cumulative impact. Alternative B would add slightly to the short-term adverse cumulative impacts of The NMAAHC, the improvements to Constitution Avenue, and the improvements associated with the National Mall Plan. Alternative B would not contribute to the short-term cumulative impacts of the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, Jefferson Vehicle Barrier System, and the Eisenhower Memorial.	Disturbances to river bottom sediments and earth disturbance during construction under Alternative C would result in short-term negligible adverse impacts to water quality. The use of sediment and erosion controls during construction would be provided in accordance with DC regulatory requirements. Long-term benefits to water quality would occur from the implementation of stormwater practices, such as green roofs, which would reduce the amount of stormwater runoff. Long-term negligible adverse impacts would result from the coverage of approximately 6,500 square feet of open water by the river pavilion. Either option for access to the river pavilion would have long-term negligible affects to water quality from an increase in impervious surfaces. Alternative C would contribute additional beneficial impacts to the overall beneficial cumulative impact to water quality. Alternative C would add slightly to the short-term adverse cumulative impacts of The NMAAHC, the improvements to Constitution Avenue, and the improvements associated with the National Mall Plan. Alternative C would not contribute to the short-term cumulative impacts of the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, Jefferson Vehicle Barrier System, and the Eisenhower Memorial.

Impacted Resource	Alternative A No Action	Alternative B Three Land Based Pavilions	Alternative C Two Land Based Pavilions & One River Pavilion
Floodplains	Implementation of the No Action Alternative would not result in short-term or long-term impacts to the 100-year floodplain. The No Action Alternative would not contribute to the cumulative impacts.	Alternative B would result in short-term and long-term negligible adverse impacts to floodplains due to ground disturbance during construction and Alternative B would result in very little change to the ability of the floodplain to convey floodwaters and would not contribute to flooding. Alternative B would contribute slightly to the adverse cumulative impacts to the floodplain of other past, present, and future projects.	Alternative C would result in short-term negligible adverse impacts to floodplains due to ground disturbance during construction. The addition of structures under Alternative C would result in very little change to the ability of the floodplain to convey floodwaters and would not contribute to flooding. Either option for access to the river pavilion would have short and long-term negligible affects to floodplains and would not measurably affect the ability of the floodplain to convey floodwaters, its values and functions, and would not contribute to flooding. Therefore, Alternative C would contribute slightly to the adverse cumulative impacts to the floodplain of other past, present, and future projects.
Rare, Threatened, & Endangered Species	The No Action Alternative would not have activities within the Potomac River and would have no short-term or long-term impacts to threatened and endangered species. No cumulative impacts would occur.	Alternative B would have short-term minor adverse impacts on threatened and endangered species from erosion and release of sediments into the Potomac River due to exposed soils during construction. Alternative B would slightly contribute to adverse cumulative impacts to the Atlantic and short-nosed sturgeons from sedimentation during construction.	Alternative C would result in short-term minor adverse impacts to threatened and endangered species due to disturbances during construction. There would be no taking or relocation of species, and there would be no loss of critical aquatic habitat. Alternative C would contribute slightly to adverse cumulative impacts to the Atlantic and short-nosed sturgeons from sedimentation and disturbances in the Potomac River during construction.

Impacted Resource	Alternative A No Action	Alternative B Three Land Based Pavilions	Alternative C Two Land Based Pavilions & One River Pavilion
Cultural Resources	The No Action Alternative would have no impact on the overall integrity or on the character-defining features of the historic resources within the APE as they currently exist. There would be no resulting cumulative impacts to these resources.	<p>Alternative B would result in long-term moderate adverse impacts to cultural resources within the APE, but would have less impact than Alternative C, because there would be no impacts on the RCPP. Alternative B would contribute moderately to the long-term cumulative impacts to cultural resources.</p> <p>NPS and NCPC are coordinating the findings of this EA with the DC HPO in accordance with Section 106 of the NHPA through the preparation of an Assessment of Effects report. A Memorandum of Agreement detailing the necessary mitigation and minimization measures would be completed with and signed by the necessary parties prior to the final decision document.</p>	<p>Alternative C would result in long-term moderate adverse impacts to cultural resources within the APE. Under Alternative C, Option 1 and Option 2 would have similar impacts; however, because of the bridge component, Option 2 would have a greater adverse impact on the RCPP. Alternative B, without the river pavilion, would have less of an adverse effect than Alternative C because there would be no impacts to the RCPP. Alternative C would contribute moderately to the long-term cumulative impacts to cultural resources.</p> <p>NPS and NCPC are coordinating the findings of this EA with the DC HPO in accordance with Section 106 of the NHPA through the preparation of an Assessment of Effects report. A Memorandum of Agreement detailing the necessary mitigation and minimization measures would be completed with and signed by the necessary parties prior to the final decision document .</p>

Impacted Resource	Alternative A No Action	Alternative B Three Land Based Pavilions	Alternative C Two Land Based Pavilions & One River Pavilion
Visitor Use and Experience	<p>Alternative A would maintain existing conditions at the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail would not change. No new amenities at the Kennedy Center would be built. This would continue to limit free public access to the arts creating a long-term, minor adverse impact to patrons of the Kennedy Center. The amenities provided to visitors to the RCPP and the Rock Creek Paved Recreation Trail would not change. Overall cumulative impacts of these past, present, and reasonably foreseeable future actions would be long-term and beneficial. The No Action Alternative would not add to or detract from the beneficial cumulative impacts of other actions.</p>	<p>Impacts to visitor use and experience under Alternative B consist of short-term moderate adverse impacts due to construction and long-term net benefits resulting from the proposed expansion. Alternative B would contribute to the long-term beneficial cumulative impacts by enhancing the Kennedy Center's facilities. Alternative B would not contribute to the short-term cumulative impacts from the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, Jefferson Vehicle Barrier System, and the Eisenhower Memorial. Construction activities under Alternative B would add slightly to the short-term adverse cumulative impacts to visitor use and experience from the NMAAHC and the improvements associated with the National Mall Plan.</p>	<p>Impacts to visitor use and experience under Alternative C consist of short-term minor adverse impacts due to construction. Long-term beneficial impacts would occur under Alternative C because the expansion would provide new opportunities for free events to the public, new classrooms and rehearsal spaces and a designed landscape that would enhance visitor experience. There would be short-term negligible impacts associated with construction under Option 1, and short-term minor impacts associated with construction under Option 2. Long-term, Option 1 would have moderate adverse impacts to patrons of the Kennedy Center and users of the RCPP and Rock Creek Paved Recreation Trail to gain access to the river pavilion. Option 2 would provide an uninterrupted path between the Rock Creek Paved Recreation Trail and the Kennedy Center, increasing the overall connectivity of the area creating a new benefit to visitor use and experience. However, long-term negligible adverse impacts to existing users of Rock Creek Paved Recreation Trail would occur. Alternative C would contribute to the long-term beneficial cumulative impacts by enhancing the Kennedy Center's facilities and by providing a connection for visitors to access the Rock Creek Paved Recreation Trail from the Kennedy Center. Alternative C would not contribute to the short-term cumulative impacts from the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, Jefferson Vehicle Barrier System, and the Eisenhower Memorial.</p>

Impacted Resource	Alternative A No Action	Alternative B Three Land Based Pavilions	Alternative C Two Land Based Pavilions & One River Pavilion
Human Health and Safety	<p>Under Alternative A, existing conditions would be maintained at the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail. A long-term minor adverse impact to human health and safety would occur because there is no dedicated route from the RCPP and the Rock Creek Paved Recreation Trail to the Kennedy Center from the south. The No Action Alternative would slightly lessen the overall long-term beneficial cumulative impacts of past, present and future projects on human health and safety.</p>	<p>Impacts to human health and safety under Alternative B consist of short-term minor adverse impacts associated with contaminated soil removal. The soils represent a limited risk to human health and safety and would be handled following an approved site health and safety plan. Once removed, a long-term beneficial impact would result. A long-term minor adverse impact to human health and safety would occur because there is no dedicated route from the RCPP and the Rock Creek Paved Recreation Trail to the Kennedy Center from the south. Alternative B would not contribute to short-term cumulative impacts. With removal of contaminated soils, Alternative B would add to the overall beneficial long-term cumulative impacts on human health and safety.</p>	<p>Impacts to human health and safety under Alternative C consist of short-term minor adverse impacts associated with contaminated soil removal during construction of the land-based pavilions. The soils would be handled in accordance with an approved site health and safety plan. Once removed a long-term beneficial impact would result. There would be no short-term impacts associated with construction of the river pavilion. Option 1 would result in short-term negligible and long-term negligible to minor adverse impacts. Option 2 would result in short-term negligible adverse and long-term beneficial impacts to human health and safety. Alternative C would not contribute to short-term cumulative impacts. With removal of contaminated soils and construction of a safe connection between the Rock Creek Paved Recreation Trail and the Kennedy Center, Alternative C would add to the overall beneficial long-term cumulative impacts on human health and safety.</p>

Impacted Resource	Alternative A No Action	Alternative B Three Land Based Pavilions	Alternative C Two Land Based Pavilions & One River Pavilion
Operations and Management	Under Alternative A, there would be no changes to current operations and management. As a result, there would be no short-term or long-term impacts, and there would be no cumulative impacts.	Alternative B would result in long-term minor adverse impacts to operations and management. New responsibilities associated with the Alternative would be carried out by the Kennedy Center. Alternative B would add slightly to these long-term adverse cumulative impacts. Alternative B would not contribute to the short-term cumulative impacts of the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, Jefferson Vehicle Barrier System, and the Eisenhower Memorial. Construction activities under Alternative B would add slightly to the short-term adverse cumulative impacts to operations and management in association with the improvement of the National Mall Plan.	Proposed actions under Alternative C would result in long-term negligible to minor adverse impacts associated with maintenance of the new facilities including the river pavilion. The Kennedy Center would be responsible for the security and maintenance of the proposed expansion. Alternative C would add slightly to these long-term adverse cumulative impacts. Alternative B would not contribute to the short-term cumulative impacts from the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, Jefferson Vehicle Barrier System, and the Eisenhower Memorial. Alternative C would add slightly to the short-term adverse cumulative impacts to operations and management in association with the improvements with the National Mall Plan.

Impacted Resource	Alternative A No Action	Alternative B Three Land Based Pavilions	Alternative C Two Land Based Pavilions & One River Pavilion
Traffic and Transportation	Under Alternative A, the No Action Alternative, there would be no impact to traffic and the transportation system within the project area. No cumulative impacts would occur.	<p>Alternative B would result in a short-term minor to moderate adverse impact to traffic and transportation because of construction-related delays. After construction is complete, long-term negligible adverse impacts would occur. Alternative B would contribute slightly to long-term adverse cumulative impacts.</p> <p>Alternative B would not contribute to the short-term cumulative impacts from the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, Jefferson Vehicle Barrier System, and the Eisenhower Memorial.</p> <p>Alternative B would contribute to the short-term adverse cumulative impacts of the NMAAHC, the improvements to Constitution Avenue and the improvements associated with the National Mall Plan.</p>	<p>Alternative C would result in a short-term minor to moderate adverse impact to traffic and transportation because of construction-related delays to build the expansion. After construction is complete, Option 1 would have a long-term moderate adverse impact because of the introduction of a new signalized at-grade crossing and Option 2 would have long-term negligible adverse impacts from the introduction of a connection to Rock Creek Paved Recreation Trail from the Kennedy Center.</p> <p>Alternative C would contribute a minor amount to long-term adverse cumulative impacts. Alternative C would not contribute to the short-term cumulative impacts from the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, Jefferson Vehicle Barrier System, and the Eisenhower Memorial.</p> <p>Alternative C would contribute to the short-term adverse cumulative impacts resulting from the NMAAHC, the improvements to Constitution Avenue and the improvements associated with the National Mall Plan.</p>

CHAPTER 3: AFFECTED ENVIRONMENT

This “Affected Environment” chapter provides descriptions of the existing environmental conditions in the vicinity of the Kennedy Center and the RCPP. These conditions serve as a baseline for understanding the resources that could be impacted by implementation of the proposed action. The resource topics presented in this chapter, and the organization of the topics, correspond to the resource discussions contained in “Chapter 4: Environmental Consequences.”

WATER QUALITY

The Kennedy Center is located along the east bank of the Potomac River, separated by the RCPP, Rock Creek Paved Recreation Trail, and the seawall. The Potomac River begins in Fairfax Stone, West Virginia and runs for over 383 miles to Point Lookout, Maryland where it enters the Chesapeake Bay. Five geological provinces are crossed by the river: the Appalachian Plateau, the Ridge and Valley, the Blue Ridge, the Piedmont Plateau, and the Coastal Plain. Within the Coastal Plain, the Potomac River is influenced by the tides of the Chesapeake Bay (ICPRB 2012).

The Potomac River watershed encompasses 14,670 square miles in four states and the District of Columbia. Approximately 6.11 million people populate the watershed. As a result, water quality of the Potomac River is affected by a variety of human activities. Major land uses in the Potomac River watershed include agriculture, forestry, coal mining, chemical production, military, and urban land use. The primary land use within the vicinity of the Kennedy Center expansion project is urban developed land, although parkland abuts much of the Potomac River in Washington, DC, Maryland, and Virginia. The Potomac River functions as a water supply source for Washington, DC as well as a discharge point for regional wastewater treatment facilities (ICPRB 2012).

The Potomac River is a navigable waterway traveled by motorized and non-motorized recreational boats. A federal navigation channel maintained by the USACE runs through the Potomac River and is shown on Figure 14.

Section 303(d) of the CWA and regulations developed by the U.S. Environmental Protection Agency (U.S. EPA) require states and the District of Columbia to prepare a list of waterbodies or waterbody segments that do not meet water quality standards. Waterbodies or waterbody segments not meeting the appropriate water quality standards are considered to be impaired. The law requires that states place the impaired waterbody segments on a list referred to as the 303(d) list and develop Total Maximum Daily Loads (TMDLs) for the waterbodies on the list.

In the District of Columbia, 32.1 miles out of the 45 miles of Potomac River watershed streams and rivers were assessed for water quality as part of the 2002 National Water Quality Inventory. Of the streams and rivers assessed in the watershed, 100 percent were found to be impaired (Potomac Conservancy 2013).

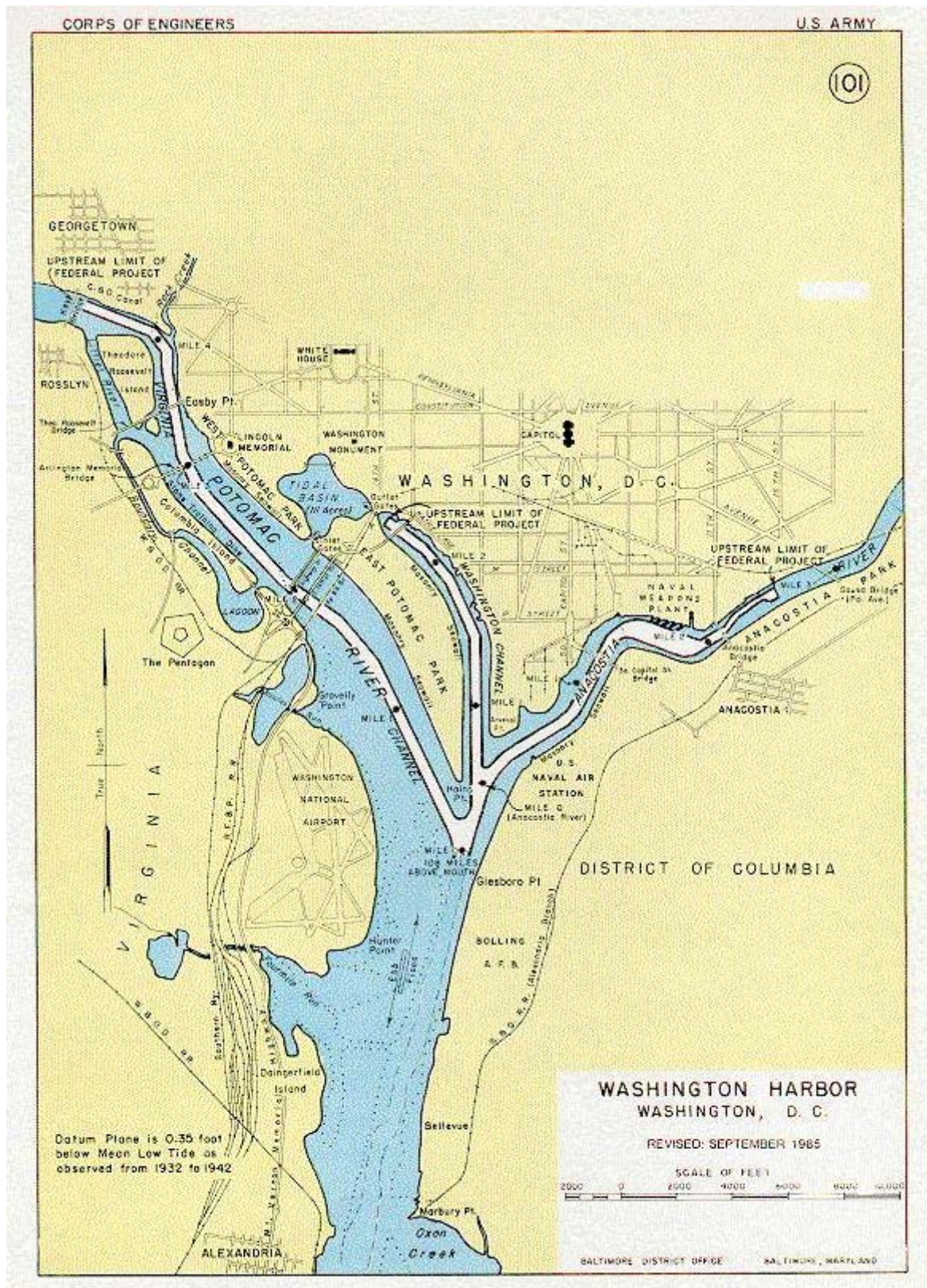


Figure 14: Federal Navigation Channel (USACE, 2007)

In October 2010, U.S. EPA distributed additional information for the assessment, listing, and reporting requirements for Section 303(d) and 305(b) of the Clean Water Act for the 2012 reporting cycle. The product of the U.S. EPA guidance is called the Integrated Report. The current guidance requires the categorization of all state waters into 5 assessment categories.

Category 1 - Waterbody or segment of a waterbody attained all its designated uses and no use is threatened.

Category 2 - Waterbody or segment of a waterbody attained some but not all of their designated uses.

Category 3 - Insufficient data or information to determine designated use attainment in a waterbody or segment of a waterbody.

Category 4 - Waterbody or segment of a waterbody with at least one designated use impaired but a TMDL is not needed. DC developed subcategories as further described:

- Subcategory 4A- Waterbody or segment of a waterbody for which TMDLs for pollutants causing impairments have been approved or established by U.S. EPA may be placed in this category.
- Subcategory 4B- Waterbody or segment of a waterbody for which other pollution controls are expected to result in water quality standard attainment in a reasonable period of time.
- Subcategory 4C- Waterbody or segment of a waterbody for which TMDLs are not required. Impairment is not caused by a pollutant.

Category 5 - Waterbody or segment of a waterbody with at least one designated use not attained or threatened and a TMDL is needed.

The 2012 Section 303(d) list of impaired waters in the District of Columbia includes the Potomac River which falls under Category 5. The Potomac River was divided into three segments and the Kennedy Center project area falls within Segment 2 (Key Bridge to Hains Point). This segment was determined to be non-supporting for the following uses: Protection and Propagation of Fish, Shellfish, and Wildlife; and Protection of Human Health Related to Consumption of Fish and Shellfish (DDOE 2012). The District listed this segment of the Potomac River as impaired for the following pollutant constituents: pH, fecal coliform bacteria, organics, and Polychlorinated Biphenyls (DDOE 2012). The EPA reports that a TMDL is needed for these non-supporting uses (EPA 2013b).

In addition to pollutants of the Potomac River with TMDL status, excess sediment is a pollutant of concern. Sources of excessive sediments include eroded land and stream banks within the watershed. Erosion hazard increases where vegetation is cleared for agriculture and development. Excess sediments cause poor water quality conditions by burying bottom dwelling plants and animals, preventing underwater grass growth, transporting nutrients and pathogens, and elevating water temperature (USGS 2005). In order to limit the transport of sediments to open waters, the District requires approval of an erosion and sediment control plan for all projects resulting in 50 square feet or more of land disturbance (DCMR Title 21, Chapter 5).

FLOODPLAINS

The project area is entirely located within the 100-year floodplain of the Potomac River as shown on the FEMA Flood Insurance Rate Map (FIRM), Panel Number 1100010018C, dated September 27, 2010 (Figure 15). The 100-year flood elevation at this location is at 15 feet above mean sea level (msl). As a reference, the top of the seawall is at approximate elevation of 8.4 feet msl, and the RCPP is at approximate elevation of 12 feet msl. The Kennedy Center building itself is located above the 100-year flood elevation, but the project area located south of the Kennedy Center, including the south parking lot, is located within the 100-year floodplain.

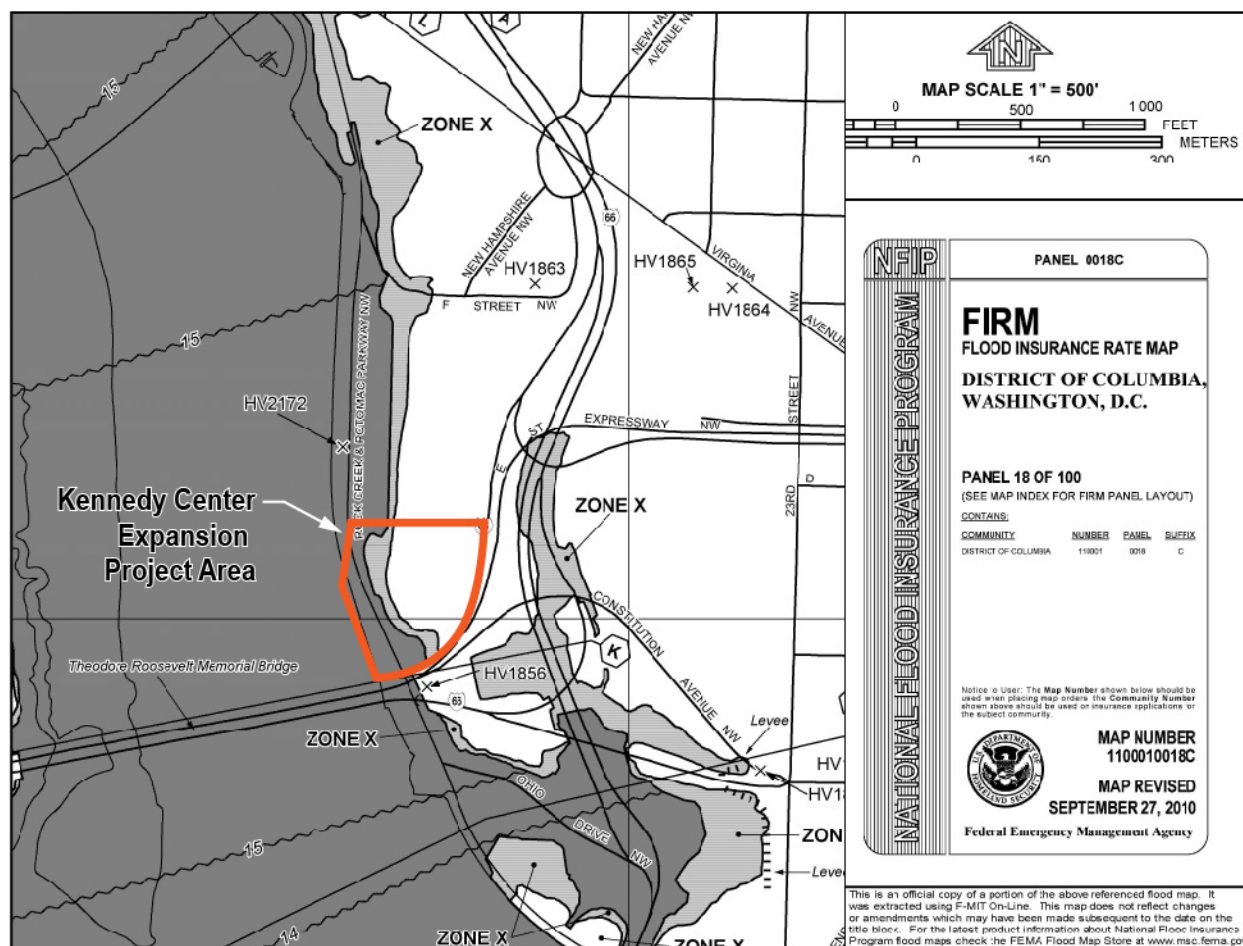


Figure 15: FEMA Floodplain Map

The functional value of the project area floodplain is minimal, in that the area has already been developed with the Potomac River seawall, the RCPP, the Rock Creek Paved Recreation Trail, and the Kennedy Center. Due to these man-made features, many natural functions of the floodplain cannot be carried out including providing flood storage, providing flood conveyance, providing habitat, reducing excessive erosion, trapping sediments, and removing pollutants from waters.

RARE, THREATENED, AND ENDANGERED SPECIES

Coordination with federal and DC agencies was conducted to investigate the presence of threatened and endangered species in the vicinity of the project area. Details of agency coordination efforts are provided in Chapter 5 of this Environmental Assessment. Based on consultation received from the National Marine Fisheries Service (NMFS), two federally listed fish species are known to occur in the Potomac River. The NMFS reported that all five distinct population segments (DPSs) of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*), and the shortnose sturgeon (*Acipenser brevirostrum*) are known to occur in the Potomac River.

The shortnose sturgeon is federally listed as endangered. Four DPSs of the Atlantic sturgeon are listed as endangered: the Chesapeake Bay, New York Bight, Carolina, and South Atlantic populations. The fifth DPS of the Atlantic sturgeon, the Gulf of Maine, is listed as threatened (NOAA 2012).

SHORTNOSE STURGEON

The shortnose sturgeon was listed as endangered in 1967 and was included on the endangered species list in 1973 upon enactment of the Endangered Species Act of 1973 (Figure 15). Continued threats to the species at the time of listing included pollution, habitat loss and overharvesting (NMFS 1998). No critical habitat has been designated for shortnose sturgeon.



Figure 16: Shortnose sturgeon (*Acipenser brevirostrum*)
(Source: Maryland Department of Natural Resources)

Shortnose sturgeon habitat varies depending on life stage, but they spend part of their time in freshwater reaches of tidal rivers throughout all life-history phases. Although classified as anadromous, shortnose sturgeon spend only a limited amount of time at sea and do not venture far offshore.

Correspondence from NMFS reveals that twelve shortnose sturgeons have been captured in the Potomac River since 1996. The captures were documented in the following locations: six at the mouth of the river; one at the mouth of the St. Mary's River; one at the mouth of Potomac Creek; one at river kilometer (rkm) 63; one at rkm 57 (Cobb Bar); one at rkm 48; and one at rkm 103. Based on this information, the nearest capture was approximately 60 rkm downstream of the Kennedy Center project site, which is located at approximately rkm 179. Figure 17 provides a general map of the Potomac River, showing the approximate river kilometers.

Recent studies to determine the status of the shortnose sturgeon in the Potomac River include a three year field study (2004-2007) conducted for the National Park Service (Kynard, et.al., 2007). The study was conducted for a 100 km length of the Potomac River from the Little Falls Dam just north of Washington, DC to the Port Tobacco River. Sampling was performed using gill nets during a three year sampling effort, and one shortnose sturgeon, an adult female, was captured in 2005 near

Craney Island. A second shortnose sturgeon, an adult female, was captured in 2006 by a commercial fisherman at rkm 63 (downstream of Route 301, Harry Nice Bridge) and was held and turned over to the research team. Both of these captured shortnose sturgeon were telemetry tagged and released back into the river. The tracking of the fish for a 2-year period (September 2005 through June 2007) indicated that both sturgeons remained in the Potomac River for the entire year. Based on the tracking of the two shortnose sturgeon in 2006 and 2007, the summer, fall and winter river habitat used by both shortnose sturgeons was in the vicinity of, and downstream of, Craney Island. One of the females traveled upstream to the Little Falls area (rkm 187) in April 2006 in an apparent spawning run. This adult shortnose sturgeon would have passed through the river reach adjacent to the Kennedy Center during this run. As part of this multi-year study, characteristics associated with suitable spawning habitat (such as bottom velocities, depth, and substrate type) were identified in the Potomac River downstream of Little Falls Dam and in the Fletchers-Chain Bridge reach, approximately 5 rkm upstream of the Kennedy Center.



Figure 17: River Kilometer Map

Based on review of the available information, shortnose sturgeon are known to occur in the Potomac River in the vicinity of the Kennedy Center, but the likely occurrence is limited to the spring months when spawning occurs.

ATLANTIC STURGEON

Numbers of the Atlantic sturgeon in the Chesapeake Bay are extremely low compared to historical levels (Figure 18). Only one known spawning population of the species exists in the region, in the James River. Recent sighting of the Atlantic sturgeon in the Potomac dates back to 1970, where one large mature female was documented by the Maryland Department of Natural Resources (Atlantic Sturgeon Status Review Team, 2007). Currently, Atlantic sturgeon are known to spawn in the James River (NOAA 2013). Historic spawning habitat is thought to exist in the Potomac River and Atlantic sturgeon have been recorded in the Potomac River in recent years.



**Figure 18 : Atlantic sturgeon
(*Acipenser oxyrinchus*)**
(Source: Chesapeake Bay Program, 2011)

CULTURAL RESOURCES

The National Historic Preservation Act of 1966 (16 USC 470) governs Federal agencies in their handling of historic properties. Under Section 106 of the Act and its implementing regulations (36 CFR Part 800), the NPS and NCPC are required to take into account the effects of their undertakings on historic properties. Historic properties, as defined in 36 CFR Part 800.16, are any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. This term includes artifacts, records, and remains that are related to and located within such properties, as well as culturally significant Native American sites and historic landscapes.

To be eligible for listing in the NRHP, a property must meet at least one of four Criteria for Evaluation issued by the U.S. Department of the Interior. The NRHP Criteria are defined as follows:

- Criterion A: Properties associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion B: Properties associated with the lives of persons significant in our past;
- Criterion C: Properties that embody the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components lack individual distinction; and
- Criterion D: Properties that have yielded, or are likely to yield, information important in prehistory or history.

Historic properties may meet these criteria at the national, state, or local levels. Additionally, in order for a property to be listed in the NRHP, it must possess integrity, or the ability to convey its significance. The NRHP recognizes seven qualities that, in various combinations, define integrity: location, design, setting, materials, workmanship, feeling, and association.

AREA OF POTENTIAL EFFECTS

An Area of Potential Effects (APE), as defined in 36 CFR Part 800.16, is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. An APE for the Kennedy Center Expansion Project was identified by the NPS and NCPC, in consultation with the DC HPO. The APE includes the cultural resources that could be impacted as a result of the undertaking, as well as the area from which the project site is readily visible. The APE boundaries are roughly the Whitehurst Freeway and Virginia Avenue NW, on the north; 23rd Street NW, and the Lincoln Memorial Circle on the east; the Arlington Memorial Bridge, Memorial Avenue, Jefferson Davis Highway (Route 110), and Marshall Drive on the south; and N. Meade Street, Arlington Boulevard (Route 50), the George Washington Memorial Parkway, and the Francis Scott Key Bridge on the west. A graphic illustration of the APE is found in Figure 19.

The APE encompasses areas in the District of Columbia and Virginia and includes cultural resources that could potentially be directly or indirectly affected by the undertaking. The NPS categorizes their cultural resources as archeological resources, cultural landscapes, historic districts and structures, museum objects, and ethnographic resources. The cultural resources within the APE include: Arlington Memorial Bridge and Related Structures, Arlington Ridge Park, East and West Potomac Parks Historic District, George Washington Memorial Parkway, Georgetown Historic District, John F. Kennedy Center for the Performing Arts, Lady Bird Johnson Park, Lincoln Memorial, Lincoln Memorial Grounds, Memorial Avenue Corridor, Old Naval Observatory, Potomac Annex Historic District, RCPP, Theodore Roosevelt Island, and the Watergate.

In 2014, Phase 1A archaeological investigations were conducted for the Kennedy Center Expansion Project (Stantec 2014). The investigations concluded that there is no potential for archaeological resources associated with the river pavilion. The investigations also concluded that, as currently proposed, all excavations associated with the terrestrial portion of the proposed Kennedy Center Expansion Project would be limited to fill deposits and are not expected to impact archaeological resources (Stantec 2014). If construction excavations continue to the depth of fill or below, geoarchaeological investigations would be conducted to determine whether intact land surfaces are present below fill. If such land surfaces are present and would be impacted by construction associated with the Kennedy Center Expansion Project, a program of archaeological investigations to identify, evaluate, and mitigate any adverse effects to archaeological resources present should be implemented.

Section 106 requires coordination with federally recognized Indian tribes who may have potential religious or cultural interests in the project area and acknowledges that tribes may have interest in geographic locations other than their seat of government. As such, on October 28, 2013, the Delaware Nation was invited to participate in the Section 106 consultation for the Kennedy Center Expansion Project, and the NPS, NCPC, and Kennedy Center met with the Delaware Nation on November 25, 2013, to discuss the project. Subsequently, Phase 1A archaeological investigations determined that no known American Indian traditional cultural properties exist within the study area. A copy of the Phase 1A archaeological report was submitted to the Delaware Nation on May 7, 2014. To date, no additional American Indian resources have been identified through consultation with the Delaware Nation. Therefore, only potential impacts on cultural landscapes and historic properties, including buildings, sites, structures, and districts, have been evaluated for this project.

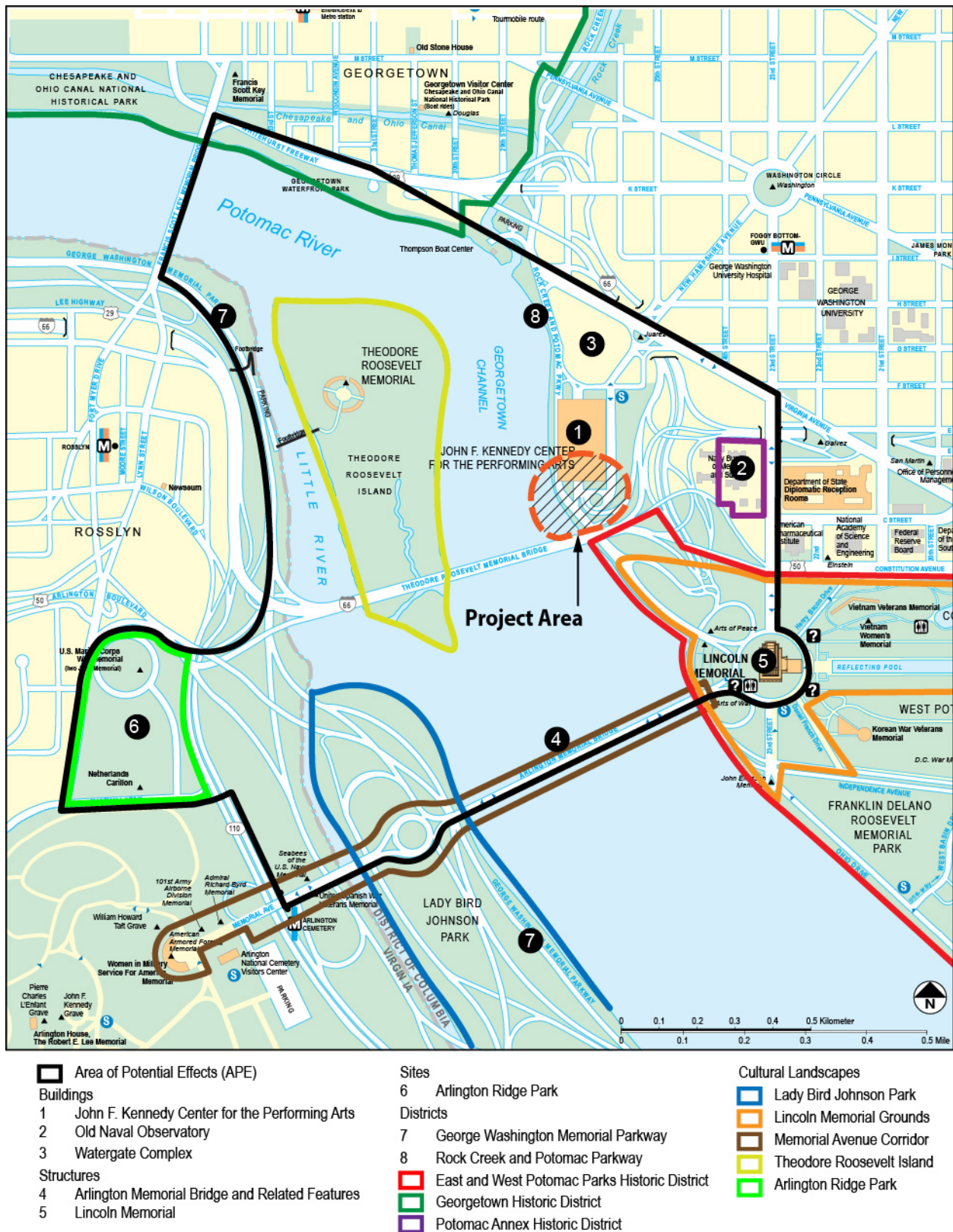


Figure 19: Cultural Resources and Area of Potential Effects

CULTURAL RESOURCES

The list of cultural resources within the Kennedy Center Expansion Project APE was compiled based on a review of existing documentation and through consultation with the DC HPO. Resource types include: properties in the District of Columbia Inventory of Historic Places and the Virginia Landmarks Register; properties, districts, and cultural landscapes listed in or determined eligible for listing in the National Register of Historic Places; National Historic Landmarks; National Monuments; and National Historic Parks. The cultural resources identified within the Kennedy Center Expansion Project APE are described below with cultural landscapes identified separately at the end of the section.

Arlington Memorial Bridge and Related Structures

Spanning the Potomac River at the western terminus of the National Mall, the Arlington Memorial Bridge was authorized by Congress in 1916 and constructed between 1926 and 1932. The bridge is built of reinforced concrete faced with granite. The bridge complex was designed by McKim, Mead & White in the Neoclassical style and features sculptural elements by artists Alexander P. Proctor, Carl Paul Jennewein, and Leo Friedlander. The southern terminus of the RCPP was constructed concurrently with the bridge and enters the Lincoln Memorial Circle at the northwest. The area between the parkway terminus and the bridge is the Watergate, a broad flight of steps leading to the water that serves as a ceremonial river entrance to the city. At its western end, the Arlington Memorial Bridge complex includes Columbia Plaza, the circular plaza on Columbia Island; the Boundary Channel Bridge, which connects Columbia Island with the Virginia shore; and Memorial Avenue and Hemicycle, the ceremonial entrance to Arlington Cemetery. By connecting the Lincoln Memorial with the Arlington House, the Arlington Memorial Bridge represents a symbolic link between the North and the South. The bridge and its associated architectural, engineering, sculptural, and landscape features are significant as important elements in the early 20th-century Beaux Arts urban design of the National Capital. The Arlington Memorial Bridge and Related Structures (including the Watergate, RCPP Terminus, Columbia Plaza, Boundary Channel Bridge, and Memorial Avenue and Hemicycle) were listed in the DC Inventory of Historic Sites on November 8, 1964, and in the NRHP on April 4, 1980.

Arlington Ridge Park

Arlington Ridge Park is a 27.5-acre site situated on a ridge above the Potomac River. The park lies to the north of Arlington National Cemetery in Arlington, Virginia, and contains two major memorials set within two distinct landscape treatments. The United States Marine Corps War Memorial, dedicated in 1954, is located within the formal northern section of Arlington Ridge Park, and the Netherlands Carillon, dedicated in 1960, lies in the picturesque southern section. The United States Marine Corps War Memorial features a monumental bronze sculpture by Felix de Weldon depicting the iconic World War II photograph of the raising of the flag on Iwo Jima. The sculpture rests on an octagonal granite base set within a composition of elevated plaza, parade ground, reviewing stand, paths, and road designed by architect Horace Peaslee. The Netherlands Carillon was designed by Dutch architect Joost W.C. Boks and was presented as a gift from the people of the Netherlands to the people of the United States in gratitude for American aid given during and after World War II. Arlington Ridge Park is significant as a unit of the George Washington Memorial Parkway, as a contributing feature of the National Mall viewshed (as the Mall's western terminus), and for its

exceptional commemorative associations with World War II. Arlington Ridge Park was listed in the Virginia Landmarks Register on December 18, 2008, and in the NRHP on September 4, 2009.

East and West Potomac Parks Historic District

The East and West Potomac Parks Historic District encompasses approximately 730 acres of parkland, including a large portion of the District's monumental core. Situated roughly between the Potomac River and the grounds of the Washington Monument, the East and West Potomac Parks Historic District is characterized by broad expanses of open space framed by mature landscape plantings and views of major memorials that have become part of the American collective memory. The parks provide the setting for nationally recognized memorials such as the Lincoln Memorial and Reflecting Pool, the Jefferson Memorial, the Franklin Delano Roosevelt Memorial, and the Vietnam Veterans and Women's Memorials, among others. The large land masses that are today East and West Potomac Parks were sculpted from tidal flats by the USACE in an ambitious reclamation project that lasted over thirty years. The reclaimed land became parkland that has been shaped by a number of development plans – most notably the Senate Park Commission (McMillan) Plan of 1901-02, the nation's first major manifestation of the City Beautiful movement. The East and West Potomac Parks Historic District includes three contributing buildings, 11 contributing sites, 11 contributing structures, and 10 contributing objects. The East and West Potomac Parks Historic District was listed in the DC Inventory of Historic Sites on November 8, 1964, and in the NRHP on November 30, 1973 (revised 2001).

George Washington Memorial Parkway

The George Washington Memorial Parkway (GWMP) is a national parkway of over 7,000 acres traversed by a planned and landscaped roadway system that extends 38.3 miles along the Potomac River through the District of Columbia, Virginia, and Maryland. Initially conceived as a memorial to George Washington, the parkway was authorized by Congress in 1928, with construction starting in 1929. The parkway serves as a grand entryway to the nation's capital and preserves the Potomac River and its watersheds. The parkway comprises 27 sites replete with natural and cultural resources. While some of these sites were included in the original parkway authorization, others such as Theodore Roosevelt Island and the Arlington House were separately legislated and incorporated. Approximately nine million visitors use the parks of the GWMP annually, including the national and international monuments and memorials, natural and recreational areas, trails, a living history farm, historic homes, and an arts and crafts park. These sites, while each possessing a distinct history and individual merits, are united by the parkway and together represent broad themes in the nation's history. The GWMP was listed in the Virginia Landmarks Register on October 8, 1981, and in the NRHP on June 2, 1995.

Georgetown Historic District

Established by the Old Georgetown Act of September 22, 1950, the Georgetown Historic District represents a remarkably intact example of a complete historic town. The historic district encompasses approximately 340 contributing buildings dating from the period of significance, which extends nearly 200 years from 1751 to 1950. Building stock dates from several historical periods, including Early Georgetown (1751-1829), when the area flourished as a tobacco port town and shipping center; Early to Mid-Victorian Georgetown (1830-1869), when extensive industrial and commercial growth occurred along the waterfront; Late Victorian Georgetown (1870-1899), the

period following the consolidation of Georgetown into the city of Washington when vast infrastructure improvements were made; and Early 20th Century Georgetown (1900-1949), which saw the first housing restoration efforts and culminated in the passage of the Old Georgetown Act. The district includes representative samples of residential, commercial, institutional, and industrial buildings from all periods and contains many of the city's oldest buildings. The Georgetown Historic District was listed in the DC Inventory of Historic Sites on November 8, 1964, and designated a National Historic Landmark and listed in the NRHP on May 28, 1967 (amended 2003).

John F. Kennedy Center for the Performing Arts

The Kennedy Center has the unique distinction of serving as both a national performing arts center and as the only presidential memorial to John F. Kennedy in the Nation's Capital. It is situated on an eminent site overlooking the Potomac River at the western edge of the District's monumental core. The Kennedy Center is one of the nation's busiest arts facilities, producing and presenting a wide variety of performances and leading the nation in arts education and accessibility. It was designed by 20th-century master architect Edward Durell Stone and was constructed between 1964 and 1971. The Kennedy Center possesses exceptional significance as the sole national memorial to President John F. Kennedy within the National Capital and its environs. The Kennedy Center also possesses exceptional significance as an important example of the work of Edward Durell Stone, a nationally recognized architect of the Modern Movement, and as a public monument to President John F. Kennedy that is immediately recognizable as one of the nation's most iconic memorials.

Character-defining features of the Kennedy Center include intangible attributes of the building's aesthetic composition such as its bilateral symmetry; long, low horizontality; hierarchical facades; and clear, geometric form. Exterior contributing features include the thin-clad marble curtain walls; the size and location of the glass curtain walls; the roof overhang and marble-paneled fascia; the exterior columns (including penthouse columns); the stage access doors; the bronze wall signage; the engraved quotations on the west facade; the West Terrace footprint and cantilevered structure; the marble panels of the north, west, and south fascia of the West Terrace; the shape and location of the planting boxes and water features of the West Terrace; the West Terrace perimeter wall plantings; the vertical paired openings on the north, south, and center bays of the east facade; the size and location of the Entrance Plaza water features; the Entrance Plaza public art; and the louvered vents, penthouse roof overhang, and marble-paneled fascia of the Roof Terrace. Because the building was completed in 1971 and is a congressionally designated presidential memorial, National Register Criterion Consideration F, for commemorative properties, and National Register Criterion Consideration G, for properties less than fifty years old, were applied in evaluating the building. The focus of this determination of eligibility is the building exterior. Thus, the evaluation of integrity and list of character-defining features address only exterior elements. The Kennedy Center was determined eligible for the NRHP by the DC HPO on February 13, 2012.

Lincoln Memorial

The Lincoln Memorial, located in West Potomac Park near the east bank of the Potomac River, was designed by architect Henry Bacon and represents a masterful reinterpretation of the Greek temple for a 20th-century monument. Constructed between 1914 and 1922 of Colorado marble and Indiana limestone, the memorial's central hall features a marble statue of Lincoln by renowned sculptor Daniel Chester French. Other features include a peripteral colonnade composed of fluted Doric columns and an ornamented attic frieze inscribed with the names of the 36 states in the Union at the

time of Lincoln's death. The memorial rests on an elaborate landscaped and terraced base with monumental steps descending east toward the Reflecting Pool. The Lincoln Memorial established the formal terminus of the Senate Park Commission (McMillan) Plan's extended Mall and has provided the setting for major events of the Civil Rights movement, including the 1939 Easter concert by Marion Anderson and the "I Have a Dream" address by Martin Luther King, Jr., during the 1963 March on Washington. The Lincoln Memorial was listed in the DC Inventory of Historic Sites on November 8, 1964, and in the NRHP on October 15, 1966 (documented March 24, 1981). The Lincoln Memorial is also listed in the NRHP as a contributing feature of the East and West Potomac Parks Historic District.

Old Naval Observatory

The Old Naval Observatory (originally the Depot of Charts and Instruments) is the oldest building within the Potomac Annex Historic District (see below). Built between 1842 and 1844 for a very specialized scientific use, the Naval Observatory was designed in a symmetrical, classically inspired style typical of government architecture of the period. Later additions and alterations were made to adapt the building for new scientific equipment and a series of changing uses. By the late 19th century, atmospheric conditions at the Foggy Bottom site had become unsuitable for astronomical observations, and, in 1893, the Naval Observatory was moved to a new location in the hilly terrain north of Georgetown. The following year, the Secretary of the Navy designated the former observatory site as the new home of the Navy Museum of Hygiene and extensive alternations were made to the building. Another major expansion occurred in 1902 when the Naval Medical School moved to the building from Brooklyn, New York. The Old Naval Observatory is significant for its historic contributions to the interconnected fields of astronomy, navigation, and timekeeping, as well as hydrography and oceanography. As the location of the Navy Museum of Hygiene and the Naval Medical School, the building is also significant for its association with the training of naval medical personnel and research into medical topics of particular interest to the Navy. The Old Naval Observatory was listed in the DC Inventory of Historic Sites on November 8, 1964, in the NRHP on October 15, 1966, and was designated a National Historic Landmark on January 12, 1965. The Old Naval Observatory is also listed in the NRHP as a contributing feature of the National Register-eligible Potomac Annex Historic District.

Potomac Annex Historic District (Washington Naval Hospital)

The Potomac Annex Historic District encompasses a complex of former Navy buildings located on a prominent hill overlooking the Potomac River in Foggy Bottom. The site is roughly bound by E Street NW, on the north, 23rd Street NW, on the east, a highway onramp leading to Route 66 on the south, and a fence dividing the property from an adjacent government complex to the west. Since the establishment of the Naval Observatory on the site in 1842, the Potomac Annex Historic District has been the home of significant naval institutions that have made important contributions to the scientific fields of astronomy, timekeeping, navigation, oceanography, hygiene, and medicine. After the Naval Observatory was relocated to its present location in 1893, the site was converted for use as the Naval Museum of Hygiene, the Naval Medical School, and the Washington Naval Hospital (or Naval Medical School Hospital). Contributing buildings and features within the district include the Old Naval Observatory (Building 2), the main medical buildings of the old Naval Hospital (Buildings 3 and 4), the buildings associated with the early 20th-century hospital complex (Building 1, 5, 6, and 7 and Quarters A, B, and C), the Benjamin Rush Statue, and several key site features. The Potomac

Annex Historic District was determined eligible for the NRHP by the DC HPO on September 12, 2001.

Rock Creek and Potomac Parkway

Rock Creek and Potomac Parkway Historic District, U.S. Reservation 360, occupies the gorge and rim of the lower Rock Creek Valley and a stretch of land along the Potomac River waterfront. The district comprises approximately 173 acres in the northwest quadrant of Washington, DC. Plans for the parkway were initiated as early as 1867, but did not gain momentum until the Senate Park Commission included the reservation in its 1901 plans for the National Mall and surrounding environs. In 1913, the parkway was officially authorized to provide a landscaped connection between the Mall and Potomac Park (later renamed East and West Potomac Parks) and the already established Rock Creek Park and National Zoo. The parkway comprises a major component of the District's comprehensive park system developed following City Beautiful ideals during the early twentieth century. Originally built for horse-drawn carriages, horseback riders, pedestrians, and the occasional automobile, the Rock Creek and Potomac Parkway was one of the earliest parkways in the nation and the first federally funded road. The parkway experienced numerous design changes to facilitate growing automobile use during the early 1900s. The Rock Creek and Potomac Parkway is listed in the NRHP as a historic district under the multiple property listing "Parkways of the National Capital Region, 1913-1965." The parkway is significant under Criteria A and C in the areas of community planning and development, landscape architecture, architecture, and recreation during the period 1791 to 1951.

The circulation network, comprising the historic roads and trails built between 1831 and 1941, is a contributing resource to both the Rock Creek Park Historic District and the Rock Creek and Potomac Parkway Historic District. Although the NRHP documentation cites the trail network as significant, it does not specifically determine which trails are contributing resources. According to NRHP documentation, the spine of the circulation system, the multiuse trail, extends along the western side of the Rock Creek and Potomac Parkway, following the path of the primary historic bridle trail. In addition to the existing alignment, this study has identified at least eleven other known footpaths and bridle paths that traverse this area. The Rock Creek Park and Potomac Parkway Historic District was listed in the DC Inventory of Historic Sites on November 8, 1964, and in the NRHP on May 4, 2005.

Watergate

The Watergate consists of a complex of six interconnected buildings designed by Modernist architect Luigi Moretti and constructed between 1964 and 1971 on land adjacent to the RCPP overlooking the Potomac River. The Watergate was the site of one of the biggest scandals in modern United States history, which forced the resignation of President Nixon on August 9, 1974. The Watergate also possesses exceptional architectural significance as an outstanding and innovative example of the Modern Movement in Washington, DC. The landscape design by Boris Timchenko accentuates the Modernist building with plantings, fountains, and pools on terraces with unimpeded views of the river. The periods of significance include 1964 to 1971, the period in which the complex was constructed, and 1972, the year of the Watergate break-in. The Watergate was listed in the DC Inventory of Historic Sites on February 24, 2005, and in the NRHP on October 12, 2005.

CULTURAL LANDSCAPES

Lady Bird Johnson Park

Lady Bird Johnson Park is a 157-acre island located along the Virginia shore of the Potomac River, directly across from West Potomac Park in Washington, DC. The park, originally known as Columbia Island, was created from material dredged from the Potomac River to fulfill the construction needs of the Arlington Memorial Bridge and Mount Vernon Memorial Highway. Columbia Island was added to the capital's park system in 1922, and early landscaping plans proposed combining the formal, ceremonial elements of the Arlington Memorial Bridge composition with naturalistic park-like treatment in the surrounding areas and the shoreline. Later, a revised landscape plan was conceived under the Johnson administration's Beautification Program. The plan was developed by landscape architect Edward D. Stone, Jr., and followed a simple, modern design based on picturesque landscape aesthetics. Today the park is traversed by a complex system of roadways, and two monuments are located at the park's southern end – the Navy-Marine Memorial and the Lyndon Baines Johnson Memorial Grove. Lady Bird Johnson Park has a period of significance from 1915 to 1979. The DCHPO concurred with the findings of the Lady Bird Johnson Cultural Landscapes Inventory on March 24, 2005, in accordance with Section 110 of the NHPA.

Contributing circulation features of Lady Bird Johnson Park within the APE include Memorial Circle and the GWMP. Contributing vegetation features include: all of the Stone planting plan; cottonwoods; crabapple, pear and elm trees remaining from the 1932 planting; daffodils; dogwoods; and the large white pines near the pylons. Contributing buildings and structures within the APE include: Arlington Memorial Bridge; Arlington Memorial Bridge Boundary Channel Extension; Little River Inlet Bridge; the four pylons of Memorial Circle; the westbound U.S. Route 50 overpass; and the Mount Vernon Bike Trail Bridge. Contributing views and vistas include: views from GWMP and Washington/Arlington Boulevard to daffodil beds and flowering dogwoods; views from Memorial Circle east to the Lincoln Memorial, west to Arlington House and Arlington National Cemetery, north up the island, and south down the island; and views along the Mount Vernon Trail near the Potomac River shore and corresponding views from northbound and southbound GWMP. The following views from GWMP northbound are contributing: views north along the Virginia Shore and the Virginia corridor of the GWMP; views north of Arlington Memorial Bridge to Roosevelt Island, the DC shoreline, and the Kennedy Center; and views to the Washington shoreline and the National Mall. The following views from GWMP southbound are contributing: views to the island's shoreline and river and views of the Washington shoreline. The following Small-Scale Features within the APE are contributing: the GWMP wooden guardrails and the Mount Vernon Trail NPS benches. Contributing constructed water features within the APE include Boundary Channel.

Lincoln Memorial Grounds

The Lincoln Memorial grounds encompass 94 acres of West Potomac Park and are a major element of the system of public buildings, parks, memorials, bridges, and drives that constitutes the monumental core of Washington, DC. The Senate Park Commission (McMillan) Plan of 1901-02 defined a vision for the area that included parks and memorials to great men and important events in American history. The Lincoln Memorial was the first such memorial to be constructed. It was sited along the major east-west axis that extends from the Capitol to the Washington Monument as laid out in the L'Enfant Plan. The park-like grounds of the commemorative landscape surrounding the Lincoln Memorial were mostly designed to be used for passive recreation. The Lincoln Memorial

grounds have national significance as an essential part of the Senate Park Commission (McMillan) Plan, one of the most successful implementations of the City Beautiful movement. The Lincoln Memorial is significant for its association with Abraham Lincoln and Martin Luther King, Jr., and as an important example of the classicism of the Beaux Arts style.

Contributing views and vistas of the Lincoln Memorial grounds within the APE include: the reciprocal vista between the Lincoln Memorial and Arlington House across the Arlington Memorial Bridge; the vista from and to Parkway Drive; and the fan-shaped vista from the Lincoln Memorial west to the Virginia shoreline and the opposite view from the shoreline to the Lincoln Memorial. Contributing vegetation features include: Watergate area planting on both sides of each approach road; the row of American elms on the northeast side of Parkway Drive; the intact planting bed at the Constitution Avenue terminus; the riparian planting along the Potomac River shoreline; and the grass strip along the Potomac River shoreline. Contributing circulation features include: Lincoln Circle, the Arlington Memorial Bridge; Parkway Drive; Ohio Drive; the remnant Constitution Avenue terminus; the sidewalks on both sides of Arlington Memorial Bridge and Parkway Drive; the sidewalk at top of Watergate steps; and the paths on both sides of Ohio Drive at base of Watergate steps. Contributing structures of the Lincoln Memorial grounds within the APE include: the Arlington Memorial Bridge abutment; the Watergate steps; the Parkway Drive abutment; the statuary on the approach pedestals (Valor, Sacrifice, Music and Harvest, and Aspiration and Literature); and the Watergate plaza wing walls. Contributing small-scale features include: the Washington Globe lamp posts on Arlington Memorial Bridge, Parkway Drive, and Ohio Drive; the granite Watergate steps; and the granite block pavers at the base of the Watergate steps.

Memorial Avenue Corridor

The Memorial Avenue corridor is a mile-long axial landscape that includes the Arlington Memorial Bridge, Memorial Circle, Memorial Avenue Bridge (over Boundary Channel), Memorial Avenue, and the entrance to Arlington National Cemetery. Basic elements of the Memorial Avenue corridor were first articulated in the 1901 Senate Park Commission (McMillan) Plan of 1901-02. With the exception of Memorial Circle, the work of parkway designer Gilmore D. Clarke, the corridor was designed by McKim, Mead & White under project architect William Mitchell Kendall. Conceived as a grand entryway to Arlington Cemetery, it is a major element of the system of public buildings, parks, memorials, bridges, and drives that constitutes the monumental core of Washington, DC. The composition is Neoclassical in design, and landscape features are, for the most part, formal in style. The corridor is significant for its embodiment of the ideals of the City Beautiful movement. The bridge and its features also represent the work of several masters, particularly the architects William Mitchell Kendall and Charles Follen McKim. The Virginia State Historic Preservation Office (VASHPO) concurred with the findings of the Memorial Avenue Corridor Cultural Landscapes Inventory on July 19, 2004, in accordance with Section 110 of the NHPA. The DC HPO concurred with the findings on August 16, 2004.

Contributing buildings and structures of the Memorial Avenue corridor within the APE include: the Arlington Memorial Bridge; the Arts of War (Sacrifice) and the Arts of War (Valor); the Memorial Avenue (Boundary Channel) Bridge; and the Memorial Circle Pylons. Contributing circulation features within the APE include: Memorial Circle; the pedestrian system on the two bridges and avenue; and the pedestrian walks around Memorial Circle. Contributing small-scale features within the APE include: the “Durax” centerline of Memorial Avenue and both bridges; the original cast-iron inlet grates along both bridges and Memorial Avenue; the granite block “Durax” surface of the

Memorial Avenue Bridge; the granite curbstones; the granite header stones at the ends of bridges; the granite lamp post bases, the sidewalk paving on the two bridges and avenue, the triangular “islands” of granite blocks at the east and west ends of Memorial Circle; and the Washington standard lamp posts. Contributing vegetation features within the APE include the white pines at the four pylons near Memorial Circle. Contributing views and vistas include: views of the green parkland along both sides of the Potomac from Arlington Memorial Bridge and views to the river, Capitol dome, and other landmarks of the Capital from Memorial Circle. Contributing constructed water features within the APE include Boundary Channel.

Theodore Roosevelt Island

Historically, Theodore Roosevelt Island was a natural passage across the Potomac River and a locus of commercial and transportation activity. In 1932 the island, which measures approximately 90 acres, was transferred to the federal government to serve as a national memorial to President Theodore Roosevelt. Landscape architect Frederick Law Olmsted, Jr., along with architect John Russell Pope prepared plans for the memorial. The overall goal of the plan was the establishment of a native woodland which would memorialize Theodore Roosevelt for his achievements as a leader in conservation policy and commemorate the primeval forest of the Potomac River valley. In 1967, a large open-air architectural monument commemorating Roosevelt was completed on the northern end of the island. Roosevelt Island is unique among presidential memorials in its commemoration of a specific area of presidential achievement and in its development primarily as a living landscape memorial. The island has multiple periods of significance (1749-1833, 1861-1865, and 1931-present) and is important as a cultural landscape design of famed landscape architect Frederick Law Olmsted, Jr., as an integral part of the Senate Park Commission (McMillan) Plan of 1901-02, and as an important addition to the landscape setting of the National Mall. Theodore Roosevelt Island was listed in the DC Inventory of Historic Sites on November 8, 1964, and in the NRHP on October 15, 1966. In addition, the DCHPO concurred with the findings of the Theodore Roosevelt Cultural Landscapes Inventory on September 16, 2012, in accordance with Section 110 of the NHPA.

Contributing circulation features of Theodore Roosevelt Island include the Woods Trail, the Upland Trail, the Swamp Trail, the North Transverse Trail, and Remnants of the Causeway. Contributing buildings and structures include the Theodore Roosevelt Memorial, including the monoliths “Youth,” “Manhood,” “The State,” and “Nature,” the benches, pools, and plaza; the Theodore Roosevelt Island bridges; the Theodore Roosevelt Island fountains; the Mason House and Mason Ice House ruins; the wharf ruins on the north shore; and the ruin of the boat or scow on the east side of the island. Contributing small-scale features include two low stone retaining walls and the benches in memorial plaza. Contributing vegetation features include the plans associated with the Olmsted Jr. plan and the plants associated with the original plaza. Contributing land use features include the use of the site as a presidential memorial and the use of the site to experience nature. Contributing topographic features include the topography dating back to Olmsted, Jr. Contributing views and vistas include views within and across the plaza. Contributing constructed water features include the large moats and pools adjacent to the plaza.

VISITOR USE AND EXPERIENCE

The Kennedy Center was constructed in 1971 and is the nation’s living memorial to President John F. Kennedy. The Kennedy Center is one of the nation’s busiest arts facilities and attracts audiences and visitors totaling three million people and provides more than 2,000 performances annually. The

Kennedy Center's touring productions and its television, radio, and Internet broadcasts reach more than 40 million people around the world each year (Kennedy Center 2014). The Performing Arts for Everyone program offers more than 400 free performances each year that feature international, national, and local artists. These performances include concerts on the Millennium Stage in the Grand Foyer of the Kennedy Center at 6:00 p.m., 365 days a year.

Visitors arrive at the Kennedy Center from several routes. Pedestrian access to the Main level (first floor) is provided by the North Plaza and the Entrance Plaza on the east side of the building. The Rock Creek Paved Recreation Trail, west of the building, is a pedestrian and bicycle path that connects the area with other District attractions such as the National Mall and Georgetown. Pedestrians and bikers are also able to access the Kennedy Center via an asphalt connection from Interstate 66 that was created when the parking garage was constructed. The Foggy Bottom/George Washington Metro station at 23rd and I Streets is a short walk to the Kennedy Center. Visitors travelling via Metro that do not wish to walk can use the free Kennedy Center Shuttle which departs every 15 minutes from the Foggy Bottom Metro station. Visitors arriving by personal vehicles are provided garage space beneath the building. There are currently 1,971 parking spaces on site and the garage operates on a first-come first-served basis. The parking garage is large enough to handle the amount of people that come to the Kennedy Center by car and is rarely full. Metrobus 80 provides direct service to the Kennedy Center with service operating approximately every 15 to 30 minutes during business hours and a taxi stand is located onsite. In addition to public transit, a large number of visitors arrive on private charter buses. The Kennedy Center has limited space designated for bus parking. Therefore, most charter buses drop off/pick up passengers in front of the building and find offsite parking options while guests tour the facilities.

Upon arriving at the Kennedy Center, visitors are welcomed by long, decorated hallways and the Grand Foyer. There are two floors with multiple performing arts spaces, each possessing unique characteristics that enhance the visitor experience. There are also dining facilities, lounges and a gift shop available to visitors. Outside of the Kennedy Center, the Roof Terrace and River Terrace are open to the public. The terraces are casual gathering spaces used by visitors between performances. From the Roof Terrace on the top floor, visitors have a 360 degree view of the District including the Jefferson Memorial and the Washington Monument. From the River Terrace on the ground floor, views include the RCPP, the Rock Creek Paved Recreation Trail, Potomac River, Theodore Roosevelt Island, Georgetown University, and the National Cathedral.

The Rock Creek Paved Recreation Trail provides paved Paved Recreation trails for non-motorized activities such as jogging, bicycling, inline skating, etc. While the trail is used heavily as a bicycle commuter route, it is most often used for recreational activities including walking/hiking/jogging (44 percent), bicycling (18 percent), in-line skating (6 percent, and dog walking (17 percent) (NPS, 2007). The trail in the project area also provides direct access to many NPS amenities, including direct access to Rock Creek Park to the north, and the monuments and memorials found within NAMA to the south, including the following Presidential Memorials: the Washington Monument National Memorial (approximately 1.4 miles from the Kennedy Center); Thomas Jefferson Memorial National Memorial (approximately 1.0 mile from the Kennedy Center); Lincoln Memorial National Memorial (approximately 0.5 miles from the Kennedy Center); and Franklin Delano Roosevelt Memorial National Memorial (approximately 1.0 miles from the Kennedy Center). Since this area of the trail is so heavily used, runners, walkers, skaters and bikers often compete for space along the trail system.

Theodore Roosevelt Island is not easily accessible via the Rock Creek Paved Recreation Trail. To get to the island, pedestrians/bicyclists use the trail located along the northern edge of the Theodore Roosevelt Memorial Bridge (I-66). There is, however, a trail connection between this path and the Kennedy Center's surface parking area on the southern side of the facility.

HUMAN HEALTH AND SAFETY

The Kennedy Center is dedicated to the safety and security of its staff and visitors. The Facilities Management and Operations Division of the Kennedy Center handles fire-protection systems, elevator and handicapped lift systems, and a range of other building features. Each year a portion of the Division's operating budget is allocated to security and life safety to maintain a safe and secure building. Activities under the security and life safety program include coordination and supervision of a contract security force; surveying and monitoring the building for fire, safety and security risks; and developing and implementing procedures to minimize risks to the public and government officials requiring additional security consideration (The Kennedy Center 2008).

From the F Street crossing, pedestrians can access the Kennedy Center stairs at the northeast corner of the building. However, wheelchair users have no access at this location. Wheelchair users make another roadway crossing at the garage entrance and continue onto a path leading to the front of the building.

OPERATIONS AND MANAGEMENT

Originally established in 1958 as the National Cultural Center and an independently administered bureau of the Smithsonian (P.L. 85-874), the John F. Kennedy Center for the Performing Arts was designated a living memorial to President Kennedy in 1964. The original act of 1958 charged the Board of Trustees with responsibility for constructing and administering the nation's center for the performing arts. The Kennedy Center was constructed with a combination of private contributions (\$34.5 million), Federal matching funds (\$23.0 million), and \$20.4 million in long-term revenue bonds held by the U. S. Department of Treasury. (These bonds are due beginning in 2011; prepayments on principal are made annually and bonds will be retired when they fall due.)

In 1994 Congress directed that the Kennedy Center be transferred from the NPS to become a bureau of the Smithsonian Institution, and enacted P. L. 103-279, authorizing the transfer to the Board of all appropriated fund responsibilities, including 55 FTE, and all unexpended balances of funds previously appropriated to the National Park Service.

Since the start of fiscal year 1995, the Board has been responsible for all operations of the Kennedy Center, including both the management and expenditure of appropriated funds for operation, maintenance, and capital repair of the presidential monument, and management of non-appropriated fund activities. Public Law 109-54, the Interior and related agencies appropriations bill for fiscal year 2006, appropriated approximately \$31 million for the building's operations, maintenance, and capital repair. The direct Federal funding provided to the Kennedy Center is used only for the operation, maintenance, and capital repair of the presidential monument.

Operation and maintenance of the building and grounds is conducted by the Center's Facilities Management and Operations Division. Activities of the Division include:

- Routine duties required for daily operation of the facility and grounds such as janitorial services, landscaping, and maintenance and repairs of all building systems;
- Preventive and predictive maintenance of the facility and grounds;
- Security and fire/life safety functions to maintain a safe and secure building and grounds; and
- Services related to the maintenance of memorial components of the institution, such as displays and signage.

These functions are carried out by a combination of in-house staff and contractors.

Management and operation of the RCPP and the Rock Creek Paved Recreation Trail falls under NPS jurisdiction. NPS *Management Policies* (2006a) states, “[park roads] are intended to enhance the quality of a visit while providing for safe and efficient travel with minimal or no impacts on natural and cultural resources.” According to NPS, trails are to be managed in a way that reduces conflict with automobiles and incompatible uses, allows for a satisfying park experience, allows accessibility to the greatest number of people, and protects park resources (NPS 2006a).

Maintenance of the RCPP and the Rock Creek Paved Recreation Trail is handled in a preventive and rehabilitative manner. The NPS performs regular, periodic inventories and condition assessments of the parkway and trail in order to determine deficiencies and cost-effective maintenance. When maintenance is needed, work is completed in a way that preserves the surrounding natural environment with minimal effect on public uses (NPS 2006a). Generally, maintenance activities on the RCPP and the Rock Creek Paved Recreation Trail consist of grass mowing adjacent to the trail and snow removal during the wintertime. The portions of the RCPP and the Rock Creek Paved Recreation Trail in the project area are under the jurisdiction and managed by the National Mall and Memorial Parks.

TRAFFIC AND TRANSPORTATION

Transportation in Washington, DC is comprised of a complex network of pedestrian, bicycle, vehicle, and mass transit systems. Generally, the City’s transportation systems are developed and maintained by DDOT.

The following roadways are primary access routes for private autos: the Theodore Roosevelt Bridge, RCPP, New Hampshire Avenue, Virginia Avenue, and Ohio Drive (Figure 20). Coming into the District from Virginia, travelers can access the RCPP from the Roosevelt Bridge, a segment of I-66, using Ohio Drive. The RCPP extends from the Lincoln Memorial north through Rock Creek Park. Between Ohio Drive and Virginia Avenue, the parkway is a four-lane, divided road with two 10-foot lanes heading north and south. The northbound lanes travel beneath the River Terrace of the Kennedy Center in this segment. The RCPP is heavily used by commuters during peak periods and is generally the most popular route to the Kennedy Center (FHWA 2003). Southwest of Washington Circle in the District, New Hampshire Avenue also provides access to the Kennedy Center. Virginia Avenue provides a major route to the Kennedy Center from downtown Washington, DC, with connections to the RCPP and New Hampshire Avenue. Visitors to the Kennedy Center from points east, including Independence Avenue and I-395, gain access using Ohio Drive. The route is located south of the Kennedy Center, and also provides a link to National Mall monuments. Also, Ohio Drive provides a connection between the Roosevelt Bridge, the RCPP, and I-66. Lane use and traffic control are shown in Figure 19.

From the National Mall, several indirect routes to the RCPP and the Kennedy Center are possible. Visitors can approach the Kennedy Center from the south using the Rock Creek Paved Recreation Trail, crossing the RCPP at F Street. The Rock Creek Paved Recreation Trail can be reached from Lincoln Memorial Circle, but several features of the connection are undesirable. From Lincoln Memorial Circle, the width of the trail is narrow in certain areas, and signal controls are not provided at all crosswalks. Also, the path is not clearly marked and is not always headed in the direction of the Kennedy Center (FHWA 2003). Another option for access to the Kennedy Center is to use the sidewalks of the existing street grid. Street sidewalks are generally the safest and most direct pedestrian route from the Mall because there is adequate space and signal control.

The most pedestrian-friendly route to access the Kennedy Center from Virginia is across the Key Bridge. Once across the bridge, the path continues through park areas and connects with the aforementioned Georgetown waterfront. A less convenient route for pedestrians is across the Roosevelt Bridge; however, this bridge is not easily accessed on the Virginia side of the Potomac because it lacks a connection to trails. Access to the north side of the Roosevelt Bridge is possible, but only from Lee Highway and North Lynn Street in Rosslyn. From here, the path crosses the George Washington Memorial Parkway, travels alongside the Potomac, and continues beside a parking lot before reaching the bridge. Certain areas of this connection do not meet design standards for safety, and the trail is poorly marked (FHWA 2003). Once across the bridge, the path directs pedestrians to the entrance of the Kennedy Center on its east side.

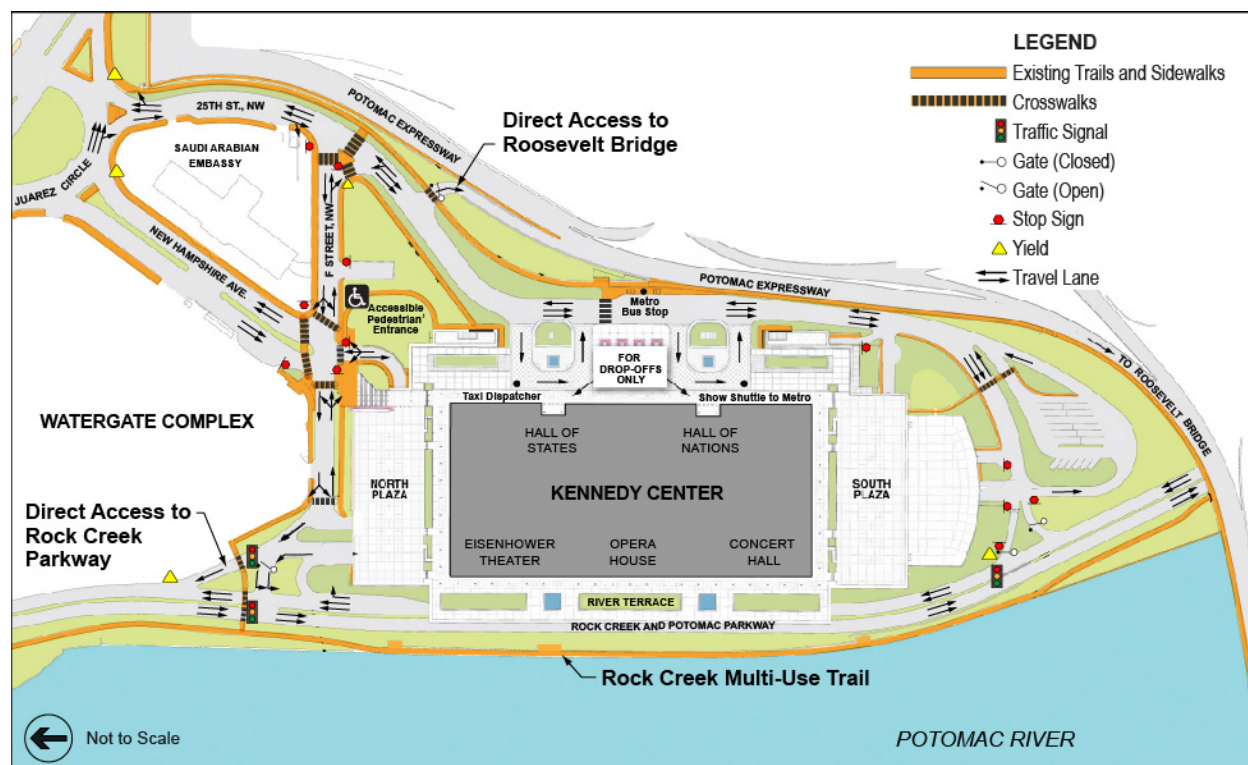


Figure 20: Lane Use and Traffic Control

In 2010, the District Office of Transportation (DDOT) released the *2010 Transition Report* to outline its transportation policies and corresponding plans of action. Pedestrian access is a focal point of the agenda presented in the report. In order to promote the sustainability of its transportation assets, DDOT wants to “make walking the mode of choice for trips of less than one mile, and biking the

mode of choice of less than three miles” (DDOT 2010). The following are the most significant sources of pedestrian visitors to the Kennedy Center: Georgetown, the National Mall, northern Virginia, West End and Foggy Bottom neighborhoods, and the Foggy Bottom Metro station.

The Foggy Bottom Metro station is located at 23rd Street and I Street. Generally, New Hampshire Avenue is used to access the Kennedy Center from the station. The Kennedy Center is approximately 0.5 miles from the Foggy Bottom Metro station. The sidewalk along New Hampshire Avenue is narrow and overcrowded by trees. Also, multiple street crossings are necessary, including the crossing of Virginia Avenue, which is six-lanes wide (FHWA 2003). Visitors travelling via Metro that do not wish to walk can use the free Kennedy Center Shuttle which departs every 15 minutes from the Foggy Bottom Metro station. The Kennedy Center is also directly accessible by Metro Bus 80 with service operating approximately every 15 to 30 minutes during business hours. In addition to public transit, a large number of visitors arrive on private charter buses. The Kennedy Center has limited space designated for bus parking. Therefore, most charter buses drop off/pick up passengers in front of the building and find offsite parking options while guests tour the facilities.

Pedestrian access to the RCPP and the Kennedy Center from Georgetown is possible using the Rock Creek Paved Recreation Trail. This paved trail is available at the Georgetown Waterfront Park beginning south of 34th Street and M Street. The trail proceeds alongside the Potomac River, across a one-lane bridge at the confluence of Rock Creek and the Potomac. Past the bridge, pedestrians connect with the RCPP and head south to the Kennedy Center. At F Street, trail users wishing to connect to the Kennedy Center would use a signalized intersection to cross the RCPP. One block east, on F Street, there are stairs to enter the building. No direct access currently is available to the Kennedy Center from the Rock Creek Paved Recreation Trail.

The Rock Creek Paved Recreation Trail is also a widely used bike route (NPS 1996). Another bike route is located on the eastern side of the Kennedy Center between 25th Street NW and Interstate 66. This bike route crosses the Theodore Roosevelt Memorial Bridge with Interstate 66 and then becomes a concrete path paralleling 25th Street NW at the bus stop on the eastern side of the Kennedy Center. Pedestrians and bikers are also able to access the Kennedy Center via an asphalt connection from Interstate 66 that was created when the parking garage was constructed.

Bike racks are installed around the Kennedy Center to provide bike parking for cyclists. Two bike racks are located at the north and south parking entrances of the Kennedy Center. Bike racks are also located on F Street NW just to the east of the A North parking entrance and at the bus stop on 25th Street NW on the east side of the Kennedy Center, and also on F Street, west of the stairs by the North Plaza. There is also a Capital Bikeshare location on the eastern side of the building adjacent to the southern drop-off area.

Sidewalks are provided along all roadways around the Kennedy Center, including F Street NW, 25th Street NW, and New Hampshire Avenue NW. Crosswalks are provided at the intersection of New Hampshire Avenue NW and F Street NW, and F Street NW, and 25th Street NW. Crosswalks are provided on RCPP only at the intersection of F Street NW at the northern end of the Kennedy Center. Pedestrian and bicycle facilities are also shown in Figure 21.

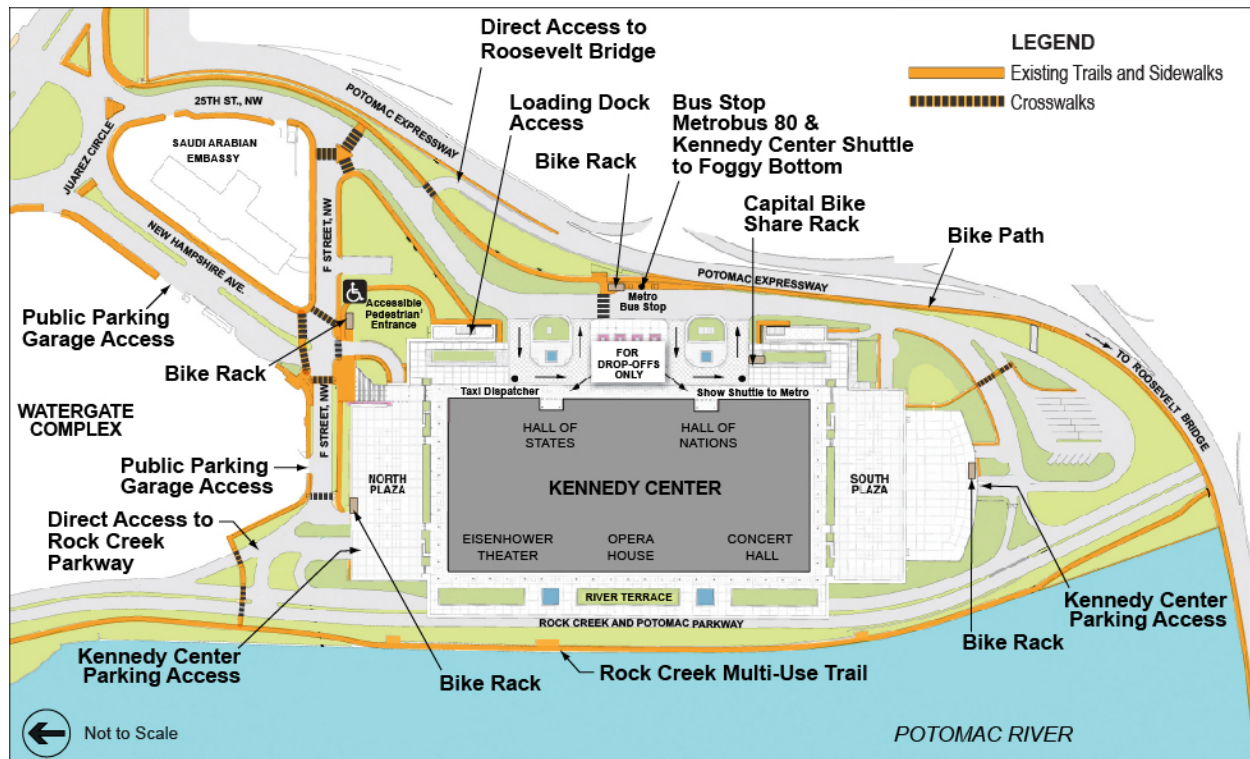


Figure 21: Public Transportation, Pedestrian and Bicycle Facilities

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CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

This “Environmental Consequences” chapter analyzes both beneficial and adverse impacts that would result from implementing any of the alternatives considered in this EA. This chapter also includes definitions of impact thresholds (e.g., negligible, minor, moderate, and major), methods used to analyze impacts, and the analysis methods used for determining cumulative impacts. As required by the Council on Environmental Quality (CEQ) regulations on implementing NEPA, a summary of the environmental consequences for each alternative is provided in, which can be found in “Chapter 2: Alternatives.” The resource topics presented in this chapter and the organization of the topics correspond to the resource discussions contained in “Chapter 3: Affected Environment.”

GENERAL METHODOLOGY FOR ASSESSING IMPACTS

The following elements were used in the general approach for establishing impact thresholds and measuring the effects of the alternatives on each resource category:

- general analysis methods as described in guiding regulations, including the context and duration of environmental effects;
- basic assumptions used to formulate the specific methods used in this analysis;
- thresholds used to define the level of impact resulting from each alternative;
- methods used to evaluate the cumulative impacts of each alternative in combination with unrelated factors or actions affecting park resources; and
- methods and thresholds used to determine if impairment of specific resources would occur under any alternative.

These elements are described in the following sections.

GENERAL ANALYSIS METHODS

The analysis of impacts follows CEQ guidelines, 43 CFR 46.100, 69 FR 41299, and DO-12 procedures (NPS 2001a). This analysis incorporates the best available scientific literature applicable to the region and setting, the species being evaluated, and the actions being considered in the alternatives.

As described in Chapter 1, the NPS created an interdisciplinary science team to provide important input to the impact analysis. For each resource topic addressed in this chapter, the applicable analysis methods are discussed, including assumptions and impact intensity thresholds.

IMPACT THRESHOLDS

Determining impact thresholds is a key component in applying NPS *Management Policies* and DO-12. These thresholds provide the reader with an idea of the intensity of a given impact on a specific topic. The impact threshold is determined primarily by comparing the effect to a relevant standard based on applicable or relevant/appropriate regulations or guidance, scientific literature and research, or best professional judgment. Because definitions of intensity vary by impact topic, intensity definitions are provided separately for each impact topic analyzed in this document. Intensity definitions are provided throughout the analysis for negligible, minor, moderate, and major impacts. In all cases, the impact thresholds are defined for adverse impacts. Beneficial impacts are addressed qualitatively.

Potential impacts of all alternatives are described in terms of type (beneficial or adverse); context; duration (short- or long-term); and intensity (negligible, minor, moderate, major). Definitions of these descriptors include:

Beneficial: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.

Adverse: A change that declines, degrades, and/or moves the resource away from a desired condition or detracts from its appearance or condition.

Context: Context is the affected environment within which an impact would occur, such as local, park-wide, regional, global, affected interests, society as whole, or any combination of these. Context is variable and depends on the circumstances involved with each impact topic. As such, the impact analysis determines the context, not vice versa.

Duration: The duration of the impact is described as short-term or long-term. Duration is variable with each impact topic; therefore, definitions related to each impact topic are provided in the specific impact analysis narrative.

Intensity: Because definitions of impact intensity (negligible, minor, moderate, and major) vary by impact topic, intensity definitions are provided separately for each impact topic analyzed.

CUMULATIVE IMPACTS ANALYSIS METHOD

The CEQ regulations to implement NEPA require the assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). As stated in the CEQ handbook, “Considering Cumulative Effects” (CEQ 1997), cumulative impacts need to be analyzed in terms of the specific resource, ecosystem, and human community being affected and should focus on effects that are truly meaningful. Cumulative impacts are considered for all alternatives, including the No Action Alternative.

The methodology for determining cumulative effects is derived from using an “X+Y=Z” analysis where “X” represents the impacts of the alternative and “Y” is other past, present, and reasonably foreseeable future actions. When considered relative to each other, their combined contribution to the overall cumulative effect is “Z.” It is important to note that, due to the disparate scale and location of the proposed actions, effects from certain proposed actions could be moderate; but, when considered in the overall context, could constitute a relatively small incremental portion of the project area and contribute to a collective minor effect.

The analysis of cumulative impacts was accomplished using four steps:

Step 1 — Identify Resources Affected - Fully identify resources affected by any of the alternatives. These include the resources addressed as impact topics in Chapters 3 and 4 of the document.

Step 2 — Set Boundaries - Identify an appropriate spatial and temporal boundary for each resource. The spatial boundary for each resource topic is listed under each topic.

Step 3 — Identify Cumulative Action Scenario - Determine which past, present, and reasonably foreseeable future actions to include with each resource. These are described in the table.

Step 4 — Cumulative Impact Analysis - Summarize impacts of these other actions (X) plus impacts of the proposed action (Y), to arrive at the total cumulative impact (Z). This analysis is included for each resource in Chapter 4.

Figure 22 provides mapping identifying the location of each of the projects identified for cumulative impact analysis in this document, and is followed by a table providing a brief description of each of these projects.

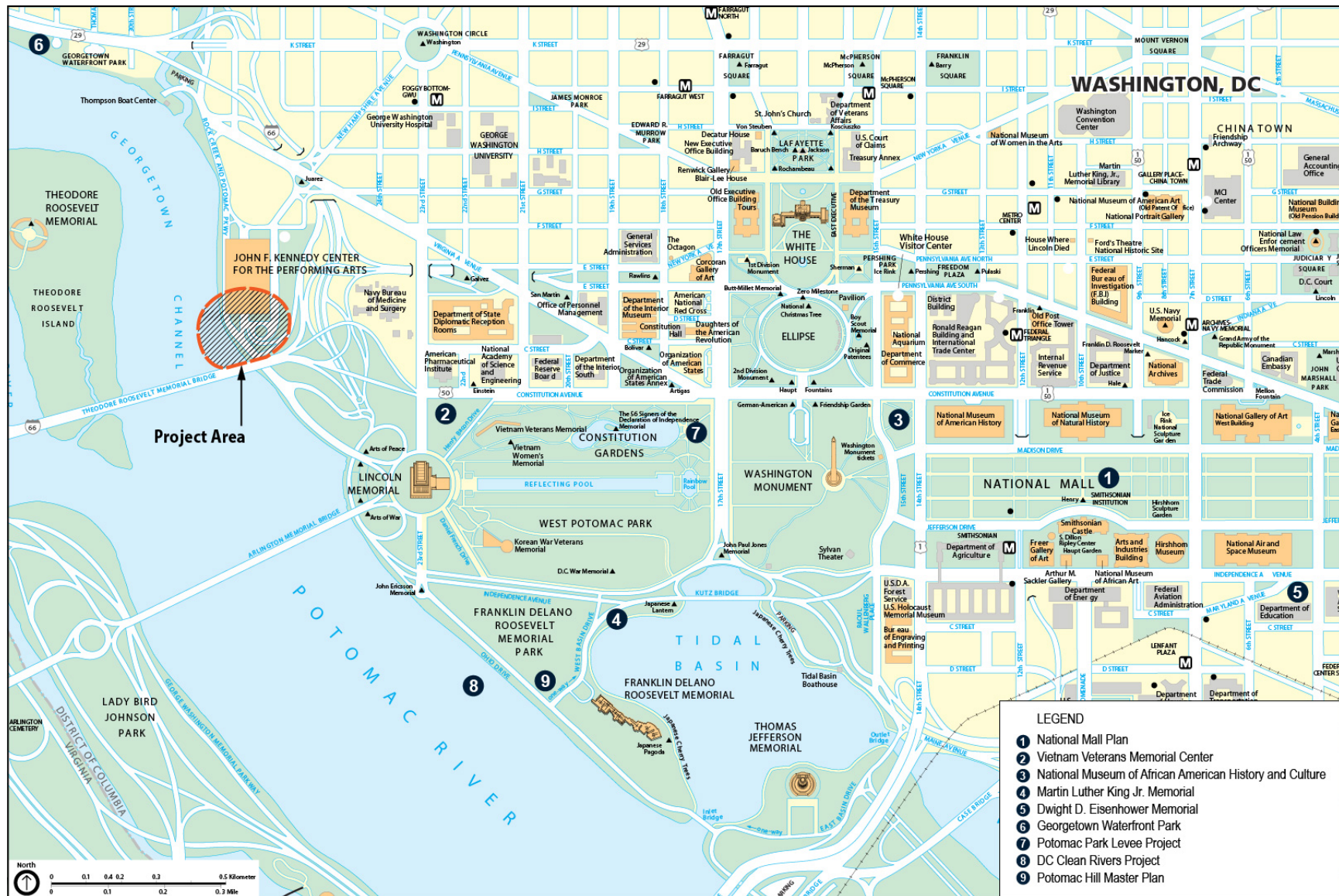


Figure 22. Cumulative Impacts Projects

Table 2: Cumulative Impacts Projects or Actions

Type of Action	Cumulative Impacts Project	Description	Status
Plans	Monumental Core Framework Plan	NCPC developed the Monumental Core Framework Plan with the CFA as a comprehensive planning for the areas surrounding the National Mall and to make better connections to these neighborhoods.	Past
	Extending the Legacy Plan (1997) and the Washington Waterfronts Plan (1999)	This plan, as well as Washington Waterfronts: an Analysis of Issues and Opportunities along the Potomac and Anacostia Rivers INCP (1999), address the Kennedy Center's access problems and provide a vision of the Kennedy Center's connection to the Rock Creek Paved Recreation Trail and the Potomac River waterfront.	Past
	National Mall Plan (NPS 2010)	Establishment of a sense of place and an overall identity for the National Mall, creating a coherent pedestrian environment that compliments and balances the natural environment and national commemorative works. Affected Resources: Water Quality, Cultural Resources, Traffic and Transportation, Visitor Use and Experience, Operations and Management	Present
	Potomac Hill Master Plan	GSA, in cooperation with the U.S. Department of State (DOS) is preparing the Potomac Hill Campus Master Plan to guide the development of an 11.8-acre campus immediately west of the DOS headquarters (the Harry S Truman building, 2201 C Street, N.W.) in the downtown Washington, DC. Affected Resources: Cultural Resources, Traffic and Transportation	Present
New Museums and Memorials	Martin Luther King Jr. Memorial (NPS 2009b)	Establishment of a 3-acre memorial site within the triangular area bound by Independence Ave., West Basin Drive relocated, and the western edge of the Tidal Basin walkway. Visitor experience designed to convey themes of Dr. King's legacy using elements of the landscape. Affected Resources: Floodplains, Historic Structures and Districts, Visitor Use and Experience, Operations and Management	Past
	National Museum for African American History and Culture (NMAAHC)	Construction of a museum on a 5-acre parcel between 14 th and 15 th Streets and Constitution Avenue, on the Washington Monument grounds. Affected Resources: Cultural Resources, Visitor Use and Experience, Traffic and Transportation	Present
	Vietnam Veterans Memorial Visitor Center	Construction of an underground visitor center is proposed at a 5.2-acre site located north of the Lincoln Memorial. Affected Resources: Cultural Resources, Visitor Use and Experience	Future
	Dwight D. Eisenhower Memorial (NPS 2006c)	Construction of a new memorial across from Independence Avenue from the National Air and Space Museum and north of the Department of Education. Designed to provide a quiet and contemplative space in the heart of Washington, DC. Affected Resources: Cultural Resources, Historic Structures and Districts, Traffic and Transportation	Future

Type of Action	Cumulative Impacts Project	Description	Status
Civil Works Projects	Georgetown Waterfront Park Improvements	Construction began in 2008 and finished for this multi-phased project to redevelop the waterfront in Georgetown, making the Potomac accessible to citizens for recreational and educational uses. Affected Resources: Water Quality, Floodplains, Cultural Resources, Visitor Use and Experience, Operations and Management	Past
	Potomac Park Levee Project (NPS 2009)	Introduction of an improved levee system in the area between 23 rd Street and 17 th Street and along the north side of the Reflecting Pool. Construction of a closure structure with abutments, supporting posts and panels to be erected during flood emergencies. Filling of low spots in the levee at 23 rd Street and along the Reflecting Pool to bring the structure into compliance with U.S. Army Corps of Engineer standards. Affected Resources: Floodplains, Cultural Resources, Historic Structures and Districts, Human Health and Safety, Operations and Management	Present
	Arlington Memorial Bridge Repair & Rehabilitation	Repair and rehabilitate the Arlington Memorial Bridge. Affected Resources: Water Quality; Floodplains; Rare, Threatened and Endangered Species; Cultural Resources; Visitor Use & Experience; Human Health and Safety; Park Operations and Management; Traffic and Transportation	Present
	DC Clean Rivers Project Potomac River Tunnel	Construction of a tunnel and supporting infrastructure for conveyance and storage of combined sewer overflows mandated by a Federal Consent Decree between DC Water, U.S. EPA and the U.S. Department of Justice. Affected Resources: Water Quality, Floodplains, Cultural Resources, Visitor Use and Experience, park Operations and Maintenance, Traffic and Transportation	Present

WATER QUALITY

METHODOLOGY AND ASSUMPTIONS

Potential impacts to water quality were analyzed using professional judgment considering the proposed construction related activities, the area of ground disturbance, the changes in impervious surfaces, and the regulations enacted to protect water quality during construction activities.

STUDY AREA

The Potomac River is the only water body within the project area; therefore, the study area for impacts to water quality consists of the portion of the Potomac River in the immediate vicinity of the Kennedy Center.

IMPACT THRESHOLDS

Negligible: Impacts are chemical, physical, or biological effects that would not be detectable, well below water quality standards or criteria, and within historical or desired water quality conditions.

Minor: Impacts (chemical, physical or biological effects) would be detectable but well below water quality standards or criteria and within historical or desired water quality conditions.

Moderate: Impacts (chemical, physical, or biological effects) would be detectable but at or below water quality standards or criteria; however, historical baseline or desired water quality conditions would be temporarily altered.

Major: Impacts (chemical, physical, or biological effects) would be detectable and frequently altered from the historical baseline or desired water quality conditions; chemical, physical or biological water quality standards or criteria would temporarily be slightly and singularly exceeded.

Duration: Short-term – Usually less than one year. Impacts would not be measurable or measurable only during the life of construction; Long-term – Usually more than one year. Impacts would be measurable following project construction.

IMPACTS OF ALTERNATIVE A – NO ACTION ALTERNATIVE

The No Action Alternative represents a continuation of the existing conditions, operations, and maintenance of the Kennedy Center. There would not be a change in the amount of stormwater runoff from the site. An oil separator on the east side of the south parking lot and a sand filter on the west side of the south parking lot would continue to provide water quality control for stormwater runoff. There is no stormwater quantity control on the site, and none would be added under the No Action alternative. With no new construction, water quality of the Potomac River would generally remain in its current condition. Therefore, there would be a negligible impact to water quality because existing stormwater management systems were not designed to current standards.

CUMULATIVE IMPACTS

Past development in the Potomac River watershed has resulted in negative impacts to water quality. Development along the river and its tributaries has created impervious surfaces which lead to increases in stormwater runoff that carries sediments and contaminants into the waterways. In more recent projects, including the Georgetown Waterfront Park Improvements, stormwater management has been incorporated into the project design to minimize negative impacts to water quality. Present and future projects including the rehabilitation of the Arlington Memorial Bridge, the National Mall Plan, and the DC Clean Rivers Potomac River Tunnel project would have short-term adverse impacts to water quality from potential erosion and sedimentation of exposed soils during construction. Long-term negligible adverse impacts would occur due to increased impervious area, but stormwater management would reduce the quantity of stormwater runoff and minimize long-term impacts for these projects. The DC Clean Rivers Potomac River Tunnel project is designed to reduce Combined Sewer Overflows (CSO) into District waterways by 98 percent. The Potomac River Tunnel project also includes implementation of green infrastructure that would reduce stormwater runoff into area waterways, including the Potomac River, resulting in long-term beneficial impacts to water quality. Alternative A would have a long-term negligible adverse impact to water quality as a result of continued untreated stormwater runoff from the existing impervious surfaces. When combined with the impacts of other past, present, and future projects, Alternative A would slightly lessen the overall beneficial cumulative effects.

CONCLUSION

Alternative A would have long-term, negligible adverse impacts to water quality due to continued stormwater runoff from impervious surfaces and because existing stormwater management systems are not designed to current standards. When combined with the impacts of other past, present, and future projects, Alternative A would slightly lessen the overall beneficial cumulative effects.

IMPACTS OF ALTERNATIVE B

Implementation of Alternative B would require ground disturbance during construction of the proposed expansion. No work would occur within the Potomac River. The proposed expansion would affect approximately 4.6 acres of land on the south side of the Kennedy Center, including the existing lower south terrace parking garage and surface parking lots. Existing landscaped areas around the parking garage entrances and the surface parking lot would be disturbed, and the proposed expansion would cover these areas. Erosion and sediment controls and various other BMPs such as silt fencing, sediment traps, and vegetative stabilization would be employed as needed during construction to minimize soil erosion and the release of sediments into the Potomac River in accordance with DDOE's 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control. Because the erosion and sediment controls are expected to effectively limit soil movement, Alternative B would result in short-term negligible adverse impacts to water quality.

The land based pavilions would not increase impervious surface because the south end of the Kennedy Center already consists of impervious surface. Stormwater management features such as green roof technology would be implemented, and additional landscaping would be created where none currently exist. These features would capture and filter stormwater and slow and reduce runoff which would result in improvements to water quality. Therefore, Alternative B would have a long-term beneficial impact on water quality; however, the impact would not be measurable given the magnitude of the Potomac River watershed.

CUMULATIVE IMPACTS

Past development in the Potomac River watershed has resulted in negative impacts to water quality. Development along the river and its tributaries has created impervious surfaces which lead to increases in stormwater runoff that carries sediments and contaminants into the waterways. In more recent projects, including the Georgetown Waterfront Park Improvements, stormwater management has been incorporated into the project design to minimize negative impacts to water quality. Present and future projects including the rehabilitation of the Arlington Memorial Bridge, the National Mall Plan, and the DC Clean Rivers Potomac River Tunnel project would have short-term adverse impacts to water quality from potential erosion and sedimentation of exposed soils during construction. Long-term negligible adverse impacts would occur due to increased impervious area, but stormwater management would reduce the quantity of stormwater runoff and minimize long-term impacts for these projects. The DC Clean Rivers Potomac River Tunnel project is designed to reduce Combined Sewer Overflows (CSO) into District waterways by 98 percent. The Potomac River Tunnel project also includes implementation of green infrastructure that would reduce stormwater runoff into area waterways, including the Potomac River, resulting in long-term beneficial impacts to water quality.

It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project and the Eisenhower Memorial. Therefore, Alternative B would

not contribute to the short-term cumulative impacts from these projects. The National Museum for African American History and Culture (NMAAHC) and the improvements associated with the National Mall Plan are anticipated to be constructed around the same time as the Kennedy Center project. These projects would have short-term adverse cumulative impacts to water quality, and the Alternative B would add slightly to these cumulative impacts.

Alternative B would provide additional stormwater treatment facilities that would result in a reduction of stormwater runoff from the Kennedy Center. The reduction in stormwater runoff under Alternative B would contribute to the overall beneficial cumulative impacts of recent past, present and future projects.

CONCLUSION

Alternative B would result in short-term negligible adverse impacts to water quality due to ground disturbance required for construction. The use of sediment and erosion controls during construction would be provided in accordance with DC regulatory requirements and stormwater management would be provided for all new construction. Long-term, the implementation of green roofs and better stormwater management practices over existing conditions would reduce stormwater runoff from the Kennedy Center and would benefit water quality, although the benefits to the water quality of the Potomac River would not be measurable given the overall magnitude of the watershed. The reduction in stormwater runoff under Alternative B would contribute to the overall beneficial cumulative impact. Alternative B would add slightly to the short-term adverse cumulative impacts of The NMAAHC and the improvements associated with the National Mall Plan. Alternative B would not contribute to the short-term cumulative impacts of the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial.

IMPACTS OF ALTERNATIVE C (PREFERRED ALTERNATIVE)

Implementation of Alternative C would require ground disturbance during construction of the proposed expansion. The proposed land based expansion would affect approximately 4.6 acres of developed land, including the existing lower south terrace parking garage and the lower surface parking lots. Existing landscaped areas around the parking garage entrances and the surface parking lot would be disturbed. The proposed expansion would cover these areas. Erosion and sediment controls and various other BMPs such as silt fencing, sediment traps, and vegetative stabilization would be employed as needed during construction to minimize soil erosion and the release of sediments into the Potomac River in accordance with DDOE's 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control. Because the erosion and sediment controls are expected to effectively limit soil movement, Alternative C would result in short-term negligible adverse impacts to water quality.

Under Alternative C, a river pavilion would be constructed which would require anchoring to the shore or river bottom. Optional methods for anchoring the river pavilion have been developed, including telescoping piles, Sea Flex anchors, and stiff arms. The telescoping piles and Sea Flex anchors would result in disturbance to the river bottom during installation of the piles or anchors. To limit the movement of sediments during construction, in-stream erosion control BMPs such as turbidity curtains would be utilized in the waterway. Minor release of river bottom sediments into the Potomac River during installation of the piles or anchors would be unavoidable. However, the use of erosion and sediment controls and other BMPs would limit water quality impacts during

construction periods. The telescoping piles and Sea Flex anchor construction methods would have short-term negligible adverse impacts on water quality.

The stiff arm method of anchoring the river pavilion would utilize structural arms that would connect the pavilion to the existing seawall. This method would not result in disturbance to the river bottom or earth disturbance on land.

The land based pavilions would not increase impervious surface because the south end of the Kennedy Center already consists of impervious surfaces. Stormwater management features such as green roof technology would be implemented and additional landscaping would be created where none currently exist. These features would capture and filter stormwater and slow and reduce runoff which would result in improvements to water quality. Therefore, land based portion of Alternative C would have a long-term beneficial impact on water quality however, the impact would not be measurable given the magnitude of the Potomac River watershed.

The river pavilion would increase impervious surface by approximately 3,980 square feet, from which stormwater would runoff directly into the Potomac River. The stormwater runoff would not contain sediments and is not expected to contain chemical contaminants, but may contain trash or debris that is brought onto the pavilion by patrons. Trash receptacles would be provided for patrons to properly dispose of trash, and regular cleaning of the river pavilion following performances would be conducted to minimize the likelihood of trash entering the river. The small trash or debris that could be wind-blown or washed into the Potomac River would be visible and would result in a long-term negligible adverse impact to water quality.

RIVER ACCESS OPTION 1

Under Option 1, access from the Kennedy Center to the Rock Creek Paved Recreation Trail would be provided by an at-grade pedestrian crossing at RCPP. Access to the river pavilion would be provided by a pedestrian connection from the Rock Creek Paved Recreation Trail. This access option would result in minor ground disturbance during construction that would increase the risk of erosion, but approved erosion and sediment control devices during construction would minimize this risk. Option 1 would result in short-term negligible adverse impacts to water quality due to soil disturbance during construction.

The pedestrian connection from the trail to the pavilion would result in a minor increase in impervious surface, which would increase stormwater runoff. The increase in stormwater runoff would affect water quality; therefore, Option 1 would result in long-term negligible adverse impact to water quality due to the slight increase in impervious surface.

RIVER ACCESS OPTION 2 (PREFERRED OPTION)

Option 2 proposes a single bridge that would connect the expansion area to the river pavilion and one at-grade pedestrian connection from the Rock Creek Paved Recreation Trail. The bridge would span the RCPP. The pedestrian connection would result in minor ground disturbance that would increase the risk of erosion but approved erosion and sediment control devices during construction would minimize this risk. Option 2 would result in short-term negligible adverse impacts to water quality due to soil disturbance during construction.

The pedestrian connection from the trail to the pavilion would result in a minor increase in impervious surface, which would increase stormwater runoff. The increase in stormwater runoff would affect water quality; therefore, Option 2 would result in long-term negligible adverse impact to water quality due to the slight increase in impervious surface.

CUMULATIVE IMPACTS

Past development in the Potomac River watershed has resulted in negative impacts to water quality. Development along the river and its tributaries has created impervious surfaces which lead to increases in stormwater runoff that carries sediments and contaminants into the waterways. In more recent projects, including the Georgetown Waterfront Park Improvements, stormwater management has been incorporated into the project design to minimize negative impacts to water quality. Present and future projects including the rehabilitation of the Arlington Memorial Bridge, the National Mall Plan and the DC Clean Rivers Potomac River Tunnel project would have short-term adverse impacts to water quality from potential erosion and sedimentation of exposed soils during construction. Long-term negligible adverse impacts would occur due to increased impervious area, but stormwater management would reduce the quantity of stormwater runoff and minimize long-term impacts for these projects. The DC Clean Rivers Potomac River Tunnel project is designed to reduce Combined Sewer Overflows (CSO) into District waterways by 98 percent. The Potomac River Tunnel project also includes implementation of green infrastructure that would reduce stormwater runoff into area waterways, including the Potomac River, resulting in long-term beneficial impacts to water quality.

It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Therefore, Alternative C would not contribute to the short-term cumulative impacts from these projects. The NMAAHC and the improvements associated with the National Mall Plan are anticipated to be constructed around the same time as the Kennedy Center project. These projects would have short-term adverse cumulative impacts to water quality, and Alternative C would add slightly to these cumulative impacts.

Alternative C would provide additional stormwater treatment facilities that would result in a reduction of stormwater runoff from the Kennedy Center. The river pavilion would result in increased impervious surface, but would not result in additional sedimentation or contaminated stormwater runoff. The reduction in stormwater runoff under Alternative C would contribute to the overall beneficial cumulative impacts of recent past, present and future projects.

CONCLUSION

Disturbances to river bottom sediments and earth disturbance during construction under Alternative C would result in short-term negligible adverse impacts to water quality. The use of sediment and erosion controls during construction would be provided in accordance with DC regulatory requirements. Long-term benefits to water quality would occur from the implementation of stormwater practices such as green roofs, which would reduce the amount of stormwater runoff. Long-term negligible adverse impacts would result from the coverage of approximately 6,500 square feet of open water by the river pavilion. Either option for access to the river pavilion would have long-term negligible affects to water quality from an increase in impervious surfaces. Alternative C would contribute additional beneficial impacts to the overall beneficial cumulative impact to water

quality. Alternative C would add slightly to the short-term adverse cumulative impacts of The NMAAHC and the improvements associated with the National Mall Plan. Alternative C would not contribute to the short-term cumulative impacts of the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial.

FLOODPLAINS

METHODOLOGY AND ASSUMPTIONS

Executive Order 11988, Floodplain Management, requires an examination of impacts to floodplains, of potential risk involved in placing facilities within floodplains, and protecting floodplain values (FEMA 2010b). NPS has adopted the policy of preserving floodplain values and minimizing potentially hazardous conditions associated with flooding.

Based on FEMA floodplain mapping, the area of proposed expansion south of the South Plaza is within the regulated 100-year floodplain of the Potomac River. The impact analysis is based on preliminary site design and a determination of the area of development within the floodplain. Predictions of short-term and long-term site impacts were based on an assessment of the quantified impacts on the floodplain functions and values within the study area, similar projects, a review of scientific data, and professional judgment.

STUDY AREA

The study area for floodplain resources is the 100-year floodplain as mapped in the area of the proposed expansion.

IMPACT THRESHOLDS

Negligible: There would be very little change in the ability of a floodplain to convey floodwaters, or its values and functions. The project would not contribute to flooding.

Minor: Changes in the ability of a floodplain to convey floodwaters, or its values and functions, would be measurable and local, although the changes would be only just measurable. Project would not contribute to flooding. No mitigation would be needed.

Moderate: Changes in the ability of a floodplain to convey floodwaters, or its values and functions, would be measurable and local. Project could contribute to flooding. The impact could be mitigated by modification of proposed facilities in floodplains.

Major: Changes in the ability of a floodplain to convey floodwaters, or its values and functions, would be measurable and widespread. Project would contribute to flooding. The impact could not be mitigated by modification of proposed facilities in floodplains.

Duration: Short-term – Usually less than one year. Impacts would not be measurable or measurable only during the life of construction; Long-term – Usually more than one year. Impacts would be measurable during and after project construction.

IMPACTS OF ALTERNATIVE A – NO ACTION ALTERNATIVE

The No Action Alternative represents a continuation of the existing conditions, operations, and maintenance of the Kennedy Center. The functional value of the floodplain in the project area includes flood storage, but overall its value is low because it is a relatively small area and consists of mostly impervious area. The No Action Alternative would have no additional effects on the water surface level during a flood event or on flood frequency, and the existing floodplain's function would remain unchanged. Therefore, the No Action Alternative would not impact the 100-year floodplain of the Potomac River within the project area.

CUMULATIVE IMPACTS

Because the No Action Alternative would have no impact on floodplains, the No Action Alternative would not result in cumulative impacts to this resource.

CONCLUSION

Implementation of the No Action Alternative would not result in short-term or long-term impacts to the 100-year floodplain. The No Action Alternative would not contribute to the cumulative impacts.

IMPACTS OF ALTERNATIVE B

Implementation of Alternative B would require ground disturbance during construction of the proposed land based pavilions. Construction would not have a measurable effect on the frequency, elevation, intensity or duration of floods, but the function of the floodplain, which includes flood storage, would be diminished due to the removal of vegetation during construction. Therefore, vegetation would not be present during construction to slow flood waters which would result in an increased risk of soil loss during a flood event. In order to protect the function of the floodplain during construction, erosion and sediment controls would be employed. Therefore, the construction activities under Alternative B would result in short-term negligible adverse impacts to floodplains.

The functional value of the floodplain in the project area includes flood storage, but overall its value is low because it is a relatively small area and consists of mostly impervious area. Alternative B would result in modifications to the floodplain due to the addition of two pavilions on developed land in the location of the lower south terrace parking garage and the lower surface parking lot. The elevation of the FEMA 100-year floodplain is 15-feet mean sea level (msl) and the lowest interior building elevation will be 15.5-feet msl. This lowest level would be protected from flooding by a waterproof kneewall set at an elevation of 18.3-feet msl. The underground parking lot would be flooded during a 100-year event. As such, the underground parking lot would replace some of the flood storage area that is lost by the building expansion, and the expansion would be protected from flood waters. The addition of structures would result in very little change to the ability of the floodplain to convey floodwaters and would not contribute to flooding. Therefore, Alternative B would result in a long-term negligible adverse impact to the floodplain.

CUMULATIVE IMPACTS

Much of the Potomac River floodplain in the vicinity of the Kennedy Center has been altered and filled by development along the shoreline. Past, projects, including the Martin Luther King Jr. Memorial, the Georgetown Waterfront Park Improvements, and the Potomac Park Levee would continue to result in adverse impacts to the floodplain because of the changes to flood storage and

flows and to stormwater infiltration. The Potomac River Tunnel Project would provide additional storage for stormwater in the event of a flood and would, therefore, have beneficial impacts to flood levels.

The addition of structures under Alternative B would result in very little change to the ability of the floodplain to convey floodwaters and would not contribute to flooding. Therefore, Alternative B would contribute slightly to the adverse cumulative impacts to the floodplain of other past, present, and future projects.

CONCLUSION

Alternative B would result in short-term and long-term negligible adverse impacts to floodplains due to ground disturbance during construction and Alternative B would result in very little change to the ability of the floodplain to convey floodwaters and would not contribute to flooding. Alternative B would contribute slightly to the adverse cumulative impacts to the floodplain of other past, present, and future projects.

IMPACTS OF ALTERNATIVE C (PREFERRED ALTERNATIVE)

Implementation of Alternative C would require ground disturbance during construction of the proposed land based pavilions. Construction would not have a measurable effect on the frequency, elevation, intensity or duration of floods, but the function of the floodplain, which includes flood storage, would be diminished due to the removal of vegetation during construction. Therefore, vegetation would not be present during construction to slow flood waters and would result in an increased risk of soil loss during a flood event. In order to protect the function of the floodplain during construction, erosion and sediment controls would be employed. Therefore, the construction of the land based pavilions under Alternative C would result in short-term negligible adverse impacts to floodplains.

Construction activities associated with the river pavilion under Alternative C would not have a measurable effect on the frequency, elevation, intensity, or duration of floods nor would it impact the functions of the floodplain as there would be no removal of vegetation. Therefore, the construction activities under Alternative C would result in short-term negligible adverse impacts to floodplains.

The functional value of the floodplain in the project area includes flood storage, but overall its value is low because it is a relatively small area and consists of mostly impervious area. Alternative C would result in modifications to the floodplain due to the addition of two land based pavilions on developed land in the location of the lower south terrace parking garage and the lower surface parking lot. The elevation of the FEMA 100-year floodplain is 15-feet msl and the lowest interior building elevation will be 15.5-feet msl. This lowest level will be protected from flooding by a waterproof kneewall set at an elevation of 18.5-feet msl. The underground parking lot would be flooded during a 100-year event. As such, the underground parking lot would replace some of the flood storage area that is lost by the building expansion, and the expansion would be protected from flood waters. The addition of structures would result in very little change to the ability of the floodplain to convey floodwaters and would not contribute to flooding. Therefore, the land based portion of Alternative C would result in a long-term negligible adverse impact to the floodplain.

The river pavilion proposed under Alternative C would be designed to the FEMA 500-year flood elevation regardless of the anchoring method selected and the pavilion would rise and fall with the

water elevation. The river pavilion would be designed and engineered such that its hull and its anchoring system would withstand the effects of not only high velocity water flows during historic storm events, but also sustained impact loads from ice and debris. The ice, wind, wave, and water velocity conditions would be modeled by an independently retained marine engineer and, the results would be used to determine the design criteria for the river pavilion. The telescoping piles, Sea Flex anchors, or stiff arms would be designed to allow the pavilion to rise to the historic flood elevation of 19.5 feet msl, therefore the pavilion would not impede river flows and/or cause flows to be diverted as would be expected with a stationary structure. Each of the anchoring methods would prevent the pavilion from breaking away and becoming a hazard during a flood event.

A monitoring and maintenance plan to inspect the pavilion at frequent intervals throughout the year would be developed. The plan would be based upon recommendations for a marine engineer and would provide specifications to remove any large debris that may become lodged against the pavilion, its support structures, or the seawall adjacent to the pavilion. The regular removal of debris would improve the aesthetics and would minimize the potential of accumulated debris to impede river flows. Additional inspections and debris removal would be conducted in advance of predicted high river flows and following severe weather events that result in high river flows. The removal of debris in advance of predicted severe weather would ensure that river flows are unimpeded and that the maximum clear channel is available for river flows during flood events. Following flood stage flows and other severe weather events, any accumulated debris would be removed, and the pavilion would be inspected for damage prior to re-opening the pavilion to the public.

The functional value of the floodplain in the project area includes flood storage, but overall its value is low because it is a relatively small area and consists of mostly impervious area in the project area. The river pavilion would have a small impact relative to the size of the Potomac River floodplain. Because the change would not result in quantifiable effects, the river pavilion under Alternative C would result in long-term negligible adverse impacts to the floodplain.

Under DO 77-2, a Statement of Findings (SOF) is required for the preferred alternative for projects having impacts to floodplains except for “certain park functions that are often located near water for the enjoyment of visitors but require little physical development and do not involve overnight occupation. Examples include picnic facilities, scenic overlooks, foot trails, and small associated daytime parking facilities in non-high hazard areas provided that the impacts of these facilities on floodplain values are minimized.” The Kennedy Center expansion project does not fall within these park functions. Therefore, impacts to floodplains were assessed and a Statement of Findings was prepared for Alternative C. The Statement of Findings is attached at Appendix B.

RIVER ACCESS OPTION 1

Under Option 1, access from the Kennedy Center to the Rock Creek Paved Recreation Trail would be provided by an at-grade pedestrian crossing at RCPP. Access to the river pavilion would be provided by a pedestrian connection from the Rock Creek Paved Recreation Trail. This access option would result in minor disturbance to the floodplain during construction. This connection would span the Potomac River between the seawall and the pavilion and would be located within the floodplain. Floodwaters would be able to flow under and over these pathways. Option 1 would result in negligible short-term and long-term impacts to the floodplain because it would not measurably affect the ability of the floodplain to convey floodwaters or affect its values and functions and would not contribute to flooding.

RIVER ACCESS OPTION 2 (PREFERRED OPTION)

Option 2 proposes a single pedestrian bridge that would connect to the Kennedy Center to the river pavilion and an at-grade pedestrian connection from the Rock Creek Paved Recreation Trail to the river pavilion. The bridge would span the RCPP and would be located above the highest flood elevation. A minor disturbance to the floodplain would occur as a result of the construction of two pathways from the trail to the pavilion. This pathway would span the Potomac River between the seawall and the pavilion and would be located within the floodplain. Option 2 would result in negligible short-term and long-term impacts to the floodplain because it would not measurably affect the ability of the floodplain to convey floodwaters or affect its values and functions and would not contribute to flooding.

CUMULATIVE IMPACTS

Much of the Potomac River floodplain in the vicinity of the Kennedy Center has been altered and filled by development along the shoreline. Past, projects, including the Martin Luther King Jr. Memorial, the Georgetown Waterfront Park Improvements, and the Potomac Park Levee would continue to result in adverse impacts to the floodplain because of the changes to flood storage and flows and to stormwater infiltration. The Potomac River Tunnel Project would provide additional storage for stormwater in the event of a flood and would, therefore, have beneficial impacts to flood levels.

The addition of structures under Alternative C would result in very little change to the ability of the floodplain to convey floodwaters and would not contribute to flooding. Either option for access to the river pavilion would have short and long-term negligible affects to floodplains and would not measurably affect the ability of the floodplain to convey floodwaters, its values and functions, and would not contribute to flooding. Therefore, Alternative C would contribute slightly to the adverse cumulative impacts to the floodplain of other past, present, and future projects.

CONCLUSION

Alternative C would result in short-term negligible adverse impacts to floodplains due to ground disturbance during construction. The addition of structures under Alternative C would result in very little change to the ability of the floodplain to convey floodwaters and would not contribute to flooding. Either option for access to the river pavilion would have short and long-term negligible affects to floodplains and would not measurably affect the ability of the floodplain to convey floodwaters, its values and functions, and would not contribute to flooding. Therefore, Alternative C would contribute slightly to the adverse cumulative impacts to the floodplain of other past, present, and future projects.

RARE, THREATENED, AND ENDANGERED SPECIES***METHODOLOGY AND ASSUMPTIONS***

Potential impacts to threatened and endangered species were analyzed based on consultation with the NMFS, review of technical documents regarding the species habitats and life histories, and using professional judgment considering the proposed in-water construction activities and best management practices for reducing risk of impacts during construction activities.

STUDY AREA

The study area for threatened and endangered species is the area of proposed activities within the Potomac River.

IMPACT THRESHOLDS

Negligible: No federally listed species would be affected, or the action would affect an individual of a listed species or its habitat, but the change would be so small that it would not be of any measurable or perceptible consequence to the protected individual or its population. Negligible effect would equate with a “no effect” determination by the NMFS.

Minor: The action would result in detectable impacts to an individual (or individuals) of a federally listed species or its habitat, but would not be expected to result in substantial population fluctuations and would not be expected to have any measurable long-term effects on species, habitats, or natural processes sustaining them. Minor effects would equate with a “may affect but not likely to adversely affect” determination by the NMFS. Mitigation measures, if needed to offset adverse effects, would be simple and successful.

Moderate: The action would result in detectable impacts on individuals or populations of a federally listed species, habitat, or the natural processes sustaining them. Key ecosystem processes would experience disruptions that may result in population or habitat condition fluctuations that would be outside the range of natural variation, but which would be expected to return to natural conditions. Moderate adverse effects would equate with a “may affect / adversely modify critical habitat” determination by the NMFS. Mitigation measures, if needed to offset adverse effects, could be extensive, but would likely be successful.

Major: Populations of a federally listed species, habitat, or the natural processes sustaining them would be measurably affected. Key ecosystem processes would be permanently altered, resulting in changes in populations that could affect the vitality of the population and permanently modify habitat. Major adverse effects would equate with a “may affect / likely to adversely affect/adversely modify habitat” determination by the NMFS. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

Duration: Short-term – Usually less than one year. Impacts would not be measurable or measurable only during the life of construction; Long-term – Usually more than one year. Impacts would be measurable during and after project construction.

IMPACTS OF ALTERNATIVE A – NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no impact to threatened or endangered species because there would be no disturbance within the Potomac River.

CUMULATIVE IMPACTS

Because the No Action Alternative would have no impact on rare, threatened or endangered species, the No Action Alternative would not result in cumulative impacts to these resources.

CONCLUSION

The No Action Alternative would not have activities within the Potomac River and would have no short-term or long-term impacts to threatened and endangered species. No cumulative impacts would occur.

IMPACTS OF ALTERNATIVE B

Alternative B would result in construction activities on the Kennedy Center property, but would not result in activities within the Potomac River. There would be no impact to threatened or endangered species because there would be no disturbance within the Potomac River.

CUMULATIVE IMPACTS

Because there would be no impacts associated with Alternative B, there would be no cumulative impacts.

CONCLUSION

Alternative B would not have activities within the Potomac River and would have no short-term or long-term impacts to threatened and endangered species. No cumulative impacts would occur.

IMPACTS OF ALTERNATIVE C (PREFERRED ALTERNATIVE)

Alternative C would require construction activities on the Kennedy Center property. Existing landscaped areas around the parking garage entrances and the surface parking lot would be disturbed, and the proposed expansion would cover these areas. Exposed soils can result in erosion and release of sediments into the Potomac River which in turn could affect the Atlantic and short-nosed sturgeons. However, erosion and sediment controls and various other BMPs such as silt fencing, sediment traps, and vegetative stabilization would be employed as needed during construction to minimize soil erosion and the release of sediments into the Potomac River. Because the erosion and sediment controls are expected to effectively limit soil movement, sedimentation within the Potomac River would be limited. As a result, Alternative C would have short-term minor adverse impacts on threatened and endangered species from sedimentation.

Under Alternative C, the proposed floating river pavilion would be placed along the seawall adjacent to the Kennedy Center and would be constructed on land and assembled on the river. Fish species, including the shortnose and Atlantic sturgeons, would likely be disturbed during construction of the floating pavilion. Based on available information, the shortnose sturgeon has been documented in the Potomac River upstream to Little Falls. Suitable spawning habitat is thought to exist in the area downstream of Little Falls and in the Fletchers-Chain Bridge reach. The portion of the Potomac River adjacent to the Kennedy Center is not identified as suitable spawning habitat, but serves as a migratory route to the upstream spawning areas. The construction activities associated with the assembly of the floating pavilion would occur on the water surface and would not cause harm to sturgeons that may be traveling through the project area.

A small area of the Potomac River would be unavailable to the sturgeon during construction of the river pavilion due to construction related disturbance and physical exclusion of fish from the project area. However, because the construction activities would cause disturbances to only a small portion of the Potomac River, fish passage and migration would not be affected. After construction activities

are completed, any displaced fish species, including sturgeons, would likely return to the area. Methods for anchoring the pavilion include telescoping piles, Sea Flex anchors, and stiff arms. No dredging is anticipated under any of the anchoring options.

The telescoping piles and the Sea Flex anchor methods would require disturbance to the river bottom to install the piles or anchors. The piles or anchors would be installed by drilling into the river bottom, or by directly driving the piles or anchors. The stiff arm method would attach the river pavilion to the existing seawall using metal arms and would not require construction on the river bottom. Fish species would be affected by disturbed sediments and disturbed surface waters, as well as underwater construction noise and vibration from pile or anchor installation, and shock waves produced by pile driving if piling driving is used. Pile driving has been known to produce shock waves in the water column that disturb, and in extreme cases, kill nearby fish. The piles that would be needed to secure the proposed river pavilion would be 12-inch to 24-inch diameter. Based on information obtained from the "Biological Assessment of Impacts to the Shortnose Sturgeon" prepared for the South Capitol Street project, fish kills are associated with shock waves above six pounds per square inch. Shock waves of this magnitude are normally associated with piles larger than 66 inches in diameter. The piles needed for the proposed Kennedy Center river pavilion, would be less than 24 inches in diameter and would not result in shock waves of this magnitude. Therefore, these activities would not be expected to result in fish mortality. Sediment erosion and control measures would minimize the potential effects from sedimentation and would prevent fish from entering the work area. Turbidity curtains would also be used to minimize the disturbances and to prevent fish from entering the construction areas. In the event that sturgeons are present in the project vicinity during construction, these turbidity curtains would exclude them from any potentially harmful activity. The noise and disturbance to the water column during construction would cause fish species, including sturgeons, to temporarily avoid the construction area and relocate to similar nearby habitat. Based on the unlikely potential for occurrence of sturgeons in the project area during construction and the nature of the proposed activities, the river pavilion is expected to result in short-term minor adverse impacts to threatened and endangered sturgeons.

The addition of the land based pavilions and the floating river pavilion on the Potomac River would not result in the permanent loss or degradation of aquatic habitat. Therefore, long-term effects on fish species, including the shortnose sturgeon and Atlantic sturgeon, and their habitat is not expected from the proposed action. Because, with mitigation, there would be no impacts to the sturgeon, consultation with the NMFS under Section 7 of the Endangered Species Act has concluded.

RIVER ACCESS OPTION 1

Under Option 1, access from the Kennedy Center to the Rock Creek Park Paved Recreation Trail would be provided by an at-grade pedestrian crossing. Access to the river pavilion would be provided by a pedestrian connection from the Rock Creek Park Paved Recreation Trail to the river pavilion. Exposed soils as a result of construction can result in erosion and release of sediments into the Potomac River which in turn could affect the Atlantic and short-nosed sturgeons. However, erosion and sediment controls and various other BMPs such as silt fencing, sediment traps, and vegetative stabilization would be employed as needed during construction to minimize soil erosion and the release of sediments into the Potomac River. Because the erosion and sediment controls are expected to effectively limit soil movement, sedimentation within the Potomac River would be

limited. As a result, this access option would have short-term minor adverse impacts on threatened and endangered species from sedimentation.

RIVER ACCESS OPTION 2 (PREFERRED OPTION)

Option 2 proposes a single pedestrian bridge that would connect the Kennedy Center to the river pavilion and an at-grade pedestrian connection from the Rock Creek Paved Recreation Trail to the river pavilion. Exposed soils as a result of construction can result in erosion and release of sediments into the Potomac River which in turn could affect the Atlantic and short-nosed sturgeons. However, erosion and sediment controls and various other BMPs such as silt fencing, sediment traps, and vegetative stabilization would be employed as needed during construction to minimize soil erosion and the release of sediments into the Potomac River. Because the erosion and sediment controls are expected to effectively limit soil movement, sedimentation within the Potomac River would be limited. As a result, this access option would have short-term minor adverse impacts on threatened and endangered species from sedimentation.

CUMULATIVE IMPACTS

Past, present, and future projects identified for this analysis would not result in adverse impacts to threatened and endangered species because the projects would not result in direct impacts to the species of concern, and would not result in degradation of habitat. Because projects taking place in the Potomac River, such as the Arlington Memorial Bridge Rehabilitation, are scheduled to avoid migrating sturgeon and other fishes, and other mitigations are put in place to minimize impacts to habitat impacts would be negligible. When added to the negligible adverse impact of Alternative C, the cumulative adverse impact would be long-term and negligible and not likely measurable.

CONCLUSION

Alternative C would result in short-term minor adverse impacts to threatened and endangered species due to disturbances during construction. There would be no taking or relocation of species, and there would be no loss of critical aquatic habitat. When added to the negligible adverse impact of Alternative C, the cumulative adverse impact would be long-term and negligible and not likely measurable.

CULTURAL RESOURCES

GUIDING REGULATIONS AND POLICY

The National Historic Preservation Act of 1966 (16 USC 470) governs Federal agencies in their handling of historic properties. Under Section 106 of the Act and its implementing regulations (36 CFR Part 800), Federal agencies must take into account the effects of their actions on any prehistoric or historic district, site, building, structure, or object included in, or eligible for listing in, the NRHP. This includes artifacts, records, and remains that are related to and located within such properties, as well as culturally significant Native American sites and historic landscapes. In addition, Section 106 requires Federal agencies to consult with the State Historic Preservation Officer and other interested parties to avoid, minimize, or mitigate adverse impacts. Federal agencies are also required to afford the Advisory Council for Historic Preservation (ACHP) a reasonable opportunity to comment if an undertaking would have an adverse impact on a cultural resource. Additionally, Section 106 requires coordination with federally recognized Indian tribes who may have potential

religious or cultural interest in the project area. Section 106 acknowledges that tribes may have interest in geographic locations other than their seat of governments. As such the Delaware Nation was invited to participate in Section 106 consultation for the Kennedy Center Expansion Project. This EA considers impacts to cultural resources in accordance with NEPA. Section 106 compliance is being conducted as a separate, but parallel, process.

In addition to the NHPA, the protection and management of cultural resources held by the NPS is governed by Director's Order #28: *Cultural Resources Management*, the 2006 NPS Management Policies, and the 2008 NPS-wide Programmatic Agreement with the ACHP and the National Conference of State Historic Preservation Officers. These documents require that NPS managers avoid or minimize adverse impacts on Park resources to the greatest extent possible.

GENERAL METHODOLOGY AND ASSUMPTIONS

The NPS categorizes their cultural resources as archeological resources, cultural landscapes, historic districts and structures, museum objects, and ethnographic resources. Only potential impacts on cultural landscapes and historic properties, including buildings, sites, structures, and districts, have been retained for detailed study for this project.

The NPS guide for evaluating impacts, Director's Order #12: *Conservation Planning, Environmental Impact Analysis, and Decision Making*, requires that impact assessment be scientific, accurate, and quantified to the greatest extent possible. For cultural resources, it is rarely possible to measure impacts in quantifiable terms; therefore, impact thresholds must rely on the professional judgment of resource experts. The following impact analysis is an assessment of the effects of the undertaking on historic properties and cultural resources included in, or eligible for inclusion in, the NRHP and is based upon the Section 106 criteria of adverse effect (36 CFR Part 800.5).

AREA OF POTENTIAL EFFECTS

The Area of Potential Effects (APE) for the Kennedy Center Expansion Project includes the cultural resources that could be impacted as a result of the undertaking, as well as the area from which the project site is readily visible. The APE boundaries are roughly the Whitehurst Freeway and Virginia Avenue NW, on the north; 23rd Street NW, and the Lincoln Memorial Circle on the east; the Arlington Memorial Bridge, Memorial Avenue, Jefferson Davis Highway (Route 110), and Marshall Drive on the south; and N. Meade Street, Arlington Boulevard (Route 50), the George Washington Memorial Parkway, and the Francis Scott Key Bridge on the west. A graphic illustration of the APE is found in Figure 19 of Chapter 3.

The proposed project has the potential to directly or indirectly impact nine individually listed NRHP resources, two National Historic Landmarks, and four cultural landscapes. The project also has the potential to impact the Kennedy Center and the Potomac Annex Historic District, which have been determined eligible for the NRHP.

IMPACT THRESHOLDS

For a cultural resource to be listed in or eligible for listing in the NRHP it must possess significance, and the features which convey its significance must have integrity. For purposes of evaluating potential impacts on cultural resources, the thresholds of change are defined as follows:

Negligible: The impact is at the lowest level of detection with neither adverse nor beneficial consequences.

Minor: Adverse Impact – The project would alter the patterns or features of a cultural resource but would not diminish the integrity of character-defining features or the overall integrity of the historic resource.

Moderate: Adverse Impact – The project would alter the character-defining features of the cultural resource and diminish its integrity.

Major: Adverse Impact – The project would alter the character-defining features of the cultural resource and severely diminish the integrity of the features and the overall integrity of the historic property.

Beneficial Impact – The project would repair, stabilize, rehabilitate, or restore the cultural resource in accordance with the Secretary of the Interior's Standards for Treatment of Historic Properties to accurately depict its form, features, and character as it appeared during the period of significance.

IMPACTS OF ALTERNATIVE A – NO ACTION ALTERNATIVE

Under the No Action Alternative, the Kennedy Center Expansion Project would not be implemented. The existing conditions, operations, and maintenance of the Kennedy Center and the resources within the APE would continue. This alternative would not result in any changes to and, therefore would have no impact (no adverse effect) on, the overall integrity or on the character-defining features of the cultural resources within the APE as they currently exist.

CUMULATIVE IMPACTS

Because the No Action Alternative would have no impact on historic resources or cultural landscapes, the No Action Alternative would not result in cumulative impacts to these resources.

CONCLUSION

The No Action Alternative would have no impact on the overall integrity or on the character-defining features of the historic resources within the APE as they currently exist. There would be no resulting cumulative impacts to these resources.

IMPACTS OF ALTERNATIVE B

Under Alternative B, during construction, the presence of construction equipment and an active construction site would temporarily alter views looking towards and away from the Kennedy Center; therefore, Alternative B would have moderate short-term adverse impacts on the cultural landscape of the Kennedy Center.

Character-defining features of the Kennedy Center include intangible attributes of the building's aesthetic composition such as its bilateral symmetry; long, low horizontality; organized, hierarchical facades; and clear, geometric form. Contributing features of the exterior facades include the thin-clad marble curtain walls; the size and location of the plaza-level glass curtain walls; the roof overhangs, including the marble-paneled fascia; the peripteral columns; the engraved quotations and bronze wall signage; the stage access doors; and the vertical paired openings in the north, south, and center bays of the east facade. Contributing features of the terraces and Entrance Plaza include the footprint and cantilevered structure of the West Terrace; the marble panels of the north, west, and south fascia of the West Terrace overhang; the shape and location of the planting boxes and double row of willow trees of the West Terrace; the shape and location of the water features of the West Terrace; the size and location of the water features of the Entrance Plaza; and the Entrance Plaza public art including *Don Quixote*, *From Columbia to John F. Kennedy*, and *Amerika* and *War and Peace*. However, due to extensive alterations made during a 2005 garage expansion and site improvement project, there are no contributing features of the North Terrace, the Upper South Terrace, and the Lower South Terrace.

Under Alternative B, the Kennedy Center's South Terrace would be redesigned, involving the removal of a section of the concrete perimeter wall surrounding the terrace, among other items. Additionally, the Lower South Terrace and the parking area and circulation drives south of the existing facility would be demolished for new construction. No contributing features of the Kennedy Center would be impacted due to these changes. Below-grade connections between the expansion and the existing facility would also have no impact on the Kennedy Center's contributing features.

Alternative B would require the removal of a small section (approximately 2 square feet) of the existing curtain wall to provide an opening for a projector window in the south facade. The thin-clad marble curtain walls are a contributing feature that would be impacted due to this change. Also under Alternative B, a walkway covered by a canopy (approximately 10 feet high) would provide a terrace-level connection between the existing building and the expansion (see Figure 23). Although panoramic views from the terraces of the Kennedy Center are not identified as character-defining features, the proposed canopy would interrupt existing panoramic views from the South and West Terraces. The proposed land pavilions under Alternative B would also interrupt existing panoramic views from the South and West Terraces, and, from certain locations, block views of the Lincoln Memorial and the Washington Monument (see Figure 24). Existing views from the Roof Terrace would not be impacted. Because the river pavilion would not be implemented under this alternative, there would be no impact on existing views toward the river from the Kennedy Center. Overall, Alternative B would have a long-term moderate adverse impact on the Kennedy Center.

Under Alternative B, there would be no changes to the RCPP or its character-defining features. Alternative B would have no impact on the RCPP or its contributing features.

The Arlington Memorial Bridge and Related Structures, which forms part of the southern boundary of the project's APE, is significant as the principal physical and symbolic connection between the Lincoln Memorial and Virginia's Arlington House. Under Alternative B, the three land-based pavilions would be partially visible from the Arlington Memorial Bridge; however, the primary vista of the bridge along the east-west axis of the National Mall would not be impacted. Alternative B would have no impact on the Arlington Memorial Bridge and Related Structures.

Arlington Ridge Park contains two major memorial compositions – the United States Marine Corps War Memorial and the Netherlands Carillon – and is significant in part as a contributing feature of the National Mall viewshed. Because of distances and sightlines, the pavilions under Alternative B would not be visible from the park and therefore would have no impact on views from Arlington Ridge Park or its contributing features.

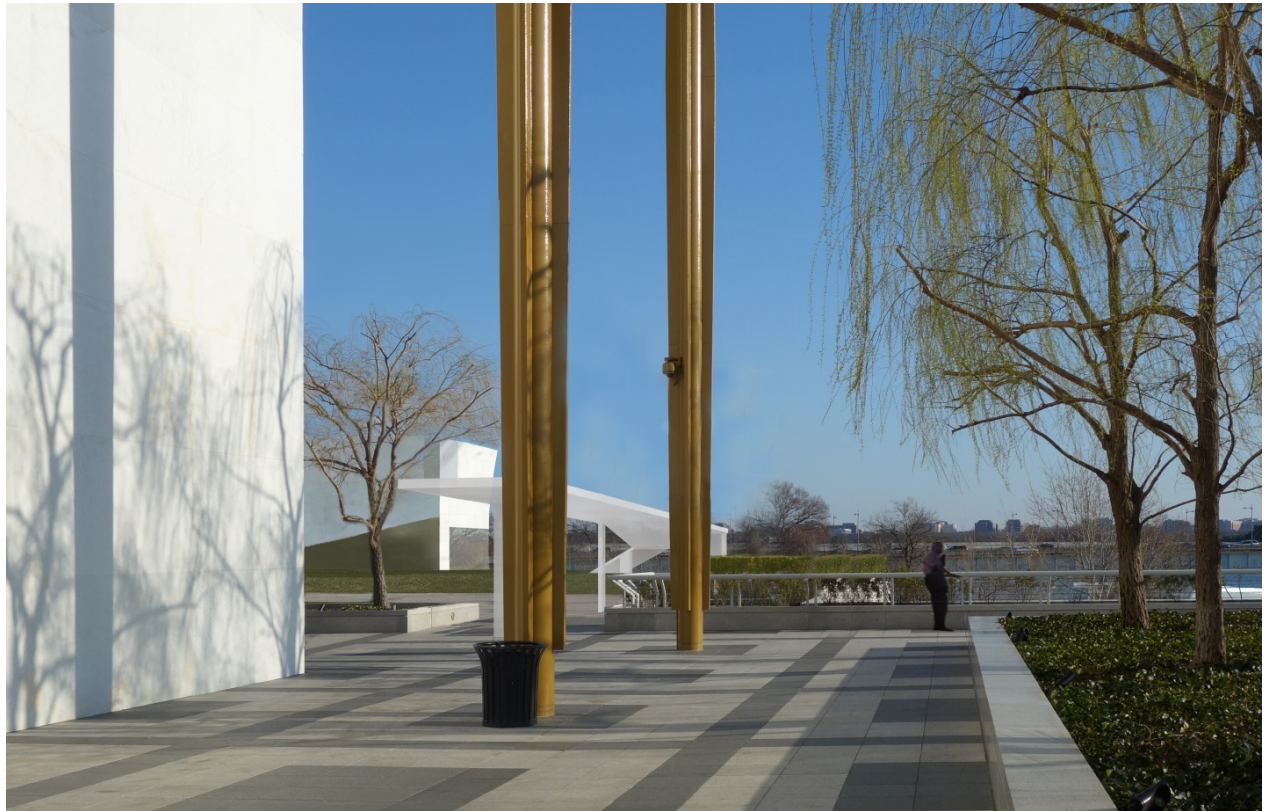


Figure 23: Rendering of the West Terrace illustrating the proposed canopy connection (at center) between the terrace of the existing building and the proposed expansion.

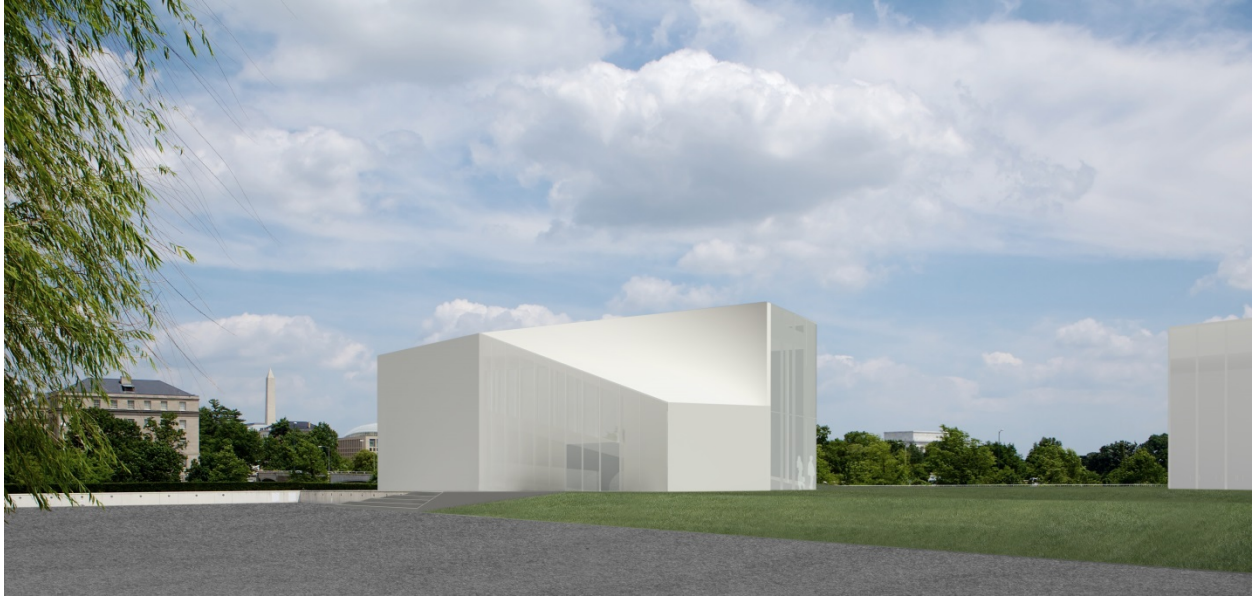


Figure 24: Rendering of the proposed land pavilions under Alternative B illustrating effects on views looking southeast from the northwest corner of the Kennedy Center's South Terrace.

Contributing features of the East and West Potomac Parks Historic District within the APE include the Lincoln Memorial, the Lincoln Memorial Grounds, the Arlington Memorial Bridge, and the Stone Seawalls. The impacts of Alternative B on the Lincoln Memorial, the Lincoln Memorial Grounds, and the Arlington Memorial Bridge are covered in other sections of text related directly to each resource.

Due to their location south of the Theodore Roosevelt Memorial Bridge, Alternative B would have no impact on the Stone Seawalls. Also among the defining elements of the East and West Potomac Parks Historic District are the vast unimpeded vistas that connect the broad greensward, the distant monuments, the Potomac River, and the low skyline of the city. Due to sightlines and the location and relative scale and massing of the pavilions, Alternative B would only be minimally visible from locations within the historic district and therefore would have no impact on views from the East and West Potomac Parks Historic District.

The landscape values of the George Washington Memorial Parkway are associated with the preservation of the scenic and aesthetic qualities of the Potomac River valley. Hilltop vistas provide glimpses of Washington's monumental core and were a central purpose for the establishment of the parkway and its continuing protection. One significant aspect of the George Washington Memorial Parkway is its function as a designed entryway into the National Capital. As such, it provides a picturesque approach to Washington with views of the Potomac River, the monuments, and the federal city beyond. Due to distances and the scale and massing of the proposed pavilions, Alternative B would only be minimally visible from locations within the George Washington Memorial Parkway and would have no impact on existing views from the resource.

Although contributing views and vistas of the Potomac River from the Georgetown Historic District are not specifically identified, Georgetown has been tied to its waterfront location from its eighteenth-century beginnings as a tobacco port and shipping center through its early 20th-century

industrialization. Alternative B would be minimally visible from the Georgetown Historic District and therefore would have no impact on the resource.

The Lincoln Memorial rests on an elaborate landscaped and terraced base near the east bank of the Potomac River. Its location established the formal terminus of the Senate Park (McMillan) Commission's plan for an extended Mall, and the memorial has served as the setting for major Civil Rights events of the 20th century. Due to sightlines and the relative scale and massing of the pavilions, Alternative B would only be minimally visible from the Lincoln Memorial and therefore would have no impact on the resource.

The Old Naval Observatory and the Potomac Annex Historic District are located on a prominent hill overlooking the Potomac River in Foggy Bottom. Historic views west and southwest from the Old Naval Observatory and the Potomac Annex Historic District have been substantially compromised over the years due to extensive freeway and roadway construction. Due to the scale and location of the pavilions, Alternative B would have no impact on views and vistas from the Old Naval Observatory and the Potomac Annex Historic District.

The design of the Watergate was carefully planned to complement its location on a site directly adjacent to the RCPP and the riverfront and to take full advantage of the views of the Potomac. Due to the location of the pavilions set back behind the existing Kennedy Center facility, Alternative B would not be visible from the Watergate and would have no impact on the resource.

The impacts of Alternative B on the cultural landscapes within the APE are limited to views and vistas. Contributing Memorial Avenue corridor views and vistas within the APE include views of the green parkland along both sides of the Potomac from the Arlington Memorial Bridge and views of the river from Memorial Circle. Due to the location and relative scale and massing of the pavilions, Alternative B would have no impact on views from the Memorial Avenue corridor. Contributing views and vistas of Lady Bird Johnson Park within the APE include views from the Mount Vernon Trail and northbound George Washington Memorial Parkway to the Kennedy Center. Due to distances and the relative scale and massing of the pavilions, Alternative B would only be minimally visible from Lady Bird Johnson Park and therefore would have no impact on the resource. The most important designed vista of the Lincoln Memorial grounds aligns with the National Mall axis east to the Washington Monument and the U.S. Capitol and west across the Watergate steps to the Virginia shoreline. Because of the angle of sightlines and the scale and massing of the pavilions, Alternative B would have no impact on contributing Lincoln Memorial grounds views and vistas within the APE. Measuring approximately 90 acres, Theodore Roosevelt Island is located in the Potomac River, across the Georgetown Channel from the Kennedy Center. There are no significant historic views on the northern part of the island, and views to the various commercial and residential structures and roads along the Georgetown waterfront are not contributing. An "Outlook Plateau" once planned for the southern end of the island's upland plateau was to provide a vantage point for visitors to view the Lincoln Memorial, the western end of the Mall, the Potomac River, and other points east. Plans for the Outlook, however, were never carried out, and virtually all views south are blocked by the Theodore Roosevelt Memorial Bridge and by overgrown vegetation. There are no significant historic views looking east across the Potomac. Contributing views and vistas are limited to the views within and across the plaza of the Theodore Roosevelt Memorial. Alternative B would have no impact on contributing views and vistas of Theodore Roosevelt Island.

Due to modifications to and impacts on character-defining features of the Kennedy Center, Alternative B would have long-term moderate adverse impacts on cultural resources within the APE.

CUMULATIVE IMPACTS

Construction activities during present and future projects including those associated with the National Mall Plan, NMAAHC, Dwight D. Eisenhower Memorial, Potomac Park Levee, Arlington Memorial Bridge Repair and Rehabilitation, DC Clean Rivers Potomac River Tunnel, Potomac Hill Master Plan and the Vietnam Veterans Memorial Visitor Center, have and would have short-term impacts to the views and vistas of cultural resources. It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation and the Eisenhower Memorial. Therefore, Alternative B would not contribute to the short-term cumulative impacts from these projects. The NMAAHC, and the improvements associated with the National Mall Plan are anticipated to be constructed around the same time as the Kennedy Center project. Construction activities under Alternative B would add slightly to the short-term adverse cumulative impacts to cultural resources.

Past and future projects such as the Potomac Hill Master Plan, the Georgetown Waterfront Improvements, and the Extending the Legacy and Washington Waterfronts Plan would have minor to moderate impacts on cultural resources from permanent changes to individual resources as well as permanent changes to views and vistas. Alternative B would contribute moderately to the long-term cumulative impacts to cultural resources.

CONCLUSION

Alternative B would result in long-term moderate adverse impacts to cultural resources within the APE, but have less impact than Alternative C because there would be no impacts on the RCPP. Alternative B would contribute moderately to the long-term cumulative impacts to cultural resources.

NPS and NCPC are coordinating the findings of this EA with the DC HPO in accordance with Section 106 of the NHPA through the preparation of an Assessment of Effects report. A Memorandum of Agreement detailing the necessary mitigation and minimization measures would be completed with and signed by the necessary parties prior to the final decision document.

IMPACTS OF ALTERNATIVE C (PREFERRED ALTERNATIVE)

Under Alternative C, during construction, the presence of construction equipment and an active construction site would temporarily alter views to and from the Kennedy Center and would temporarily alter views from the RCPP and the Rock Creek Paved Recreation Trail; therefore, Alternative C would have short-term moderate adverse impacts on the the Kennedy Center and the RCPP.

Under Alternative C, the Kennedy Center, a NRHP-eligible property, would be directly impacted. Character-defining features of the Kennedy Center include intangible attributes of the building's aesthetic composition such as its bilateral symmetry; long, low horizontality; organized, hierarchical facades; and clear, geometric form. Contributing features of the exterior facades include the thin-clad marble curtain walls; the size and location of the plaza-level glass curtain walls; the roof overhangs, including the marble-paneled fascia; the peripteral columns; the engraved quotations and bronze

wall signage; the stage access doors; and the vertical paired openings in the north, south, and center bays of the east facade. Contributing features of the terraces and Entrance Plaza include the footprint and cantilevered structure of the West Terrace; the marble panels of the north, west, and south fascia of the West Terrace overhang; the shape and location of the planting boxes and double row of willow trees of the West Terrace; the shape and location of the water features of the West Terrace; the size and location of the water features of the Entrance Plaza; and the Entrance Plaza public art including *Don Quixote*, *From Columbia to John F. Kennedy*, and *Amerika* and *War and Peace*. However, due to extensive alterations made during a 2005 garage expansion and site improvement project, there are no contributing features of the North Terrace, the Upper South Terrace, and the Lower South Terrace.

Under Alternative C, the Kennedy Center's South Terrace would be redesigned, involving the removal of a section of the concrete perimeter wall surrounding the terrace, among other items. Additionally, the Lower South Terrace and the parking area and circulation drives south of the existing facility would be demolished for new construction. No contributing features of the Kennedy Center would be impacted due to these changes. Below-grade connections between the expansion and the existing facility would also have no impact on the Kennedy Center's contributing features.

Alternative C would require the removal of a small section (approximately 2 square feet) of the existing curtain wall to provide an opening for a projector window in the south facade. The thin-clad marble curtain walls are a contributing feature that would be impacted due to this change. Also under Alternative C, a walkway covered by a canopy (approximately 10 feet high) would provide a terrace-level connection between the existing building and the expansion (see Figure 23). Although panoramic views from the terraces of the Kennedy Center are not identified as character-defining features, the proposed canopy would interrupt existing panoramic views from the South and West Terraces. The proposed land pavilions and the river pavilion would also interrupt existing panoramic views from the South and West Terraces, and, from certain locations, block views of the Lincoln Memorial and the Washington Monument (see Figure 24). Existing views from the Roof Terrace would not be impacted (see Figure 25). Overall, Alternative C1 would have a long-term moderate adverse impact on the Kennedy Center.



Figure 25: Rendering of the proposed land pavilions under Alternative C illustrating effects on views looking south from the Kennedy Center's Roof Terrace.

Arlington Memorial Bridge and Related Structures, which forms part of the southern boundary of the project's APE, is significant as the principal physical and symbolic connection between the Lincoln Memorial and Virginia's Arlington House. Under Alternative C, the above-ground pavilions and the river pavilion of the expansion project would be partially visible from the Arlington Memorial Bridge; however, the primary vista of the bridge along the east-west axis of the National Mall would not be impacted. Alternative C would have no impact on the Arlington Memorial Bridge and Related Structures.

Arlington Ridge Park contains two major memorial compositions – the United States Marine Corps War Memorial and the Netherlands Carillon – and is significant in part as a contributing feature of the National Mall viewshed. Because of distances and sightlines, the pavilions under Alternative C would not be visible from the park and therefore would have no impact on views from Arlington Ridge Park or its contributing features.

Contributing features of the East and West Potomac Parks Historic District within the APE include the Lincoln Memorial, the Lincoln Memorial Grounds, the Arlington Memorial Bridge, and the Stone Seawalls. The impacts of Alternative C on the Lincoln Memorial, the Lincoln Memorial Grounds, and

the Arlington Memorial Bridge are covered in other sections of text related directly to each resource. Due to their location south of the Theodore Roosevelt Memorial Bridge, Alternative C would only be minimally visible from locations within the historic district and therefore would have no impact on the Stone Seawalls. Also among the defining elements of the East and West Potomac Parks Historic District are the vast unimpeded vistas that connect the broad greensward, the distant monuments, the Potomac River, and the low skyline of the city. Due to sightlines and the location and relative scale and massing of the pavilions, Alternative C would only be minimally visible from locations within the historic district and therefore would have no impact on views from the resource.

The landscape values of the George Washington Memorial Parkway are associated with the preservation of the scenic and aesthetic qualities of the Potomac River valley. Hilltop vistas provide glimpses of Washington's monumental core and were a central purpose for the establishment of the parkway and its continuing protection. One significant aspect of the George Washington Memorial Parkway is its function as a designed entryway into the National Capital. As such, it provides a picturesque approach to Washington with views of the Potomac River, the monuments, and the federal city beyond. Due to distances and the scale and massing of the proposed pavilions, Alternative C would only be minimally visible from the locations within the George Washington Memorial Parkway and would have no impact on existing views from the resource.

Although contributing views and vistas of the Potomac River from the Georgetown Historic District are not specifically identified, Georgetown has been tied to its waterfront location from its eighteenth-century beginnings as a tobacco port and shipping center through its early 20th-century industrialization. Alternative C would be minimally visible from the Georgetown Historic District and therefore would have no impact on the resource.

The Lincoln Memorial rests on an elaborate landscaped and terraced base near the east bank of the Potomac River. Its location established the formal terminus of the Senate Park (McMillan) Commission's plan for an extended Mall, and the memorial has served as the setting for major Civil Rights events of the 20th century. Due to sightlines and the scale and massing of the pavilions, Alternative C would only be minimally visible from the Lincoln Memorial and therefore would have no impact (no adverse effect) on views from the resource.

The Old Naval Observatory and the Potomac Annex Historic District are located on a prominent hill overlooking the Potomac River in Foggy Bottom. Historic views west and southwest from the Old Naval Observatory and the Potomac Annex Historic District have been substantially compromised over the years due to extensive freeway and roadway construction. Due to the scale and location of the pavilions, Alternative C would have no impact on views and vistas from the Old Naval Observatory and the Potomac Annex Historic District.

The design of the Watergate was carefully planned to complement its location on a site directly adjacent to the RCPP and the riverfront and to take full advantage of the views of the Potomac. Due to the location of the river pavilion south of the Kennedy Center's West Terrace, Alternative C would only be minimally visible from the Watergate and therefore would have no impact on views from the resource.

The impacts of Alternative C on the cultural landscapes within the APE are limited to views and vistas. Contributing Memorial Avenue corridor views and vistas within the APE include views of the green parkland along both sides of the Potomac from the Arlington Memorial Bridge and views of the

river from Memorial Circle. Due to the location and relative scale and massing of the river pavilion, Alternative C would only minimally disrupt views and have no impact (no adverse effect) on Memorial Avenue corridor. Contributing views and vistas of Lady Bird Johnson Park within the APE include views from the Mount Vernon Trail and northbound George Washington Memorial Parkway to the Kennedy Center. Due to distances and the relative scale and massing of the river pavilion, Alternative C would be minimally visible from Lady Bird Johnson Park and therefore would have no impact on the resource. The most important designed vista of the Lincoln Memorial grounds aligns with the National Mall axis east to the Washington Monument and the U.S. Capitol and west across the Watergate steps to the Virginia shoreline. Because of the angle of sightlines and the scale and massing of the pavilions, Alternative C would have no impact on contributing Lincoln Memorial grounds views and vistas within the APE. Measuring approximately 90 acres, Theodore Roosevelt Island is located in the Potomac River, across the Georgetown Channel from the Kennedy Center. There are no significant historic views on the northern part of the island, and views to the various commercial and residential structures and roads along the Georgetown waterfront are not contributing. An "Outlook Plateau" once planned for the southern end of the island's upland plateau was to provide a vantage point for visitors to view the Lincoln Memorial, the western end of the Mall, the Potomac River, and other points east. Plans for the Outlook, however, were never carried out, and virtually all views south are blocked by the Theodore Roosevelt Memorial Bridge and by overgrown vegetation. There are no significant historic views looking east across the Potomac. Contributing views and vistas are limited to the views within and across the plaza of the Theodore Roosevelt Memorial. Alternative C would have no impact on contributing views and vistas of Theodore Roosevelt Island.

RIVER ACCESS OPTION 1

Under Option 1, the Kennedy Center and the RCPP would be directly impacted by the construction of the river pavilion. Also under Option 1, the RCPP would be directly impacted by the at-grade crossing over the RCPP roadway and the pedestrian connection between the Rock Creek Paved Recreation Trail and the lower level of the river pavilion.

Under Option 1, the river pavilion would interrupt existing panoramic views from the South and West Terraces of the Kennedy Center (see Figure 26). Existing views from the Roof Terrace would not be impacted. The at-grade crossing over the RCPP and pedestrian connection to the river pavilion would have no impact on the Kennedy Center. Overall, Option 1 would have a long-term moderate adverse impact on the Kennedy Center.



Figure 26: Rendering of the proposed river pavilion under Option 1 illustrating effects on views looking south from the Kennedy Center's West Terrace.

Under Option 1, the river pavilion, the at-grade crossing across the RCPP, and the pedestrian connection between the Rock Creek Paved Recreation Trail and the river pavilion would have direct impact the following contributing resources of the RCPP: the roadway and the network of trails. Under Option 1, the river pavilion would block panoramic views of the Potomac River and Theodore Roosevelt Island from sections of the RCPP roadway and trail (see Figure 27 and Figure 28). Also under Option 1, the pedestrian connection between the river pavilion and the Rock Creek Paved Recreation Trail would impact the perceived width and character of the trail within the project area and would alter design elements such as the paving materials and landscaping. Option 1 would have no impact on the following contributing resources of the RCPP: *The Arts of Peace*, Millet Lamp posts, Stone Seawalls, Rock Creek, the Chesapeake and Ohio Canal, and the Sycamore Allee. The Sycamore Allee is a widely spaced planting of sycamore trees along the narrow strip of grass between the RCPP roadway and the river that functions as a transition between the monumental design of the National Mall and the natural landscape of the Rock Creek Valley. The design of Option 1 would be developed to avoid impacting trees within the allee; therefore, Option 1 would have no impact on the resource. Overall, Option 1 would have long-term moderate adverse impact on the RCPP.



Figure 27: Rendering of the proposed river pavilion under Option 1 illustrating effects on views looking north from the RCPP.



Figure 28: Rendering of the proposed river pavilion under Option 1 illustrating effects on views looking south from the RCPP.

Due to distances and sightlines, Option 1 would have no impact on the following resources: Arlington Memorial Bridge and Related Structures, Arlington Ridge Park, East and West Potomac parks Historic District, George Washington Memorial Parkway, Georgetown Historic District, Lincoln Memorial, Old Naval Observatory, Potomac Annex Historic District, Watergate, Memorial Avenue corridor, Lady Bird Johnson Park, Lincoln Memorial grounds, and Theodore Roosevelt Island.

Due to modifications to and impacts on character-defining features of the Kennedy Center and the RCPP, Option 1 would have long-term moderate adverse impacts on cultural resources within the APE.

RIVER ACCESS OPTION 2 (PREFERRED OPTION)

Under Option 2, the Kennedy Center and the RCPP would be directly impacted by the construction of the river pavilion and the pedestrian bridge over the RCPP. Also under Option 2, the RCPP would be directly impacted by the pedestrian connection between the Rock Creek Paved Recreation Trail and the river pavilion.

Under Option 2, the river pavilion, and to a lesser extent the pedestrian bridge would interrupt existing panoramic views from the South and West Terraces of the Kennedy Center (see Figure 29). Existing views from the Roof Terrace would not be impacted. The pedestrian connection to the river pavilion would have no impact on the Kennedy Center. Overall, Option 2 would have a long-term moderate adverse impact on the Kennedy Center.



Figure 29: Rendering of the proposed river pavilion under Option 2 illustrating effects on views looking south from the Kennedy Center's West Terrace.

Under Option 2, the river pavilion, the pedestrian bridge over the RCPP, and the pedestrian connection between the Rock Creek Paved Recreation Trail and the river pavilion would have a direct impact the following contributing resources of the RCPP: the roadway and the network of trails. Under Option 2, the river pavilion and pedestrian bridge would block panoramic views of the Potomac River and Theodore Roosevelt Island from sections of the RCPP roadway and trail (see Figure 30 and Figure 31). Also under Option 2, the pedestrian connection between the Rock Creek Paved Recreation Trail and the river pavilion would impact the perceived width and character of the trail within the project area and would alter design elements such as the paving materials and landscaping. Option 2 would have no impact on the following contributing resources of the RCPP: *The Arts of Peace*, Millet Lamp posts, Stone Seawalls, Rock Creek, the Chesapeake and Ohio Canal, and the Sycamore Allee. The Sycamore Allee is a widely spaced planting of sycamore trees along the narrow strip of grass between the RCPP roadway and the river that functions as a transition between the monumental design of the National Mall and the natural landscape of the Rock Creek Valley. The design of Option 2 would be developed to avoid impacting trees within the allee; therefore, Option 2 would have no impact on the resource. Overall, Option 2 would have long-term moderate adverse impact on the RCPP.



Figure 30: Rendering of the proposed river pavilion under Option 2 illustrating effects on views looking north from the RCPP.



Figure 31: Rendering of the proposed river pavilion under Alternative C, Option 2 illustrating effects on views looking south from the RCPP.

Due to distances and sightlines, Option 2 would have no impact on the following resources: Arlington Memorial Bridge and Related Structures, Arlington Ridge Park, East and West Potomac parks Historic District, George Washington Memorial Parkway, Georgetown Historic District, Lincoln Memorial, Old Naval Observatory, Potomac Annex Historic District, Watergate, Memorial Avenue corridor, Lady Bird Johnson Park, Lincoln Memorial grounds, and Theodore Roosevelt Island.

Due to modifications to and impacts on character-defining features of the Kennedy Center and the RCPP, Option 2 would have long-term moderate adverse impact on cultural resources within the APE.

CUMULATIVE IMPACTS

Construction activities during present and future projects including the National Mall Plan, NMAAHC, Dwight D. Eisenhower Memorial, Potomac Park Levee, Arlington Memorial Bridge Repair and Rehabilitation, DC Clean Rivers Potomac River Tunnel, Potomac Hill Master Plan, and the Vietnam Veterans Memorial Visitor Center, have short-term impacts to the views and vistas of cultural resources. It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Therefore, Alternative C would not contribute to the short-term cumulative impacts from these projects. The NMAAHC, and the improvements associated with the National Mall Plan are anticipated to be constructed around the same time as the Kennedy Center project. Construction activities under Alternative C would add slightly to the short-term adverse cumulative impacts to cultural resources.

Past and future projects such as the Potomac Hill Master Plan, the Georgetown Waterfront Improvements, and the Extending the Legacy and Washington Waterfront Plans would continue to have minor to moderate impacts on cultural resources from permanent changes to individual resources as well as permanent changes to views and vistas. Alternative C would contribute moderately to the long-term cumulative impacts to cultural resources.

CONCLUSION

Alternative C would result in long-term moderate adverse impacts to cultural resources within the APE. Under Alternative C, Option 1 and Option 2 would have similar impacts; however, because of the bridge component, Option 2 would have a greater adverse impact on the RCPP. Alternative B, without the river pavilion, would have less of an adverse effect than Alternative C because there would be no impacts to the RCPP. Alternative C would contribute moderately to the long-term cumulative impacts to cultural resources.

NPS and NCPC are coordinating the findings of this EA with the DC HPO in accordance with Section 106 of the NHPA through the preparation of an Assessment of Effects report. A Memorandum of Agreement detailing the necessary mitigation and minimization measures would be completed with and signed by the necessary parties prior to the final decision document.

VISITOR USE AND EXPERIENCE

METHODOLOGY AND ASSUMPTIONS

The purpose of this impact analysis is to assess the effects of the proposed expansion on visitor use and experience of the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail. To determine impacts, current use of the areas was considered and the temporary effects of construction were analyzed. Potential impacts to visitor's ability to experience the Kennedy Center, the RCPP and the Rock Creek Paved Recreation Trail were analyzed by examining existing resources. The reasons for visiting the Kennedy Center were considered, as well as the reasons for visiting surrounding areas.

Analyses of potential impacts were derived from professional judgment and took into consideration visitation patterns and activities available to visitors. The potential change in visitor use and experience proposed by the alternatives was evaluated by identifying projected increases or decreases in recreational use, access to the site, and whether or how the projected changes would affect the desired visitor experience, to what degree, and for how long.

STUDY AREA

The study area for visitor use and experience includes the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail.

IMPACT THRESHOLDS

Negligible: Changes in visitor use and/or experience would be below or at the level of detection. The visitor would not likely be aware of the effects associated with the alternative.

Minor: Changes in visitor use and/or experience would be detectable, although the changes would be slight. The visitor would be aware of the effects associated with the alternative, but the effects would be slight.

Moderate: Changes in visitor use and/or experience would be readily apparent. The visitor would be aware of the effects associated with the alternative and would likely be able to express an opinion about the changes.

Major: Changes in visitor use and/or experience would be readily apparent and severely adverse. The visitor would be aware of the effects associated with the alternative and would likely express a strong opinion about the changes.

Duration: Short-term - Effects lasting for the duration of construction or less than one year; Long-term - Effects lasting longer than the duration of construction or more than one year.

IMPACTS OF ALTERNATIVE A – NO ACTION ALTERNATIVE

The No Action Alternative represents a continuation of the existing visitor uses and experiences provided by the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail. The Kennedy Center would continue to provide patrons access to the performing arts. The RCPP and the Rock Creek Paved Recreation Trail would continue to provide drivers, joggers, walkers, in-line skaters, and bicyclists a scenic venue along the Potomac River to take in the scenery, commute to work, or exercise. However, accessing the Kennedy Center from the Rock Creek Paved Recreation Trail and the RCPP would continue to be difficult, as there is no dedicated southern access from RCPP and the Rock Creek Paved Recreation Trail to the Kennedy Center. Subsequently, to those who wish to access the Kennedy Center from the Rock Creek Paved Recreation Trail, there would be long-term minor adverse impacts. To those not wanting to access the Kennedy Center from the Rock Creek Paved Recreation Trail, there would be no impacts.

CUMULATIVE IMPACTS

Construction activities from present and future projects, including the National Mall Plan, NMAAHC, Dwight D. Eisenhower Memorial, Potomac Park Levee, Arlington Memorial Bridge Repair and Rehabilitation, DC Clean Rivers Potomac River Tunnel, and the Vietnam Veterans Memorial Visitor Center, would have short-term impacts to the visitor use and experience. There would be no construction activities under the No Action Alternative; therefore, the No Action Alternative would not add to the short-term adverse cumulative impacts of the other projects.

The Arlington Memorial Bridge Repair and Rehabilitation, DC Clean Rivers Potomac River Tunnel, National Mall Plan, the Extending the Legacy Plan, the Washington Waterfront Plan, Monumental Core Framework Plan, Vietnam Veterans Memorial Visitor Center, Martin Luther King, Jr. Memorial, the NMAACH, Georgetown Waterfront Park, and Eisenhower Memorial contribute cumulatively to the visitor experience by enhancing existing Park resources and adding new visitor destinations. However, additional visitation results in more intensive use within the project area. Despite the disruption from construction activities and the increase in visitation and more intensive use of these resources, the overall cumulative impact of these past, present, and reasonably foreseeable future actions would be long-term and beneficial.

CONCLUSION

Alternative A would maintain existing conditions at the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail would not change. No new amenities at the Kennedy Center would be built. This would continue to limit free public access to the arts creating a long-term, minor adverse impact to patrons of the Kennedy Center. The amenities provided to visitors to the RCPP and the Rock Creek Paved Recreation Trail would not change. Overall cumulative impacts of these past, present, and reasonably foreseeable future actions would be long-term and beneficial.

IMPACTS OF ALTERNATIVE B

During construction of the pavilions under Alternative B, heavy equipment and temporary noise would detract from the aesthetics and setting at the Kennedy Center. Construction activities would be coordinated to minimize disruptions during planned events. Construction activities proposed under Alternative B are not expected to impact users of the Rock Creek Paved Recreation Trail, but construction activity would result in increased traffic, including heavy truck traffic on the RCPP (see transportation section). The easternmost northbound lane of the RCPP would be closed for up to eight weeks for construction of the new curb, gutter, and driveway apron. Closures of RCPP would only occur in the evenings. Temporary detours would be provided. See Figure 12 and Figure 13 for the limits of disturbance and construction staging areas. Based on these considerations, there would be short-term moderate adverse impacts to visitor use and experience under Alternative B. Upon completion, the proposed facilities would provide rehearsal rooms at an appropriate size, spaces dedicated for education programs, and lectures in lecture halls rather than in conference or rehearsal rooms. In addition, pre-performance talks with performers would be able to be held in appropriately sized spaces, such as the lecture hall, rather than in the theater. This would provide an enhanced visitor use and experience to visitors in that pre-performance talks would occur not in the theater in which the performance would be held, thereby interfering with incoming theater patrons. The proposed facilities would also provide a venue for additional free events to the public. In addition, the designed landscape would include gardens and reflecting pools, which would enhance the visitor experience. The expansion would also provide a richer experience for visitors who are already visiting the Kennedy Center. Visitors coming to visit the memorial or attend a performance would have the opportunity to have a richer and lengthier engagement with the memorial and the performing arts by being able to glimpse into rehearsals, enjoy the landscape, and participate in interactive activities. While the expansion would create a greater breadth of activities and possibly attract more daytime visitors, it is not expected to draw larger crowds during peak visitation hours. Peak visitation centers around performance times, which are evenings and Saturday and Sunday matinees, which would remain the same.

However, accessing the Kennedy Center from the Rock Creek Paved Recreation Trail and the RCPP would continue to be difficult, as there would be no dedicated route from RCPP and the Rock Creek Paved Recreation Trail to the Kennedy Center from the south. Despite issues related to access, upon completion, the proposed actions would result in long-term net benefits to visitor use and experience of the area.

CUMULATIVE IMPACTS

Construction activities from present and future projects including, the National Mall Plan, NMAAHC, Dwight D. Eisenhower Memorial, Potomac Park Levee, Arlington Memorial Bridge Repair and Rehabilitation, DC Clean Rivers Potomac River Tunnel, and the Vietnam Veterans Memorial Visitor Center, would have short-term impacts to the visitor use and experience. It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Therefore, Alternative B would not contribute to the short-term cumulative impacts from these projects. The NMAAHC and the improvements associated with the National Mall Plan are anticipated to be constructed around the same time as the Kennedy Center project. Construction activities under Alternative B would add slightly to the short-term adverse cumulative impacts to visitor use and experience.

The Arlington Memorial Bridge Repair and Rehabilitation, DC Clean Rivers Potomac River Tunnel, National Mall Plan, Extending the Legacy Plan, Washington Waterfront Plan, Monumental Core Framework Plan, Vietnam Veterans Memorial Visitor Center, Martin Luther King, Jr. Memorial, the NMAACH, Georgetown Waterfront Park, and Eisenhower Memorial contribute cumulatively to the visitor experience by enhancing existing Park resources and adding new visitor destinations. However, additional visitation results in more intensive use within the project area. Despite the disruption from construction activities and the increase in visitation and more intensive use of these resources, the overall cumulative impact on visitor use and experience of these past, present, and reasonably foreseeable future actions would be long-term and beneficial. Alternative B would contribute to the long-term beneficial cumulative impacts by enhancing the Kennedy Center's facilities.

CONCLUSION

Impacts to visitor use and experience under Alternative B consist of short-term moderate adverse impacts due to construction and long-term net benefits resulting from the proposed expansion. Alternative B would contribute to the long-term beneficial cumulative impacts by enhancing the Kennedy Center's facilities. Alternative B would not contribute to the short-term cumulative impacts from the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Construction activities under Alternative B would add slightly to the short-term adverse cumulative impacts to visitor use and experience from the NMAAHC and the improvements associated with the National Mall Plan.

IMPACTS OF ALTERNATIVE C (PREFERRED ALTERNATIVE)

During construction of the pavilions under Alternative C, heavy equipment and noise would be apparent to visitors. Construction activities would be coordinated to minimize disruptions during planned events. Construction activities proposed under this alternative would result in increased traffic, including heavy truck traffic on the RCPP (see transportation section). Based on these considerations, there would be a short-term minor adverse impact to visitor use and experience.

Construction of the proposed river pavilion under Alternative C would result in temporary impacts to visitor use and experience of the Kennedy Center, RCPP, and the Rock Creek Paved Recreation Trail. Depending on the method of construction, components of the river pavilion would be delivered by barge or freight truck to the site. Unloading and assembly of the components that would be delivered by truck would require temporary closures of the RCPP, resulting in temporary adverse impacts to users of the RCPP. The easternmost northbound lane of the RCPP would be closed for up to eight weeks for construction of the new curb, gutter, and driveway apron. Closures of RCPP would only occur in the evenings and would not be concurrent with any other closures. Temporary detours would be provided. See Figure 12 and Figure 13 for the limits of disturbance and construction staging areas. The Kennedy Center would provide advanced notification and appropriate signs to inform parkway users of the closures and detours. Temporary lane closures would abide by the specifications of an approved MOT plan in order to provide a safe working environment and safe passage for motorists during construction. There would be no use of NPS land and/or rerouting of traffic along RCPP without the appropriate permits from the NPS.

Once complete, the land-based and river pavilions would provide visitors with new opportunities to experience both the performing arts and the natural environment of the Potomac River. The open water scenery surrounding the pavilions would add to the enjoyment of Kennedy Center events.

Visitors coming to visit the memorial or attend a performance would have the opportunity to have a richer and lengthier engagement with the memorial and the performing arts by being able to glimpse into rehearsals, enjoy the landscape, and participate in interactive activities in the river pavilion. While the expansion would create a greater breadth of activities and possibly attract more daytime visitors, it is not expected to draw larger crowds during peak visitation hours. Peak visitation centers around performance times, which are evenings and Saturday and Sunday matinees, and those would remain the same. Overall, the proposed expansion would enhance the visitor use and experience at the Kennedy Center and the Potomac waterfront.

The proposed facilities would provide rehearsal rooms of an appropriate size and space dedicated for education programs, and lectures in lecture halls rather than conference or rehearsal rooms. In addition, pre-performance talks with performers would be able to be held in appropriately sized spaces, such as the lecture hall, rather than in the theater. This would provide an enhanced visitor use and experience to visitors in that pre-performance talks would not occur in the theater in which the performance would be held and would not interfere with incoming theater patrons. The expansion would also provide a richer experience for visitors who are already visiting the Kennedy Center.

As a result, the proposed action would result in long-term net beneficial impacts to visitor use and experience of the area.

RIVER ACCESS OPTION 1

Construction under Option 1 would be minimal and temporary closures of the RCPP and Rock Creek Paved Recreation Trail during construction would be relatively short-lived. Public access to the Rock Creek Paved Recreation Trail would be maintained throughout construction, and the Kennedy Center would minimize impacts to trail users. However, the trail would need to be modified to maintain bike and pedestrian flow during construction of the pedestrian connection from the Rock Creek Paved Recreation Trail to the river pavilion (see Figure 13). The re-routing of the trail would be expected to last approximately six weeks and would not be concurrent with any additional closures of the trail or the RCPP. In the event the stiff arm anchoring option is used for the river pavilion, the Rock Creek Paved Recreation Trail would be closed at night for up to 12 weeks to install the new foundations for the shore mounted river pavilion support. The trail would remain open during the day during this time period (see Figure 12). To mitigate temporary impacts, parkway and trail users would be notified in advance of construction activities. Flagmen would be utilized during construction to allow safe passage on the trail when equipment is being used or materials being delivered. Any proposed closures of the RCPP would require permission from the NPS and would be subject to any conditions, such as night-time closures, stipulated by the NPS. Further mitigation measures would include MOT plans which would minimize impacts on RCPP motorists. Under Option 1, there would be short-term minor adverse impacts associated with construction.

Once the at-grade crossing is completed, there would be greater connectivity between the Rock Creek Paved Recreation Trail and the Kennedy Center, providing improved visitor access to and from the Kennedy Center. In addition, providing this direct and convenient access would help connect the Kennedy Center, which is a living memorial to President John F. Kennedy, with those other Presidential Memorials found within NAMA and the George Washington Memorial Parkway, including the Washington Monument National Memorial; Thomas Jefferson Memorial National Memorial; Lincoln Memorial National Memorial; and Franklin Delano Roosevelt Memorial National

Memorial, and TR Island. This improved connection would help provide a more complete interpretation and appreciation of the area's Presidential Memorials. Overall, the improved access would have a net benefit on visitor use and experience for both visitors to the Kennedy Center and the aforementioned NPS administered properties.

Regular users of the Rock Creek Paved Recreation Trail; however, would experience additional pedestrian traffic on the portion of the trail adjacent to the Kennedy Center before and after performances. To gain access from the Kennedy Center to the river pavilion, Kennedy Center patrons or staff would have to use the at-grade crossing of RCPP and an approximate 125-foot section of the Paved Recreation trail. There would not be a direct connection from the Kennedy Center to the river pavilion under Option 1. As a result, conflicts between those patrons or employees of the Kennedy Center and users of the Paved Recreation trail would occur. In the event groups from the Kennedy Center needed access, the trail would not be able to accommodate two-way traffic without forcing cyclists or pedestrians to leave the trail to allow others to pass. These conflicts would result in long-term moderate adverse impacts during periods of high trail use. Option 1 would result in long-term minor to moderate adverse impacts due to the placement of a traffic signal for the pedestrian crossing and added conflicts between the Kennedy Center patrons and users of RCPP and the Paved Recreation Trail to gain access to the river pavilion.

RIVER ACCESS OPTION 2 (PREFERRED OPTION)

Construction under Option 2 would involve the temporary closure of RCPP and re-routing of the Rock Creek Paved Recreation Trail in order to assemble the bridge components. Any proposed closures of the RCPP and rerouting of Rock Creek Paved Recreation Trail would require permission from the NPS and would be subject to any conditions, such as night-time lane closures, stipulated by the NPS. The Rock Creek Paved Recreation Trail would need to be modified to maintain bike and pedestrian flow during construction of the pedestrian connection from the Rock Creek Paved Recreation Trail to the river pavilion (see Figure 13). This re-routing of the Rock Creek Paved Recreation Trail would allow for a construction staging area. The re-routing of the trail would be expected to last approximately six weeks and would not be concurrent with any additional closures of the trail or the RCPP. In the event the stiff arm anchoring option is used for the river pavilion, the Rock Creek Paved Recreation Trail would be closed for a 12-week duration at night to install the new foundations for the shore mounted river pavilion support. The trail would remain open during the day during this time period (see Figure 12).

During construction of River Access Option 2, temporary closures to RCPP could occur. The RCPP would be closed during construction of the pedestrian bridge and the upper level of the river pavilion. It is expected that there would only be six closures and they would be short in duration. The westernmost southbound lane of the RCPP would be closed for 10 weeks during construction of the pedestrian bridge pier and support. To mitigate temporary impacts, flagmen would be utilized during construction to allow safe passage on the trail when equipment is being used or materials being delivered. Parkway and trail users would be notified of any changes during construction by appropriate signage and/or other public notices in accordance with NPS procedures. Further mitigation measures would include maintenance of traffic (MOT) plans which would minimize impacts on RCPP motorists. As a result, there would be short-term moderate adverse impacts on visitor use and experience of the area during construction.

Option 2 would increase pedestrian connectivity creating long-term beneficial impacts to visitor use and experience. The pedestrian bridge, when compared to Option 1, would eliminate potential

conflicts between users of the river pavilion and the trail users. Pedestrians from the Kennedy Center would use the pedestrian bridge to access the river pavilion. There would also be a new pedestrian flow from the Rock Creek Paved Recreation Trail to the river pavilion. This connection would be a secondary connection to enable visitors from the river pavilion to access the trail and vice versa. Sight lines on the trail leading up to this connection are very good and signage could be installed to notify cyclists of this additional connection. This addition is expected to have long-term negligible adverse impacts to existing users on the Rock Creek Paved Recreation Trail. No at-grade crossing is proposed under Option 2 thus; there would be no long-term impact on existing traffic patterns or delay on the RCPP.

Once the bridge is complete, there would be an uninterrupted path between the Rock Creek Paved Recreation Trail and the Kennedy Center, increasing the overall connectivity of the area. In addition, the bridge would add new views of the Potomac River and nearby landmarks to the visitor experience. In addition, as described under Option 1, this improved connection would help provide a more complete interpretation of the area's Presidential Memorials. Based on these considerations, Option 2 would have a net benefit on the overall visitor use and experience of those using Kennedy Center and the area's NPS administered properties. However, the potential for conflicts between Kennedy Center patrons accessing the river pavilion via the pedestrian connection and users of the Paved Recreation Trail exists. This would result in long-term minor adverse impacts to trail users during periods of high trail use.

CUMULATIVE IMPACTS

Construction activities from present and future projects, including the National Mall Plan, NMAAHC, Dwight D. Eisenhower Memorial, Potomac Park Levee, Arlington Memorial Bridge Repair and Rehabilitation, DC Clean Rivers Potomac River Tunnel, and the Vietnam Veterans Memorial Visitor Center, have and would continue to have short-term impacts to the visitor use and experience. It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Therefore, Alternative C would not contribute to the short-term cumulative impacts from these projects. The NMAAHC, and the improvements associated with the National Mall Plan are anticipated to be constructed around the same time as the Kennedy Center project. Construction activities under Alternative C would add slightly to the short-term adverse cumulative impacts to visitor use and experience.

The Arlington Memorial Bridge Repair and Rehabilitation, DC Clean Rivers Potomac River Tunnel, National Mall Plan, Extending the Legacy Plan, Washington Waterfront Plan, Monumental Core Framework Plan, Vietnam Veterans Memorial Visitor Center, Martin Luther King, Jr. Memorial, the NMAACH, Georgetown Waterfront Park, and Eisenhower Memorial contribute cumulatively to the visitor experience by enhancing existing Park resources and adding new visitor destinations. However, additional visitation results in more intensive use within the project area. Despite the disruption from construction activities and the increase in visitation and more intensive use of these resources, the overall cumulative impact of these past, present, and reasonably foreseeable future actions on visitor use and experience would be long-term and beneficial. Alternative C would contribute to the long-term beneficial cumulative impacts by enhancing the Kennedy Center's facilities and by providing a connection for visitors to access the Rock Creek Paved Recreation Trail from the Kennedy Center. Alternative C would add slightly to the short-term adverse cumulative impacts related to the NMAAHC, and the improvements associated with the National Mall Plan.

CONCLUSION

Impacts to visitor use and experience under Alternative C consist of short-term minor adverse impacts due to construction. Long-term beneficial impacts would occur under Alternative C because the expansion would provide new opportunities for free events to the public, new classrooms and rehearsal spaces, and a designed landscape that would enhance visitor experience. There would be short-term negligible impacts associated with construction under Option 1 and short-term minor impacts associated with construction under Option 2. Long-term, Option 1 would have moderate adverse impacts to patrons of the Kennedy Center and users of the RCPP and Rock Creek Paved Recreation Trail to gain access to the river pavilion. Option 2 would provide an uninterrupted path between the Rock Creek Paved Recreation Trail and the Kennedy Center, increasing the overall connectivity of the area, creating a new benefit to visitor use and experience. However, long-term negligible adverse impacts to existing users of Rock Creek Paved Recreation Trail would occur. Alternative C would contribute to the long-term beneficial cumulative impacts by enhancing the Kennedy Center's facilities and by providing a connection for visitors to access the Rock Creek Paved Recreation Trail from the Kennedy Center.

HUMAN HEALTH AND SAFETY

METHODOLOGY AND ASSUMPTIONS

The purpose of human health and safety impact analysis is to evaluate potential risks to visitors and staff that are associated with hazards in the proposed project area. Human health and safety analysis also includes the potential risks associated with construction and maintenance of the proposed action. To determine impacts, characteristics of the Kennedy Center, the RCPP and the Rock Creek Paved Recreation Trail were considered.

STUDY AREA

The study area for human health and safety includes the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail.

IMPACT THRESHOLDS

Negligible: The impact on human health and safety would not be measurable or perceptible.

Minor: The impact on human health and safety would be measurable or perceptible, but it would be limited to a relatively small number of visitors or employees at localized areas.

Moderate: The impact on human health and safety would be sufficient to cause a change in accident rates at existing low-accident locations or in areas that currently do not exhibit noticeable accident trends.

Major: The impact on human health and safety would be substantial. Accident rates in areas usually limited to low accident potential are expected to substantially increase in the short- and long-term.

Duration: Short-term – those impacts lasting less than one year; Long-term – those impacts lasting longer than one year.

IMPACTS OF ALTERNATIVE A – NO ACTION ALTERNATIVE

The No Action Alternative represents a continuation of the existing conditions, operations, and maintenance of the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail. Existing conditions provide a safe environment for visitors and site workers. The Kennedy Center site contains areas of contaminated soils. Under the No Action Alternative, these soils would remain in place below the existing parking areas and would not be exposed for potential human contact. The Kennedy Center and the NPS would continue to implement plans and policies to promote safety. While there is access from the Rock Creek Paved Recreation Trail and the RCPP to the Kennedy Center on northern end of the Kennedy Center; accessing the Kennedy Center from the Rock Creek Paved Recreation Trail and the RCPP would continue to be problematic on the southern end. Pedestrians would continue to cross the RCPP at unmarked areas on the southern end creating unsafe conditions for pedestrians. Therefore, a long-term minor adverse impact to human health and safety would continue.

CUMULATIVE IMPACTS

Present and future projects including the Potomac Park Levee, Arlington Memorial Bridge Repair and Rehabilitation, and the DC Clean Rivers Potomac River Tunnel have had short-term negligible to minor impacts to human health and safety from construction activities and long-term beneficial impacts to human health and safety from improved conditions of resources in the project area. The No Action Alternative would slightly lessen the overall long-term beneficial cumulative impacts of past, present and future projects on human health and safety.

CONCLUSION

Under Alternative A, existing conditions would be maintained at the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail. A long-term minor adverse impact to human health and safety would occur because there is no dedicated route from the RCPP and the Rock Creek Paved Recreation Trail to the Kennedy Center from the south. The No Action Alternative would slightly lessen the overall long-term beneficial cumulative impacts of past, present and future projects on human health and safety.

IMPACTS OF ALTERNATIVE B

During construction of Alternative B, site workers would adhere to a site health and safety plan that describes potential hazards on site and the controls and practices selected to minimize hazards. Signage and fencing would be used to keep passersby out of construction areas. A Phase II Environmental Site Assessment of the proposed project area was conducted in October 2013. Impacted soils are anticipated to extend to a depth of 24 feet below grade at the west to 7 feet below grade to the east. The proposed excavation could result in the removal of up to approximately 590,000 tons of material from the site (Langan 2013). Prior to construction of the pavilions, a Soil Management Plan would be written to address excavation of this material. Contaminated soils would be excavated and trucked to a permitted hazardous-waste disposal facility. Removal of the soils would involve temporary covering to prevent soil runoff. Because the soils would be exposed for a relatively short amount of time, and would be unlikely to come in contact with any humans, the soils represent a limited risk to human health and safety. In consideration of proposed site safety measures, Alternative B would result in short-term minor adverse impacts during construction.

While there is access from the Rock Creek Paved Recreation Trail and the RCPP to the Kennedy Center on northern end of the Kennedy Center; accessing the Kennedy Center from the Rock Creek Paved Recreation Trail and the RCPP would continue to be difficult on the southern end, as there would be no dedicated route from RCPP and the Rock Creek Paved Recreation Trail to the Kennedy Center from the south. Therefore, a long-term minor adverse impact to human health and safety would continue.

CUMULATIVE IMPACTS

Present and future projects including the Potomac Park Levee, Arlington Memorial Bridge Repair and Rehabilitation, and the DC Clean Rivers Potomac River Tunnel have had short-term negligible to minor impacts to human health and safety from construction activities and long-term beneficial impacts to human health and safety from improved conditions of resources in the project area. It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project and the Arlington Memorial Bridge Rehabilitation. Overall, there would be beneficial long-term cumulative impacts on human health and safety.

CONCLUSION

Impacts to human health and safety under Alternative B consist of short-term minor adverse impacts associated with contaminated soil removal. The soils represent a limited risk to human health and safety and would be handled following an approved site health and safety plan. Once removed a long-term beneficial impact would result. A long-term minor adverse impact to human health and safety would occur because there is no dedicated route from the RCPP and the Rock Creek Paved Recreation Trail to the Kennedy Center from the south. There would be beneficial long-term cumulative impacts on human health and safety.

IMPACTS OF ALTERNATIVE C (PREFERRED ALTERNATIVE)

During construction of Alternative C, site workers would adhere to a site health and safety plan that describes potential hazards on the sites and the controls and practices selected to minimize hazards. Signage and fencing would be used to keep passersby out of construction areas. A Phase II Environmental Site Assessment of the proposed project area was conducted in October 2013. Impacted soils are anticipated to extend to a depth of 24 feet below grade at the west to 7 feet below grade to the east. The proposed excavation could result in the removal of up to approximately 590,000 tons of material from the site (Langan 2013). Prior to construction of the pavilions, a Soil Management Plan would be written to address excavation of this material. Contaminated soils would be excavated and trucked to a permitted hazardous-waste disposal facility. Removal of the soils would involve temporary covering to prevent soil runoff. Because the soils would be exposed for a relatively short amount of time, and would be unlikely to come in contact with any humans, the soils represent a limited risk to human health and safety. In consideration of proposed site safety measures, construction of the land based pavilions under Alternative C would result in short-term minor adverse impacts during construction.

No short-term impacts to human health and safety are anticipated for the construction of the river pavilion as there would be no exposure to contaminated soils.

Long-term impacts for access to the river pavilion are discussed under Options 1 and 2.

RIVER ACCESS OPTION 1

Option 1 would require temporary closures of the RCPP to construct the components of the pedestrian crossing and to install curb and gutter for the new parking garage entrance. Temporary lane closures would occur during periods of minimal traffic use and would adhere to approved MOT plans in order to provide a safe working environment and safe passage for motorists during construction. As a result, short-term impacts to human health and safety would be negligible.

Once constructed, the river pavilion would have similar operating hours as those of the Kennedy Center (10 a.m. to midnight). In the event of extreme inclement weather, Kennedy Center staff would close the river pavilion or the river pavilion would have curtailed hours, particularly during the winter months. To maintain patron safety, the Kennedy Center would outline specific closing procedures for the river pavilion within an Operations and Maintenance Plan, which would result in long-term negligible beneficial impacts to human and health safety. Under Option 1, pedestrian crossing of the RCPP would be provided once construction was complete, but there would be potential conflicts between pedestrians and vehicles. Design features of the crossing would include pedestrian signals, road markings, and signage at the approaches of the crossing. Option 1 would also create conflicts between visitors or employees of the Kennedy Center and users of the Paved Recreation trail. In the event groups from the Kennedy Center needed access to the river pavilion, the trail would not be able to accommodate two-way traffic without forcing cyclists or pedestrians to leave the trail to allow others to pass. These conflicts would result in long-term minor adverse impacts to human health and safety.

RIVER ACCESS OPTION 2 (PREFERRED OPTION)

Under Option 2, to assemble the bridge, temporary closure of the RCPP would be necessary to install curb and gutter for the new parking garage entrance and for construction of the pedestrian bridge and pier. Temporary lane closures would occur during periods of minimal traffic use and would abide by the specifications of approved MOT plans in order to provide a safe working environment and safe passage for motorists during construction. As a result, short-term impacts to human health and safety would be negligible.

Once construction is completed, the river pavilion would have similar operating hours as those of the Kennedy Center (10 a.m. to midnight). In the event of extreme inclement weather, Kennedy Center staff would close the river pavilion or the river pavilion would have curtailed hours, particularly during the winter months. To maintain patron safety, the Kennedy Center would outline specific closing procedures for the river pavilion within an Operations and Maintenance Plan, which would result in long-term negligible beneficial impacts to human and health safety. The proposed pedestrian bridge would provide a safe crossing of the RCPP and would reduce pedestrian/vehicles conflicts associated with an at-grade pedestrian crossing of the RCPP. In addition, the pedestrian bridge would cross over the Rock Creek Paved Recreation Trail, thereby reducing the potential for conflicts between visitors to the river pavilion and Rock Creek Paved Recreation Trail users. Based on the proposed pedestrian bridge over the RCPP and the Rock Creek Paved Recreation Trail and a reduction in potential pedestrian/vehicle conflicts, Option 2 would result in long-term negligible beneficial impacts to human health and safety.

CUMULATIVE IMPACTS

Present and future projects including the Potomac Park Levee, Arlington Memorial Bridge Repair and Rehabilitation, and the DC Clean Rivers Potomac River Tunnel have had short-term negligible to minor impacts to human health and safety from construction activities and long-term beneficial impacts to human health and safety from improved conditions of resources in the project area. It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project and the Arlington Memorial Bridge Rehabilitation. Therefore, Alternative C would not contribute to the short-term cumulative impacts from these projects. Overall, there would be beneficial long-term cumulative impacts on human health and safety.

CONCLUSION

Impacts to human health and safety under Alternative C consist of short-term minor adverse impacts associated with contaminated soil removal during construction of the land based pavilions. The soils would be handled in accordance with an approved site health and safety plan. Once removed a long-term beneficial impact would result. There would be no short-term impacts associated with construction of the river pavilion. Options 1 would result in short-term negligible and long-term minor adverse impacts, as well as, long-term negligible impacts. Option 2 would result in short-term negligible adverse and long-term beneficial impacts to human health and safety. Alternative C would not contribute to short-term cumulative impacts. There would be beneficial long-term cumulative impacts on human health and safety.

OPERATIONS AND MANAGEMENT***METHODOLOGY AND ASSUMPTIONS***

The purpose of this impact analysis is to address potential impacts to facilities operation and management resulting from the proposed actions. The scope of operations and management of the NPS and of the Kennedy Center were considered. Knowledgeable staff members of the Kennedy Center and the NPS helped to evaluate the impacts of each alternative.

STUDY AREA

The study area for operations and management includes the Kennedy Center, the RCPP, and the Rock Creek Paved Recreation Trail.

IMPACT THRESHOLDS

Negligible: The effects would be at low levels of detection and would not have an appreciable effect on facility operations.

Minor: The effect would be detectable and would be of a magnitude that would not have an appreciable effect on facility operations. If mitigation was needed to offset adverse effects, it would be simple and likely successful.

Moderate: The effects would be readily apparent and result in a substantial change in facility operations in a manner noticeable to staff and the public. Mitigation measures would be necessary to offset adverse effects and would likely be successful.

Major: The effects would be readily apparent, result in a substantial change in facility operation in a manner noticeable to staff and the public, and be markedly different from existing operations. Mitigation measures to offset adverse effects would be needed, extensive, and success could not be guaranteed.

Duration: Short-term - Effects lasting for the duration of construction or less than one year; Long-term - Effects lasting longer than the duration of construction or more than one year.

IMPACTS OF ALTERNATIVE A – NO ACTION ALTERNATIVE

Under the No Action Alternative, the proposed project area would generally remain in its current condition. Normal maintenance activities conducted by the Kennedy Center and the NPS would continue to preserve the existing use of the grounds. Normal activities include mowing, pruning and clearing debris. Because there would be no changes to park operations and management under Alternative A, there would be no impacts.

CUMULATIVE IMPACTS

Because the No Action Alternative would have no impact on operations and management, the No Action Alternative would not result in cumulative impacts to this resource.

CONCLUSION

Under Alternative A, there would be no changes to current operations and management. As a result, there would be no short-term or long-term impacts, and there would be no cumulative impacts.

IMPACTS OF ALTERNATIVE B

During construction, the Kennedy Center and NPS maintenance crews, as well as visitors to the Kennedy Center, RCPP, and the Rock Creek Paved Recreation Trail would be required to maneuver around active construction and construction staging areas. Upon conclusion of construction, temporary use areas would be landscaped and returned to open-space befitting the overall aesthetics of the expansion and trail. As a result, short-term minor adverse impacts to operations and maintenance would occur due to construction of the land based pavilions under Alternative B.

The Kennedy Center would be responsible for maintenance of the new pavilions and surrounding landscape features. Ongoing needs of the new facilities are expected to include routine activities such as cleaning, landscaping, and maintenance of electrical and plumbing systems. There would be no additional operations or management carried out by the NPS or NCPC under Alternative B. Because the maintenance needs of the proposed expansion would increase, Alternative B would have long-term minor adverse impacts on operations and management.

CUMULATIVE IMPACTS

Present and future projects including the National Mall Plan, Dwight D. Eisenhower Memorial, Potomac Park Levee, Arlington Memorial Bridge Repair and Rehabilitation, DC Clean Rivers Potomac River Tunnel, and the Vietnam Veterans Memorial Visitor Center would result in short-term impacts to operations and management due to changes in operational activities and maintenance of construction zones during construction periods. It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project,

the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Therefore, Alternative B would not contribute to the short-term cumulative impacts from these projects. The improvements associated with the National Mall Plan are anticipated to be constructed around the same time as the Kennedy Center project. Construction activities under Alternative B would add slightly to the short-term adverse cumulative impacts to operations and management.

Past, present, and future projects have impacted and would continue to impact operations and management because additional maintenance and resources is needed to take care of new facilities and monuments in the project area. Alternative B would add slightly to these long-term adverse cumulative impacts.

CONCLUSION

Alternative B would result in long-term minor adverse impacts to operations and management. New responsibilities associated with the Alternative would be carried out by the Kennedy Center. Alternative B would add slightly to these long-term adverse cumulative impacts. Alternative B would not contribute to the short-term cumulative impacts of the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Construction activities under Alternative B would add slightly to the short-term adverse cumulative impacts to operations and management in association with the improvement of the National Mall Plan.

IMPACTS OF ALTERNATIVE C (PREFERRED ALTERNATIVE)

During construction, the Kennedy Center and NPS maintenance crews, as well as visitors to the Kennedy Center, RCPP, and the Rock Creek Paved Recreation Trail would be required to maneuver around active construction and construction staging areas. Upon conclusion of construction, temporary use areas would be landscaped and returned to open-space befitting the overall aesthetics of the expansion and trail. As a result, short-term minor adverse impacts would occur due to construction of the land based and river pavilions under Alternative C.

Ongoing needs of the new land and river pavilions are expected to include routine activities such as cleaning, landscaping, and maintenance of electrical and plumbing systems. For the river pavilion, additional measures may be required to maintain the telescoping piles, Sea Flex anchors, or stiff arms used to anchor the structure. The river pavilion would be maintained by The Kennedy Center facilities staff. The Kennedy Center would outline specific operational procedures for the river pavilion within an Operations and Maintenance Plan.

Under Alternative C, the Kennedy Center would be responsible for maintenance of the new pavilions and surrounding landscape features. For the management of the riverfront areas, jurisdiction and future maintenance responsibilities of the river pavilion would be transferred from the NPS to the Kennedy Center. The NPS would continue its current operations and management of the Rock Creek Paved Recreation Trail and the RCPP. NPS involvement in the area of the river pavilion would generally be limited to Park Police responses to minor conflicts. Based on these considerations, there would be long-term minor adverse impacts on operations and management under Alternative C.

RIVER ACCESS OPTION 1

Under Option 1, an at-grade pedestrian crossing would be constructed, connecting the Kennedy Center with the Rock Creek Paved Recreation Trail and the river pavilion and one at grade

pedestrian connection from the Rock Creek Paved Recreation Trail to the river pavilion. For the Kennedy Center, the new river pavilion would result in higher operating expenses, maintenance costs, and additional security over current levels. The river pavilion would have similar operating hours as those of the Kennedy Center (10 a.m. to midnight). In the event of extreme inclement weather, Kennedy Center staff would close the river pavilion or the river pavilion would have curtailed hours, particularly during the winter months. The open access to the river pavilion would require additional security monitoring over current requirements to protect the Kennedy Center. The Kennedy Center would also be responsible for maintaining any landscape materials planted within the proposed pavilion. Therefore, a long-term minor adverse impact to operations and management of the Kennedy Center would occur due to the increased budgetary, staffing, and security requirements imposed on the Kennedy Center.

RIVER ACCESS OPTION 2 (PREFERRED OPTION)

Option 2 would involve construction of a single pedestrian bridge to connect the Kennedy Center with the river pavilion and one at grade pedestrian connection from the Rock Creek Paved Recreation Trail to the river pavilion. For the Kennedy Center, the new river pavilion would result in higher operating expenses, maintenance costs, and additional security over current levels. The river pavilion would have similar operating hours as those of the Kennedy Center (10 a.m. to midnight). In the event of extreme inclement weather, Kennedy Center staff would close the river pavilion or the river pavilion would have curtailed hours, particularly during the winter months. The open access to the river pavilion and the south terrace would require additional security monitoring over current requirements to protect the Kennedy Center. Therefore, a long-term minor adverse impact to operations and management of the Kennedy Center would occur due to the increased budgetary, staffing, and security requirements imposed on the Kennedy Center.

CUMULATIVE IMPACTS

Present and future projects including the National Mall Plan, Dwight D. Eisenhower Memorial, Potomac Park Levee, Arlington Memorial Bridge Repair and Rehabilitation, DC Clean Rivers Potomac River Tunnel, and the Vietnam Veterans Memorial Visitor Center would result in short-term impacts to operations and management due to changes in operational activities and maintenance of construction zones during construction periods. It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Therefore, Alternative B would not contribute to the short-term cumulative impacts from these projects. The improvements associated with the National Mall Plan are anticipated to be constructed around the same time as the Kennedy Center project. Construction activities under Alternative C would add slightly to the short-term adverse cumulative impacts to operations and management.

Past, present, and future projects have impacted and would continue to impact operations and management because additional maintenance and resources is needed to take care of new facilities and monuments in the project area. Alternative C would add slightly to these long-term adverse cumulative impacts.

CONCLUSION

Proposed actions under Alternative C would result in long-term negligible to minor adverse impacts associated with maintenance of the new facilities including the river pavilion. The Kennedy Center

would be responsible for the security and maintenance of the proposed expansion. Alternative C would add slightly to these long-term adverse cumulative impacts. Alternative B would not contribute to the short-term cumulative impacts from the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Alternative C would add slightly to the short-term adverse cumulative impacts to operations and management in association with the improvements with the National Mall Plan.

TRAFFIC AND TRANSPORTATION

METHODOLOGY AND ASSUMPTIONS

For the proposed Kennedy Center expansion, impacts to traffic and transportation in the vicinity of the Kennedy Center were analyzed. Current traffic conditions near the site were considered, in addition to an assessment of transportation options available to visitors of the Kennedy Center. For the proposed action alternatives, the impacts resulting from short-term road closures due to construction and possible mitigation techniques to address these impacts were analyzed, as well as impacts during construction to users of the RCPP and the Rock Creek Paved Recreation Trail. Impacts to the local roadway networks were assessed by adding traffic that would be generated by the expansion of the Kennedy Center, along with other planned developments, to existing traffic levels. In consultation with DDOT, no nearby planned developments were identified. Historical Average Daily Traffic (ADT) levels in the area were obtained from the DDOT ADT maps to determine a general background growth. Growth was added to current traffic levels to determine traffic levels in the future.

STUDY AREA

The study area for traffic and transportation impacts includes the RCPP and the Rock Creek Paved Recreation Trail, and also includes the road network surrounding the Kennedy Center.

IMPACT THRESHOLDS

Negligible: The impact would be a change that would not be perceptible or would be barely perceptible by transportation system users.

Minor: The impact would cause a change to travel times or transportation system utility. The impact would be noticeable, but would result in short-term or little inconvenience to transportation system users.

Moderate: The impact would result in a change to the travel time or system utility of a large number of transportation system users and would result in a noticeable change in travel time or convenience. A moderate increase in delay may be anticipated, but it is not expected to cause failure of nearby facilities that cannot be mitigated through proactive management.

Major: There would be a substantial impact on the travel time or system utility of a large number of transportation system users. This would result in a highly noticeable change in travel times or convenience, leading to failure or near-failure of nearby facilities with little or no potential for mitigation.

Duration: Short-term impacts would be immediate during construction of the alternative; long-term impacts would be those persisting or resulting after construction of the alternative.

IMPACTS OF ALTERNATIVE A – NO ACTION ALTERNATIVE

Based upon the traffic analysis completed in October 2013, a background growth of nine percent per year was observed over the past five years. This nine percent growth was compounded to 2017 (the build-out year for the Kennedy Center expansion project) and the resulting increase was applied to all turning movement volumes for all four intersections studied. The level of service (LOS) for each intersection was then analyzed using Critical Lane Volume (CLV) methodology and the results are summarized in Table 3. All four intersections studied operate at acceptable levels of service under the No Action Alternative. The CLV worksheets are contained in Traffic Impact Study included in Appendix C.

Table 3: Future No-Action Level of Service

INTERSECTION	AM PEAK			PM PEAK		
	CLV	v/c RATIO	LOS	CLV	v/c RATIO	LOS
25th Street NW at New Hampshire Ave NW	577	0.46	A	376	0.24	A
F Street NW, 25th Street NW	366	0.23	A	838	0.52	A
F Street NW at New Hampshire Ave NW	292	0.18	A	347	0.22	A
F Street NW at Rock Creek Pkwy NW	1558	0.97	E	1267	0.79	C

Under the No Action Alternative, motorized travel on the RCPP would be uninterrupted and traffic would continue at current levels. Pedestrians and non-motorized use of the Rock Creek Paved Recreation Trail would also remain uninterrupted; however, as area-wide projects are implemented and pedestrian access throughout DC and NAMA is enhanced, Rock Creek Paved Recreation Trail usage would likely increase incrementally. Pedestrians would continue to utilize the existing at-grade crossings of the RCPP and F Street to access the Kennedy Center from the Rock Creek Paved Recreation Trail. Therefore, the No Action Alternative would have no impact on traffic and transportation.

CUMULATIVE IMPACTS

Because the No Action Alternative would have no impact on traffic or transportation, the No Action Alternative would not result in cumulative impacts to this resource.

CONCLUSION

Under Alternative A, the No Action Alternative, there would be no impact to traffic and the transportation system within the project area. No cumulative impacts would occur.

IMPACTS OF ALTERNATIVE B

During construction of Alternative B, the staging area for the proposed construction would be located on the grounds of the Kennedy Center. A stabilized construction entrance would provide vehicular access to this staging area from the RCPP. Excavation and transport of materials for construction would result in increased truck traffic at the site. Because trucks and other heavy vehicles are generally not permitted on the RCPP, a permit would be required to allow this use. For excavation activities, approximately 35 to 40 truck trips per day would be generated for approximately 30 to 40 days in duration. An MOT plan would be developed to determine the egress and ingress into the Kennedy Center and would be implemented in coordination with NPS and DDOT as appropriate to ensure safe and continued flow of traffic during partial lane closures. This plan would include directional signage to inform travelers on the RCPP and the Rock Creek Paved Recreation Trail of all construction zones and associated speed limits and lane closures on RCPP or other roadways. Through the implementation of construction staging and an MOT plan, construction of Alternative B would result in a short-term minor to moderate adverse impact to traffic and transportation.

Vehicular Traffic Facilities

During construction, the southern garage entrances would be temporarily unavailable. All traffic that currently enters the southern garage entrances would be rerouted to the northern entrances. The maximum service rate for the garage entrances was calculated to be 39 vehicles per 15 minutes using garage entry data provided by the Kennedy Center. This service rate was compared to the peak entry volumes from the 24 hour counts conducted on 25th Street in front of the Kennedy Center and at the Kennedy Center southern access from RCPP. From these counts it was determined that the peak inbound volume to the garage would be 104 vehicles in a 15 minute time period. Based on the 39 vehicle per 15 minute service rate, this inbound volume would require three inbound service lanes. Garage entrance C North is designed with two outbound lanes and a single inbound lane. During peak inbound periods when the southern entrance is closed, it may be necessary to temporarily convert this entrance to allow for additional inbound lanes. Combined with the available inbound lane at each of the North A and B entrances, these entrances are projected to be sufficient to accommodate all traffic during the construction period with minimal impact to the surrounding roadways. The easternmost northbound lane of the RCPP would be closed for up to eight weeks for construction of the new curb, gutter, and driveway apron. Closures of RCPP would occur only in the evenings. Temporary detours would be provided. See Figure 12 and 13 for the limits of disturbance and construction staging areas. Based on these considerations, there would be short-term minor adverse impacts to traffic and transportation.

The Kennedy Center attracts approximately 3 million visitors annually. The Kennedy Center expansion project would add additional space for existing programs and events and would not result in an increase in employees at the site. Therefore, Alternative B not expected to result in a noticeable increase in visitation to the site. Any increase in visitation would occur only periodically and mostly during non-peak periods. Future No Action conditions CLV analysis indicates that all of the intersections studied operate at an acceptable level during the AM and PM peak hours. Under Alternative B, there would not be noticeable increase in delays at the study intersections over the No Action conditions; therefore, the traffic would operate under the acceptable level during both the AM and PM peak hour when the project is complete.

Vehicle stacking and service rates were also analyzed under the future conditions. Under future conditions no additional parking would be added to the Kennedy Center. If vehicles attempting to enter the parking garage queue back, they may queue onto RCPP and eventually interfere with the operations of the on ramps to RCPP. The existing southern entrance from RCPP is approximately 750 feet from the first intersection point with the ramps, and has 150 feet for onsite queuing between the Parkway and the garage entrance. Alternative B includes moving the entrance approximately 200 feet closer to the ramp; however, there would be an increase of approximately 350 feet for onsite queuing. This is a net increase in available queue space before the roadway operation would be impacted; therefore, there would be no negative impact from this change.

During free events, The Kennedy Center has observed that most visitors arrive via public transportation and not by car. For most evening performances approximately 10 to 15 percent arrive by Metro and approximately 85 percent arrive by car (estimating 2.5 people per vehicle). The remainder would walk or use a cab. Most charter buses arrive during the daytime hours and would not negatively affect peak traffic patterns nor would the busses present a conflict with vehicular cars that arrive for performances because vehicular cars usually arrive for nighttime performances and for Saturday and Sunday matinees. Therefore, Alternative B would have long-term negligible adverse impacts to traffic and transportation.

Maintenance vehicles would access the pavilion using the at-grade street crossing. Under this access option employees and vendors would be required to use small, light-duty service vehicles. Tools, equipment, trash, catering supplies and other maintenance materials would be required to be moved across the pedestrian connection from the Rock Creek Paved Recreation Trail to the lower level of the river pavilion. This would create potential conflicts with vehicular cars. Therefore, Alternative B would have a long-term minor adverse impact to traffic and transportation.

Public Transportation Facilities

The existing MetroBus route that serves the Kennedy Center and the Kennedy Center shuttle would both be temporarily impacted by the planned expansion. The MetroBus 80 turnaround at the southern terminus of the route would be impacted by the planned construction. During construction the bus would need to turn around using the southern drop off area on the eastern side of the Kennedy Center building. A replacement turnaround area for buses would be provided under Alternative B.

The Kennedy Center shuttle also uses this southern terminus of 25th Street NW as a parking and staging area. During construction the shuttle buses would also need to utilize the drop-off areas on the eastern side of the Kennedy Center and may need to utilize the parking garage or truck delivery area for staging. The bus parking and staging area would be replaced under Alternative B.

Once construction is complete, no impacts to public transportation facilities would occur because any noticeable increase in visitation to the site would occur only periodically and mostly during non-peak periods. While the expansion would create a greater breadth of activities and possibly attract more daytime visitors, it is not expected to draw larger crowds during peak visitation hours. Peak visitation centers around performance times, which are evenings and Saturday and Sunday matinees and those, would remain the same.

Pedestrian and Bicycle Facilities

Under Alternative B, users of the Rock Creek Paved Recreation Trail would be notified of any changes during construction by appropriate signage and/or other public notices in accordance with NPS procedures. No other changes to bicycle and pedestrian facilities would occur; therefore, short-term negligible adverse impacts to bicyclists and pedestrians may occur during construction under Alternative B.

Once construction is complete, the expansion would allow visitors already visiting the Kennedy Center the opportunity to engage in the performing arts by being able to glimpse into rehearsals, view simulcasts outside, enjoy the landscape and participate in interactive activities. These new venues would potentially attract pedestrian and bicyclists from the Rock Creek Paved Recreation Trail. However, accessing the Kennedy Center by foot or bike from the Rock Creek Paved Recreation Trail and the RCPP would continue to be difficult, as there would be no dedicated route from RCPP and the Rock Creek Paved Recreation Trail to the Kennedy Center from the south. Overall, long-term impacts to pedestrians and bicycle facilities under Alternative B would be negligible and adverse.

CUMULATIVE IMPACTS

Present and future projects including the Eisenhower Memorial, the Arlington Memorial Bridge, the Potomac Hill Master Plan, and the Jefferson Memorial Vehicle Barrier Security Improvements would result in short-term adverse impacts to traffic and transportation during construction activities and beneficial impacts to traffic and transportation once they are complete. The DC Clean Rivers Project may have adverse impacts to traffic and transportation during construction activities, but will not affect traffic once it is complete.

It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Therefore, Alternative B would not contribute to the short-term cumulative impacts from these projects. The NMAAHC and the improvements associated with the National Mall Plan are anticipated to be constructed around the same time as the Kennedy Center project. These projects would have short-term adverse cumulative impacts to traffic and transportation. The Kennedy Center would coordinate construction activities with DDOT and the NPS so that changes in traffic patterns and delays are coordinated with other projects. Alternative B would contribute to these short-term adverse cumulative impacts.

Minor long-term adverse impacts could result from other projects such as those projects listed in the National Mall Plan which is intended to restore the visitor experience or views such as removal of the south ramp cloverleaf from Arlington Memorial Bridge to Rock Creek Parkway and redirecting traffic to 23rd Street NW. These new facilities could change traffic patterns and attract additional visitors to each site. Because these projects are coordinated through DDOT's review process and traffic studies would be completed, long-term adverse cumulative impacts are expected to be minor.

As described in the impact analysis, Alternative B would result in long-term negligible adverse impacts to traffic and transportation within the project area. Therefore, Alternative B would contribute slightly to long-term adverse cumulative impacts.

CONCLUSION

Alternative B would result in a short-term minor to moderate adverse impact to traffic and transportation because of construction related delays. After construction is complete, long-term negligible adverse impacts would occur. Alternative B would contribute slightly to long-term adverse cumulative impacts. Alternative B would not contribute to the short-term cumulative impacts from the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Alternative B would contribute to these short-term adverse cumulative impacts of the NMAAHC and the improvements associated with the National Mall Plan.

IMPACTS OF ALTERNATIVE C (PREFERRED ALTERNATIVE)

During construction of Alternative C, the staging area for the proposed construction would be located on the grounds of the Kennedy Center and the staging area for the river pavilion on parkland grounds administered by NAMA. A stabilized construction entrance would provide vehicular access to these staging areas from the RCPP. Excavation and transport of materials for construction would result in increased truck traffic at the site. Because trucks and other heavy vehicles are generally not permitted on the RCPP, a permit from the NPS would be required to allow this use. For excavation activities on the Kennedy Center property, approximately 35 to 40 truck trips per day would be generated for approximately 30 to 40 days in duration. An MOT plan would be developed to determine the egress and ingress into the Kennedy Center and implemented to ensure safe and continued flow of traffic during partial lane closures. This plan would include directional signage to inform travelers on the RCPP and the Rock Creek Paved Recreation Trail of all construction zones and associated speed limits and lane closures on RCPP or other roadways. Through the implementation of construction staging and an MOT plan, construction of Alternative C would result in a short-term minor to moderate adverse impact to traffic and transportation.

Vehicular Traffic Facilities

During construction, the southern garage entrances would be temporarily unavailable. All traffic that currently enters the southern garage entrances would be rerouted to the northern entrances. The maximum service rate for the garage entrances was calculated to be 39 vehicles per 15 minutes using garage entry data provided by the Kennedy Center. This service rate was compared to the peak entry volumes from the 24 hour counts conducted on 25th Street in front of the Kennedy Center and at the Kennedy Center southern access from RCPP. From these counts it was determined that the peak inbound volume to the garage would be 104 vehicles in a 15 minute time period. Based on the 39 vehicle per 15 minute service rate, this inbound volume would require three inbound service lanes. Garage entrance C North is designed with two outbound lanes and a single inbound lane. During peak inbound periods when the southern entrance is closed, it may be necessary to temporarily convert this entrance to allow for additional inbound lanes. Combined with the available inbound lane at each of the North A and B entrances, these entrances are projected to be sufficient to accommodate all traffic during the construction period with minimal impact to the surrounding roadways. The easternmost northbound lane of the RCPP would be closed for up to eight weeks for construction of the new curb, gutter, and driveway apron. Closures of RCPP would occur only in the evenings. Temporary detours would be provided. See Figure 12 and 13 for the limits of disturbance and construction staging areas. Based on these considerations, there would be short-term minor adverse impacts to traffic and transportation.

The Kennedy Center attracts approximately 3 million visitors annually. The Kennedy Center Expansion project would add additional space for existing programs and events and would not result in an increase in employees at the site. Therefore, Alternative C is not expected to result in a noticeable increase in visitation to the site. Any increase in visitation would occur only periodically and mostly during non-peak periods. Future No-Build conditions CLV analysis indicates that the intersections studied operate at an acceptable level during the AM and PM peak hours. It is anticipated that Alternative C would not cause a noticeable increase in delays at the study intersections; therefore, the traffic would operate under the acceptable level during the AM and PM peak hour when the project is complete.

Vehicle stacking and service rates were also analyzed under the future conditions. If vehicles attempting to enter the parking garage from RCPP queue back, they may queue onto RCPP and eventually interfere with the operations of the on ramps to RCPP. The existing southern entrance from RCPP is approximately 750 feet from the first intersection point with the ramps, and has 150 feet for onsite queuing between the RCPP and the garage entrance. Alternative C includes moving the entrance approximately 200 feet closer to the ramp; however, there would be an increase of approximately 350 feet for onsite queuing. This is a net increase in available queue space before the roadway operation would be impacted; therefore, there would be no negative impact from this change.

During free events, The Kennedy Center has observed that most visitors arrive via public transportation and not by car. For most evening performances approximately 10 to 15 percent arrive by Metro and approximately 85 percent arrive by car (estimating 2.5 people per vehicle). The remainder would walk or use a cab. Most charter buses arrive during the daytime hours and would not negatively affect peak traffic patterns nor would the busses present a conflict with vehicular cars that arrive for performances because vehicular cars usually arrive for nighttime performances and for Saturday and Sunday matinees. Therefore, Alternative C would have long-term negligible adverse impacts to traffic and transportation.

Small, light-duty maintenance vehicles (up to about 4,000 pounds), using the at-grade crossing or the pedestrian bridge, would be used to access the river pavilion and to move tools, equipment, trash, catering supplies and other maintenance materials to the river pavilion. Under Option 1 the use of maintenance vehicles would need to cross RCPP in order to access the river pavilion. This could create conflicts between vehicles using the RCPP and the maintenance vehicles. This would create a long-term negligible adverse impact. Maintenance vehicles would access the river pavilion via the pedestrian bridge. This would not cause any conflicts between motorists and maintenance vehicles. Therefore, traffic and transportation would not be impacted under Option 2.

Public Transportation Facilities

The existing MetroBus route that serves the Kennedy Center and the Kennedy Center shuttle would both be temporarily impacted by the planned expansion. The MetroBus 80 turnaround at the southern terminus of the route would be impacted by the planned construction. During construction the bus would need to turn around using the southern dropoff area on the eastern side of the Kennedy Center building. A replacement turnaround area for buses would be provided under Alternative C.

The Kennedy Center shuttle also uses this southern terminus of 25th Street NW as a parking and staging area. During construction, the shuttle buses would also need to utilize the drop-off areas on the eastern side of the Kennedy Center and may need to utilize the parking garage or truck delivery area for staging. The bus parking and staging area would be replaced under Alternative C.

Once construction is complete, no impacts to public transportation facilities would occur because any noticeable increase in visitation to the site would occur only periodically and mostly during non-peak periods. While the expansion would create a greater breadth of activities and possibly attract more daytime visitors, it is not expected to draw larger crowds during peak visitation hours. Peak visitation centers around performance times, which are evenings and Saturday and Sunday matinees and those, would remain the same.

Pedestrian and Bicycle Facilities

Pedestrian and bicycle facilities would be affected by the addition connections between the Kennedy Center and the river pavilion. Short term and long-term impacts for each option to access the river pavilion in Alternative C follows.

RIVER ACCESS OPTION 1

Option 1 includes an at-grade pedestrian crossing of RCPP from the Kennedy Center to the Rock Creek Paved Recreation Trail. Construction under Option 1 would be minimal and temporary closures of the road and trail during construction would be relatively short-lived. Public access to the Rock Creek Paved Recreation Trail would be maintained throughout construction, and the Kennedy Center would minimize impacts to trail users. However, the trail would need to be modified to maintain bike and pedestrian flow during construction of the pedestrian connection from the Rock Creek Paved Recreation Trail to the river pavilion (see Figure 13). The re-routing of the trail would be expected to last approximately six weeks and would not be concurrent with any additional closures of the trail or the RCPP. In the event the stiff arm anchoring option is used for the river pavilion, the Rock Creek Paved Recreation Trail would be closed at night for up to 12 weeks to install the new foundations for the shore mounted river pavilion support. The trail would remain open during the day during this time period (see Figure 12). To mitigate temporary impacts, parkway and trail users would be notified in advance of construction activities. Flagmen would be utilized during construction to allow safe passage on the trail when equipment is being used or materials being delivered. Any proposed closures of the RCPP would require permission from the NPS and would be subject to any conditions, such as night-time closures, stipulated by the NPS. Further mitigation measures would include MOT plans which would minimize impacts on RCPP motorists. Under Option 1, there would be short-term minor adverse impacts associated with construction.

The at-grade pedestrian crossing was analyzed using the future peak hour traffic volumes using Synchro and SimTraffic™ traffic analysis software. The analysis worksheets are included in Appendix C. Assuming a pedestrian volume high enough to produce one pedestrian call per cycle (150 second cycle, 24 pedestrian calls per hour), both the delay and queue were analyzed. The peak direction vehicular traffic on RCPP would experience an average delay of 18.1 seconds (LOS B) during the AM peak hour and 6.6 seconds (LOS A) during the PM peak hour.

SimTraffic simulations were used to assess the need for a pedestrian signal at the crossing. A signal is projected to produce a 95th percentile traffic queue of approximately 684 feet in the southbound direction during the AM peak hour and 488 feet in the northbound direction during the PM peak hour. The available storage before these queues would interfere with the adjacent intersections is approximately 1,500 feet in the southbound direction and 600 feet in the northbound direction. A signal at the at-grade pedestrian crossing would not interfere with adjacent intersections, but would increase delay; however, with acceptable levels of service. Approval from the NPS would be necessary to construct the cross walk and install a new signal.

Sight distance for the at-grade pedestrian crossing was also analyzed. The future plan includes moving the existing southern access from RCPP further south, increasing the proximity to the Theodore Roosevelt Memorial Bridge abutment and creating the possibility that the pedestrian signal would be blocked from traffic traveling from the I-66/Ohio Drive ramp. The speed limit for this roadway is 25 miles per hour. In the absence of available field measured speed data or design information, it is assumed that the design speed is 35 miles per hour. Based on the *AASHTO Policy on Geometric Designs of Highways and Streets*, for a design speed of 35 miles per hour, the desired stopping sight distance is 250 feet. Based on field observations, the available sight distance through the bridge underpass is at least 400 feet. However depending on the final design of the pedestrian crossing, advance signing would be recommended to mitigate safety concerns.

Once construction is complete, the expansion would allow visitors already visiting the Kennedy Center the opportunity to engage in the performing arts by being able to glimpse into rehearsals, view simulcasts outside, enjoy the landscape and participate in interactive activities at the river pavilion. These new venues would potentially attract pedestrian and bicyclists from the Rock Creek Paved Recreation Trail. While the expansion would create a greater breadth of activities and possibly attract more daytime visitors, it is not expected to draw larger crowds during peak visitation hours. Peak visitation centers around performance times, which are evenings and Saturday and Sunday matinees and those, would remain the same. However, to move between the Kennedy Center and the river pavilion, Kennedy Center employees and patrons would have to use the at-grade crossing of RCPP and approximately a 125-foot section of the Rock Creek Paved Recreation Trail. There would not be a direct connection from the Kennedy Center to the river pavilion under Option 1. As a result, conflicts between those patrons or employees of the Kennedy Center and users of the Paved Recreation trail would occur. In the event groups from the Kennedy Center needed access, the trail would not be able to accommodate two-way traffic without forcing cyclists or pedestrians to leave the trail to allow others to pass. These conflicts would result in long-term moderate adverse impacts during periods of high trail use.

Option 1 would result in long-term minor to moderate adverse impacts to traffic due to the placement of a traffic signal for the pedestrian crossing and added conflicts between Kennedy Center patrons and users of RCPP and the Paved Recreation trail to gain access to the river pavilion.

RIVER ACCESS OPTION 2 (PREFERRED OPTION)

Construction under Option 2 would involve the temporary closure of RCPP and re-routing of the Rock Creek Paved Recreation trail in order to assemble the components of the pedestrian bridge. Any proposed closures of the RCPP and rerouting of Rock Creek Paved Recreation Trail would require permission from the NPS and would be subject to any conditions, such as night-time lane closures, stipulated by the NPS.

The Rock Creek Paved Recreation Trail would need to be modified to maintain bike and pedestrian flow during construction of the pedestrian connection from the Rock Creek Paved Recreation Trail to the river pavilion (see Figure 13). This re-routing of the Rock Creek Paved Recreation Trail would allow for a construction staging area. The re-routing of the trail would last approximately six weeks and would not be concurrent with any additional closures of the trail or the RCPP. In the event the stiff arm anchoring option is used for the river pavilion, the Rock Creek Paved Recreation Trail would be closed for 12-week duration at night to install the new foundations for the shore mounted river pavilion support. The trail would remain open during the day during this time period (see Figure 12).

During construction of River Access Option 2, temporary closures to RCPP could occur. The RCPP would be closed during construction of the pedestrian bridge and the upper level of the river pavilion. It is expected that there would only be six closures and they would be short in duration. The westernmost southbound lane of the RCPP would be closed for 10 weeks during construction of pedestrian bridge pier and support. To mitigate temporary impacts, flagmen would be utilized during construction to allow safe passage on the trail when equipment is being used or materials being delivered. Parkway and trail users would be notified of any changes during construction by appropriate signage and/or other public notices in accordance with NPS procedures. Further mitigation measures would include maintenance of traffic (MOT) plans which would minimize impacts on RCPP motorists. As a result, there would be short-term moderate adverse impacts on visitor use and experience of the area during construction.

Once construction is complete, the expansion would allow visitors already visiting the Kennedy Center the opportunity to engage in the performing arts by being able to glimpse into rehearsals, view simulcasts outside, enjoy the landscape and participate in interactive activities at the river pavilion. These new venues would potentially attract pedestrian and bicyclists from the Rock Creek Paved Recreation Trail. While the expansion would create a greater breadth of activities and possibly attract more daytime visitors, it is not expected to draw larger crowds during peak visitation hours. Peak visitation centers around performance times, which are evenings and Saturday and Sunday matinees and those, would remain the same.

Alternative C, Option 2 includes a pedestrian bridge that would connect the Kennedy Center to the river pavilion. This option would increase long-term pedestrian connectivity without impacting vehicular traffic on the RCPP. The pedestrian bridge when compared to Option 1 would partially eliminate a potential new conflict between users of the river pavilion and users of Rock Creek Paved Recreation Trail. Pedestrian flow from the Kennedy Center would transverse over the trail to gain access to the river pavilion. There would be a new pedestrian flow connecting the Rock Creek Multi-Use Trail to the river pavilion. This connection would essentially be a secondary connection to enable visitors from the river pavilion to access the trail and vice versa. Sight lines on the trail leading up to this connection are very good and signage could be installed to notify cyclists of this addition connection. This addition is expected to have negligible adverse long-term impacts to existing users

on the Rock Creek Paved Recreation Trail. No at-grade crossing is proposed under Option 2 thus, there would be no long-term impact on existing traffic patterns or delay on the RCPP.

CUMULATIVE IMPACTS

Present and future projects including the Eisenhower Memorial, the Arlington Memorial Bridge and the Potomac Hill Master Plan would result in short-term adverse impacts to traffic and transportation during construction activities and beneficial impacts to traffic and transportation once they are complete. The DC Clean Rivers Project may have adverse impacts to traffic and transportation during construction activities, but will not affect traffic once it is complete.

It is anticipated that the Kennedy Center project would be completed prior to construction activities for DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Therefore, Alternative C would not contribute to the short-term cumulative impacts from these projects. The NMAAHC and the improvements associated with the National Mall Plan are anticipated to be constructed around the same time as the Kennedy Center project. These projects would have short-term adverse cumulative impacts to traffic and transportation. The Kennedy Center would coordinate construction activities with DDOT and the NPS so that changes in traffic patterns and delays are coordinated with other projects. Alternative C would contribute to these short-term adverse cumulative impacts.

Minor long-term adverse impacts could result from other projects such as those projects listed in the National Mall Plan which is intended to restore the visitor experience or views such as removal of the south ramp cloverleaf from Arlington Memorial Bridge to Rock Creek Parkway and redirecting traffic to 23rd Street NW. These new facilities could change traffic patterns and attract additional visitors to each site. Because these projects are coordinated through DDOT's review process and traffic studies would be completed, long-term adverse cumulative impacts are expected to be minor.

As described in the impact analysis, Alternative C would result in minor to moderate long-term adverse impacts to traffic and transportation within the project area. Therefore, Alternative C would contribute a minor amount to long-term adverse cumulative impacts.

CONCLUSION

Alternative C would result in a short-term minor to moderate adverse impact to traffic and transportation because of construction-related delays to build the expansion. After construction is complete, Option 1 would have a long-term moderate adverse impact because of the introduction of a new signalized at-grade crossing and Option 2 would have long-term negligible adverse impacts from the introduction of a connection to Rock Creek Paved Recreation Trail from the Kennedy Center. Alternative C would contribute a minor amount to long-term adverse cumulative impacts. Alternative C would not contribute to the short-term cumulative impacts from the DC Water Clean Rivers Project, the Arlington Memorial Bridge Rehabilitation, and the Eisenhower Memorial. Alternative C would contribute to these short-term adverse cumulative impacts resulting from the NMAAHC and the improvements associated with the National Mall Plan.

CHAPTER 5: CONSULTATION AND COORDINATION

The Kennedy Center, NCPC, and NPS place a high priority on public involvement in the NEPA process and on giving the public an opportunity to comment on proposed actions. As part of the NEPA process, issues associated with the proposed action were identified during the internal scoping meeting held with the Kennedy Center, NCPC and NPS and have been communicated to other affected agencies and stakeholders. Agency consultation and coordination letters received to date are provided as Appendix A of this EA.

AGENCY COORDINATION

Representatives from NPS, NCPC, and the Kennedy Center have met with NCPC and CFA on numerous occasions to solicit their input on the design criteria and alternatives for this project. In July 2013, the Kennedy Center presented preliminary concepts to CFA and to NCPC in September 2013.

On July 12, 2013, NPS and NCPC distributed letters to federal and district agency representatives to notify them of the project and invite participation by the agencies in the scoping process.

SECTION 7 CONSULTATION

In accordance with Section 7 of the Endangered Species Act, consultation letters were sent to the U.S. FWS, NMFS, and DDOE on August 30, 2013.

In a letter dated November 13, 2013, the USFWS stated that “except for occasional transient individuals, no proposed or federal listed species are known to exist within the project impact area.” The NMFS responded on September 10, 2013. NMFS commented that there are two known sturgeon species known to exist within the project area and that NPS and NCPC is responsible for determining whether the proposed action is likely to affect these species. On January 15, 2014, NPS and NCPC sent additional correspondence to NMFS, which stated that based on the unlikely potential for occurrence of sturgeon in the project area during construction, the nature of the proposed activities, and the implementation of conservation measures to exclude sturgeons from the project area, the expansion of the Kennedy Center is not likely to adversely affect the federally endangered shortnose or Atlantic sturgeon. Because, with mitigation, the sturgeon would not be adversely affected, consultation with the NMFS under Section 7 of the Endangered Species Act has concluded.

SECTION 106 CONSULTATION

Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties. In coordination with NEPA, the Kennedy Center, NPS, and NCPC are conducting consultation under Section 106 of the NHPA, which was initiated with the DC HPO on July 12, 2013. A joint NEPA/Section 106 scoping meeting was held on July 22, 2013, during which the consulting parties were introduced to the project, presented with a draft APE, and invited to comment on the proposal. A public comment period was open from July 15 to August 30, 2013. A second consulting parties meeting occurred on September 17, 2013, to present the proposed alternatives to the public, invite comment on the potential effects of the undertaking, and solicit input into ways to avoid,

minimize, or mitigate adverse effects. A 14-day public comment period was open from September 20 through October 4, 2013. The NPS's PEPC website was used as a tool to disseminate information on the project and collect public comment. Section 106 also requires coordination with federally recognized Indian tribes who may have potential religious or cultural interests in the project area. Further, Section 106 acknowledges that tribes may have interest in geographic locations other than their seat of government. On October 28, 2013 the Delaware Nation was invited to participate in the Section 106 consultation for the project. NPS, NCPC, and the Kennedy Center met with the Delaware Nation on November 25, 2013 and submitted to them a Phase I Archeological report on May 7, 2014. No response was received from the Delaware Nation. Both action alternatives will have an adverse effect under Section 106. As a result the project stakeholders will develop a Memorandum of Agreement to identify mitigation appropriate for the project.

SECTION 401/404 AND SECTION 10

On March 14, 2013, the Kennedy Center initiated consultation with the USACE. In a letter dated April 10, 2013, the USACE stated a permit application would need to be submitted pursuant to Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act. On September 12, 2013 the Kennedy Center met with the USACE and presented the methods for anchoring the river pavilion. The USACE would provide a formal determination on their decision to issue permits once they receive the permit application.

The KCPA will continue consultation with DDOE on potential permit and mitigation requirements for impacts to open water as a result of the construction of the floating river pavilion. KCPA will submit a joint permit application to the USACE for authorization for Section 401 Water Quality Certification with DDOE.

UNITED STATES COAST GUARD CONSULTATION

On July 2, 2013, the Kennedy Center sent a scoping letter to the United States Coast Guard (USCG) to discuss the need for obstruction lights for the river pavilion and any additional requirements of the USCG. On October 29, 2013, the USCG provided a preliminary response via electronic mail which stated, that based upon the information provided to them, the USCG would require each end of the river pavilion to be marked with day/night obstruction marks. A formal response will be provided by the USCG in response to the permitting package that will be submitted to the USACE.

FUTURE COMPLIANCE NEEDS/PERMITS

Prior to the implementation of the proposed action, the Kennedy Center would obtain appropriate land disturbance permits from NPS and others and abide by NPS, and local and state erosion and sediment control standards. Additional approvals and reviews would be required prior to construction. These include approval by NCPC and CFA, a Section 10 permit under the Rivers and Harbors Act, and/or a Section 404 permit under the CWA.

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GLOSSARY AND ACRONYMS

GLOSSARY OF TERMS

Affected Environment — The existing environment to be affected by a proposed action and alternatives.

Best Management Practices — Methods that have been determined to be the most effective, practical means of preventing or reducing pollution or other adverse environmental impacts.

Contributing Resource — A building, site, structure, or object that adds to the historic significance of a property or district.

Council on Environmental Quality — Established by Congress within the Executive Office of the President with passage of the *National Environmental Policy Act* of 1969. CEQ coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives.

Cultural Landscape — Environments that include natural and cultural resources associated with a historical context.

Cultural Resources — Prehistoric and historic districts, sites, buildings, objects, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reason.

Cumulative Impacts — Under NEPA regulations, the incremental environmental impact or effect of an action together with the effects of past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions (40 CFR Part 1508.7).

Endangered Species — Any species that is in danger of extinction throughout all or a significant portion of its range. The lead federal agency for the listing of a species as endangered is the U.S. Fish and Wildlife Service, and it is responsible for reviewing the status of the species on a five-year basis.

Endangered Species Act (16 U.S.C. 1531 et seq.) — An Act which provides a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved and which provides a program for the conservation of such endangered species and threatened species.

Environmental Assessment — An environmental analysis prepared pursuant to the *National Environmental Policy Act* to determine whether a federal action would significantly affect the environment and thus require a more detailed environmental impact statement (EIS).

Executive Order — Official proclamation issued by the President that may set forth policy or direction or establish specific duties in connection with the execution of federal laws and programs.

Floodplain — The flat or nearly flat land along a river or stream or in a tidal area that is covered by water during a flood.

Impairment — Within this document, the term impairment has two separate definitions. The NPS requires an analysis of potential effects to determine whether actions would impact or impair Park

resources. NPS is empowered with the management discretion to allow impacts on Park resources and values (when necessary and appropriate) to fulfill the purposes of a Park, as long as the impact does not constitute impairment of the affected resources and values. Impairment is also a classification of poor water quality for a surface water body under the U.S. Clean Water Act.

Scoping — Scoping, as part of NEPA, requires examining a proposed action and its possible effects; establishing the depth of environmental analysis needed; and determining analysis procedures, data needed, and task assignments. The public is encouraged to participate and submit comments on proposed projects during the scoping period.

Threatened Species — Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ACHP	American Council for Historic Preservation
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
APE	Area of Potential Effect
BMP	Best Management Practice
C&O Canal	Chesapeake and Ohio Canal
CEQ	Council on Environmental Quality
CFA	Commission of Fine Arts
CFR	Code of Federal Regulations
CLV	Critical Lane Volume
CSO	Combined Sewer Overflows
CWA	Clean Water Act
DPSs	Distinct Population Segments
DC HPO	District of Columbia Historic Preservation Office
DCMR	District of Columbia Municipal Regulations
DCOZ	District of Columbia Office of Zoning
DDOT	District of Columbia Department of Transportation
DM	Departmental Manual
DO	Director's Order
DOE	Determination of Eligibility
DOS	U.S. Department of State
EA	Environmental Assessment
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FHWA	Federal Highway Administration
GSA	General Services Administration
GWMP	George Washington Memorial Parkway
HABS	Historic American Buildings Survey
ICPRB	Interstate Commission on the Potomac River Basin
IPCC	Intergovernmental Panel on Climate Change
LOS	Level of Service
MOA	Memorandum of Agreement
MOT	Maintenance of Traffic
msl	mean sea level
NAMA	National Mall and Memorial Parks
NCPC	National Capital Planning Commission
N.D.	no date
NCR	National Capital Region
NEPA	National Environmental Policy Act of 1969, as amended
NHPA	National Historic Preservation Act of 1966, as amended
NMFS	National Marine Fisheries Service
NMAAHC	National Museum for African American History and Culture
NOAA	National Oceanic and Atmospheric Association
NPDES	National Pollutant Discharge Elimination System

NPS	National Park Service
NRHP	National Register of Historic Places
PEPC	Planning, Environment, and Public Comment
PL	Public Law
RCPP	Rock Creek and Potomac Parkway
SOF	Statement of Findings
TMDL	Total Maximum Daily Load
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
U.S.EPA	United States Environmental Protection Agency
U.S.FWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VASHPO	Virginia State Historic Preservation Office

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