

APPENDIX B: FLOODPLAINS STATEMENT OF FINDINGS

APPENDIX X: STATEMENT OF FINDINGS
FOR
EXECUTIVE ORDER 11988 “FLOODPLAIN MANAGEMENT”
AND
EXECUTIVE ORDER 13690 “ESTABLISHING A FEDERAL FLOOD RISK
MANAGEMENT STANDARD AND A PROCESS FOR FURTHER
SOLICITING AND CONSIDERING STAKEHOLDER INPUT”

JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS

EXPANSION CONNECTION PROJECT

National Mall and Memorial Parks

Washington, DC

February 24, 2016

RECOMMENDED:

Gay Vietzke
Superintendent, National Mall and Memorial Parks

Date

CONCURRED:

F. Edwin Harvey
Chief, Water Resources Division

3/1/2016
Date

APPROVED:

Robert Vogel
Regional Director, National Capital Region

Date

Introduction

Executive Order 11988 "Floodplain Management" and the newly issued Executive Order 13690 "Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input" require the National Park Service, the National Capital Planning Commission (NCPC) and other Federal agencies to evaluate the potential impacts of their actions to floodplains. The evaluation is intended to reduce the risk of flood damage to the park resources, preserve floodplain values, and minimize the impact of floods on human safety, health and welfare. This Statement of Findings (SOF) has been prepared according to National Park Service Procedural Manual 77-2 to comply with Executive Order 11988 and Executive Order 13690.

The John F. Kennedy Center for the Performing Arts (Kennedy Center), is proposing a direct pedestrian and bicycle connection between the Kennedy Center expansion and the Rock Creek Paved Recreational Trail. The NCPC and the NPS are acting as co-lead agencies in cooperation with the Kennedy Center for the preparation of an Environmental Assessment (EA).

The Kennedy Center is a Congressionally-designated national showcase for the performing arts and a living memorial to President Kennedy. To service its existing and future programming, the Kennedy Center is currently expanding its facilities through the construction of a new building featuring three land-based pavilions located south of the existing Edward Durell Stone building on a site that was formerly used for parking. The Kennedy Center, NCPC and the NPS completed an EA for the expansion in October 2014. NCPC approved the final design in July 2015 and the project was approved by the U.S. Commission of Fine Arts in September 2015. Construction on the expansion began in the Fall of 2015. Since final approval of the expansion, the Kennedy Center has been developing concept level designs for a connection between the new expansion occurring at the Kennedy Center and the Rock Creek Paved Recreation Trail. These concepts form the basis for the alternatives studied for the Connection Project.

Project Description

The Kennedy Center is proposing a direct pedestrian and bicycle connection between the Kennedy Center expansion and the Rock Creek Paved Recreational Trail. The proposed expansion will include new classrooms, rehearsal rooms, event spaces and offices in a dedicated area.

The purpose of the proposed project is to provide a safe pedestrian and bicycle connection between the Kennedy Center and the Rock Creek Paved Recreation Trail and to improve access and create a public waterfront link to and from the Kennedy Center from the new expansion area on the south, the Potomac River waterfront, NAMA, and the surrounding vicinity.

The project is needed because there is no direct 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 pedestrian/bicycle 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 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; Thomas Jefferson Memorial; Lincoln Memorial; and Franklin Delano Roosevelt Memorial. In addition, Theodore Roosevelt 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. Theodore Roosevelt 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, and the

Potomac River waterfront by providing a convenient and logical pedestrian/bicycle connection and expanded interpretation opportunities of the area's presidential memorials.

Site Description

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 the former above-grade 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 shown on Figure 1.

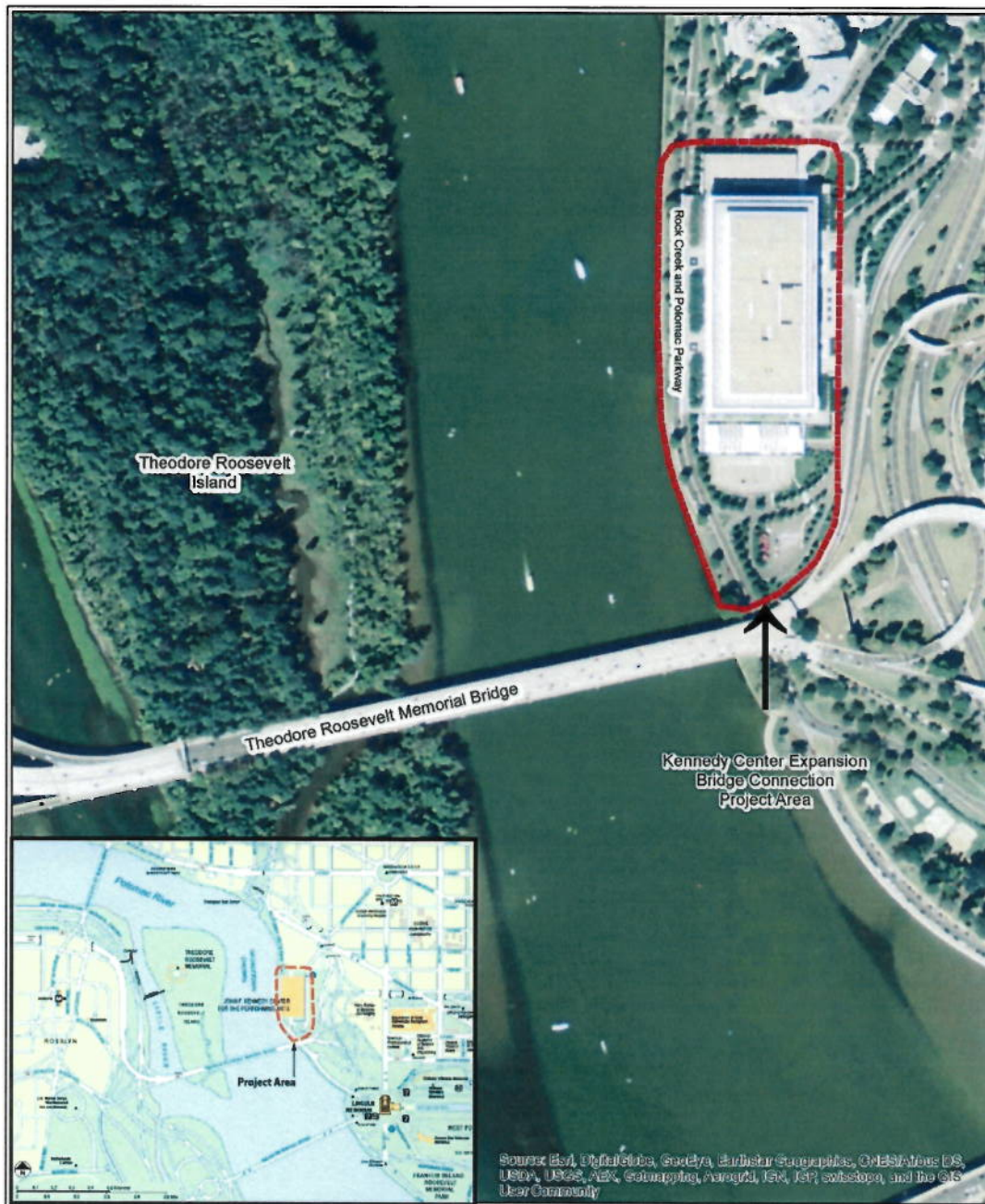


Figure 1: Project Area Map

The project area is defined as the area between the existing Edward Durell Stone building, Interstate 66/U.S. Route 50, Rock Creek Paved Recreation Trail, and F Street NW. The existing site layout and the existing conditions are shown in Figure 2.

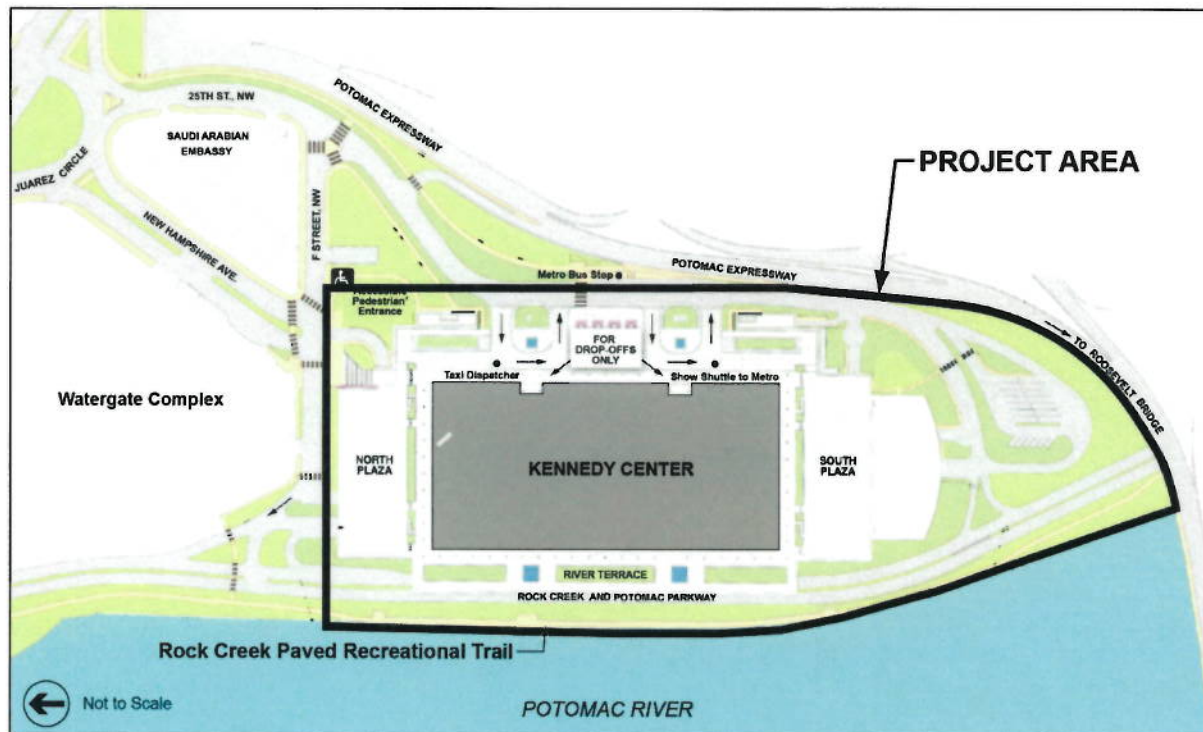


Figure 2: Existing Site Layout

General Floodplain Characteristics

Floodplain Description

The Kennedy Center south plaza area, the Rock Creek and Potomac Parkway, and the Rock Creek Paved Recreation Trail are located within the 100-year floodplain of the Potomac River as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Panel Number 1100010018C, dated September 27, 2010 (Figure 3). According to the FIRM Panel, the 100-year flood elevation of the Potomac River adjacent to the Kennedy Center is 15 feet above mean sea level (msl). As a reference, the top of the seawall is at approximate elevation 8.4 feet msl, and the Rock Creek and Potomac Parkway is at approximate elevation 12 feet msl. The Kennedy Center building itself is located above the 100-year flood elevation, but parts of the project area are located within the 100-year floodplain.

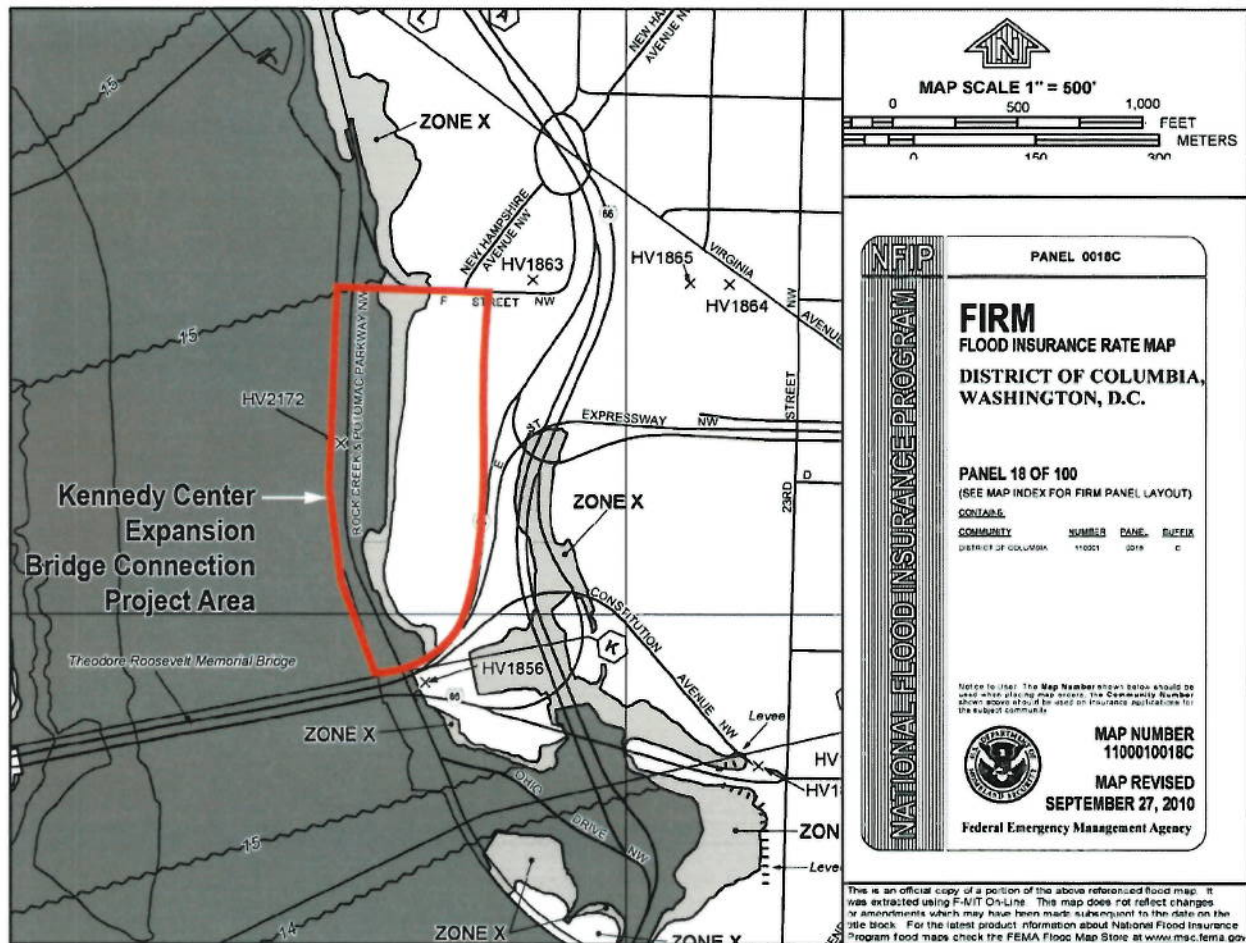


Figure 3: Floodplain Map

Source: FEMA, Flood Insurance Rate Map, District of Columbia, Washington, DC, 2010.

The functional value of the project area floodplain is low to marginal in that the area has already been developed with the Potomac River seawall, the Rock Creek and Potomac Parkway, the Rock Creek Paved Recreation Trail, and the Kennedy Center. Due to these features, many natural functions of the floodplain are not available. These functions include providing flood conveyance, providing habitat, reducing excessive erosion, trapping sediments, and removing pollutants from waters. Currently, the main floodplain function in the project area is to provide flood storage capacity in the south plaza area, and scenic beauty and recreational opportunity to Rock Creek Paved Recreation Trail users and Kennedy Center visitors.

The project area is separated from the Potomac River by the existing seawall. The seawall is at approximate elevation 8.4 feet msl. During a 100-year flood event, floodwaters breach the seawall, and when floodwaters continue to rise, eventually flow over the Parkway and into the south plaza area. The parking garage and south parking lot experience high flows from River flooding and storm surges during the 100-year flood event.

Justification of Use of Floodplain

The Kennedy Center connection area, the Rock Creek and Potomac Parkway, and the Rock Creek Paved Recreation Trail are located entirely within the floodplain of the Potomac River at the project site. An EA for the Kennedy Center Expansion Project was completed by the Kennedy Center, NCPC, and the NPS in October 2014. The selected alternative, which would include the construction of three land-based pavilions, would expand the Kennedy Center to the south. The area for the expansion is located within the 100-year floodplain.

It was determined that there were no practicable alternatives to locating the expansion of the Kennedy Center outside of the 100-year floodplain. Locating the proposed pedestrian/bicycle connection outside of the 100-year floodplain would not be possible because any connection outside the floodplain would not connect the Kennedy Center expansion with the Rock Creek Paved Recreation Trail, both of which are located within the floodplain.

Alternatives

Alternative A – No Action

No action does not imply or direct discontinuing the current action or removing existing uses, development, or facilities. The No Action Alternative provides a basis for comparing the management direction and environmental consequences of the other alternatives.

Under the No Action Alternative, the Kennedy Center Connection Project would not be implemented. This alternative would include the continuation of the existing conditions, operations, and maintenance of the Kennedy Center, including construction of the planned and NCPC-approved Kennedy Center expansion project, which includes three land-based pavilions located south of the existing facility. This alternative also includes the continuation of the existing conditions, operations, and maintenance of the Rock Creek and Potomac Parkway and the Rock Creek Paved Recreation Trail.

Alternative B – Three Land Based Pavilions

Alternative B (Figure 4) 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) that would traverse the northbound and southbound lanes of the RCPP. A crosswalk would be provided that would allow pedestrians and bicycles to cross the RCPP safely. Under this alternative, the Rock Creek Paved Recreation Trail would remain in its current location, and no trees would be removed or relocated. Two trail spurs would be added to connect the at-grade crossing with the Rock Creek Paved Recreation Trail. Small-scale features, including a bench and a bicycle rack, would be added along the trail in the vicinity of the crossing. Because the slope of the land between the RCPP and the Kennedy Center expansion area is too steep and too narrow to accommodate an accessible ramp on the east side of the RCPP, bicyclists would be required to go through the Kennedy Center parking garage to make the connection to the Rock Creek Paved Recreation Trail. Bicyclists would enter the parking garage along the east side of the Kennedy Center either from the existing pedestrian/bicycle route that parallels 25th Street NW or from the expansion area. Once entering the garage, bicyclists would continue through the garage to connect with the at-grade crossing at the RCPP. Under this alternative there would be no dedicated bicycle route through the garage due to space limitations. Appropriate signage would be used to inform motorists of the shared use of the garage with bicyclists. The portion of the parking garage that would be utilized by bicyclists would be open 24 hours a day, seven days a week. Pedestrians would be able to use the elevator in the River Pavilion during performances to access the at-grade crossing. At other times pedestrians would utilize the parking garage to gain access to the at-grade connection.

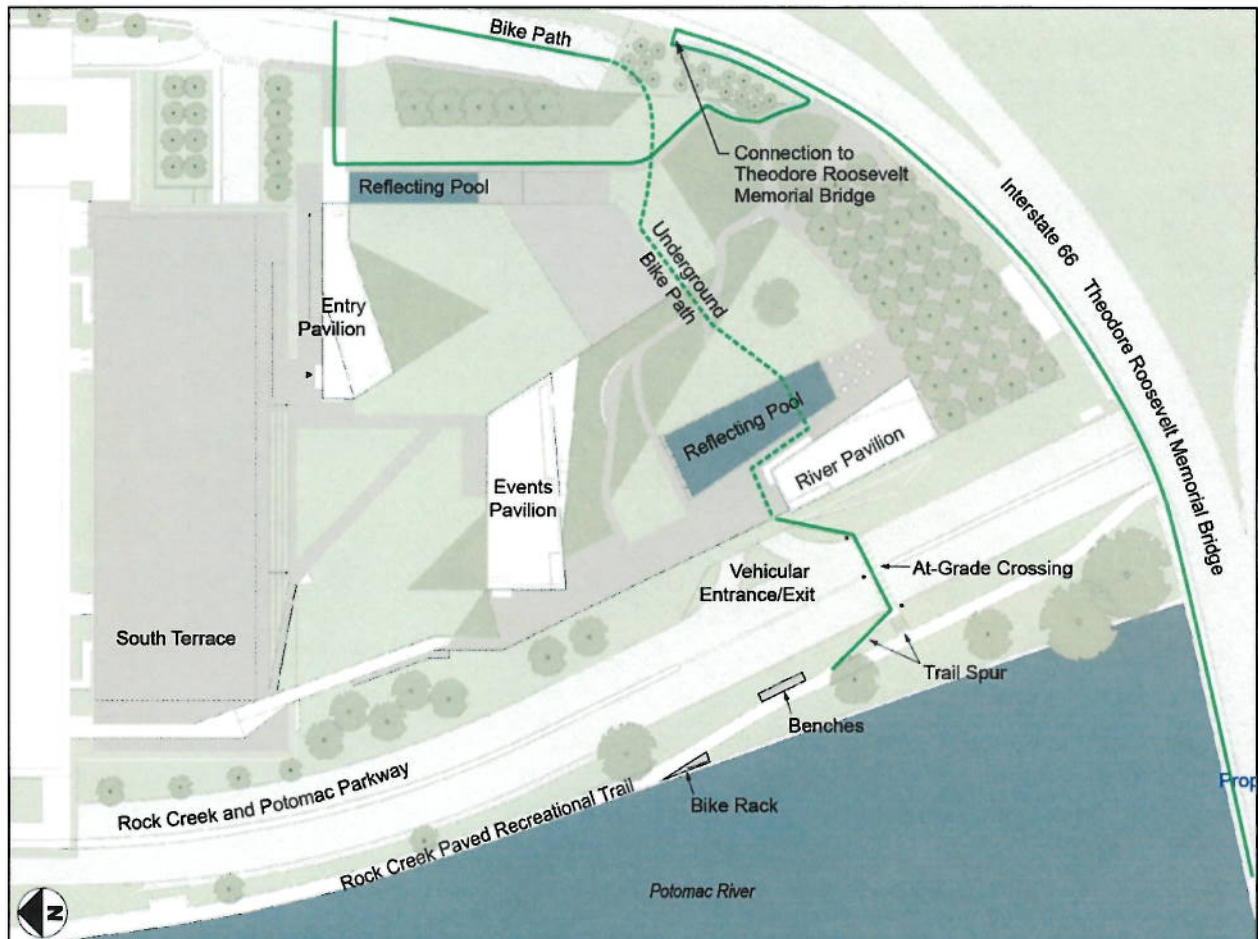


Figure 4: Alternative B: At-Grade Crossing

Alternative C – Two Land Based Pavilions & One River Pavilion

The Bridge Access with Ramp and Stairs Alternative (Figure 5) proposes to connect the Kennedy Center Expansion Project and the Rock Creek Paved Recreation Trail via a bridge that would span the northbound and southbound lanes of the RCPP and would be accessed from the Rock Creek Paved Recreation Trail by both a ramp and stairs. The connection would be a steel structure, and the bridge component would measure approximately 11-feet wide and be ADA-compliant for use by pedestrians, including persons with disabilities, and also by bicyclists. The Kennedy Center would develop policies for bicycle usage on the bridge and ramps, which would include dismounting and walking bicycles on the bridge and ramp. The Kennedy Center is also considering the installation of a bicycle trough for the stairs that would allow bicyclists to walk their bicycles up and down the stairs. Under this alternative, a section of the Rock Creek Paved Recreation Trail would be rerouted and three trail spurs would be added to connect the trail with the landing of the stair at the south end of the ramp, the ramp landing, and the landing of the north stair. The trail spurs would provide a transition area where the stairs and ramp meet to provide sufficient space to minimize user conflicts. Small-scale features, including a bench and a bicycle rack, would be added along the trail in the vicinity of the bridge. One tree would be removed for the construction of the ramp, and a replacement tree would be planted near the location of the original.

Pathways are currently under construction for the Kennedy Center Expansion that would connect the Kennedy Center to the I-66/Theodore Roosevelt Memorial Bridge path on the east side of the Kennedy Center and the proposed bridge on the west side of the Kennedy Center. Signage may be incorporated to define the route

through the expansion area. The Kennedy Center would develop policies for bicycle usage while pedestrians are present.

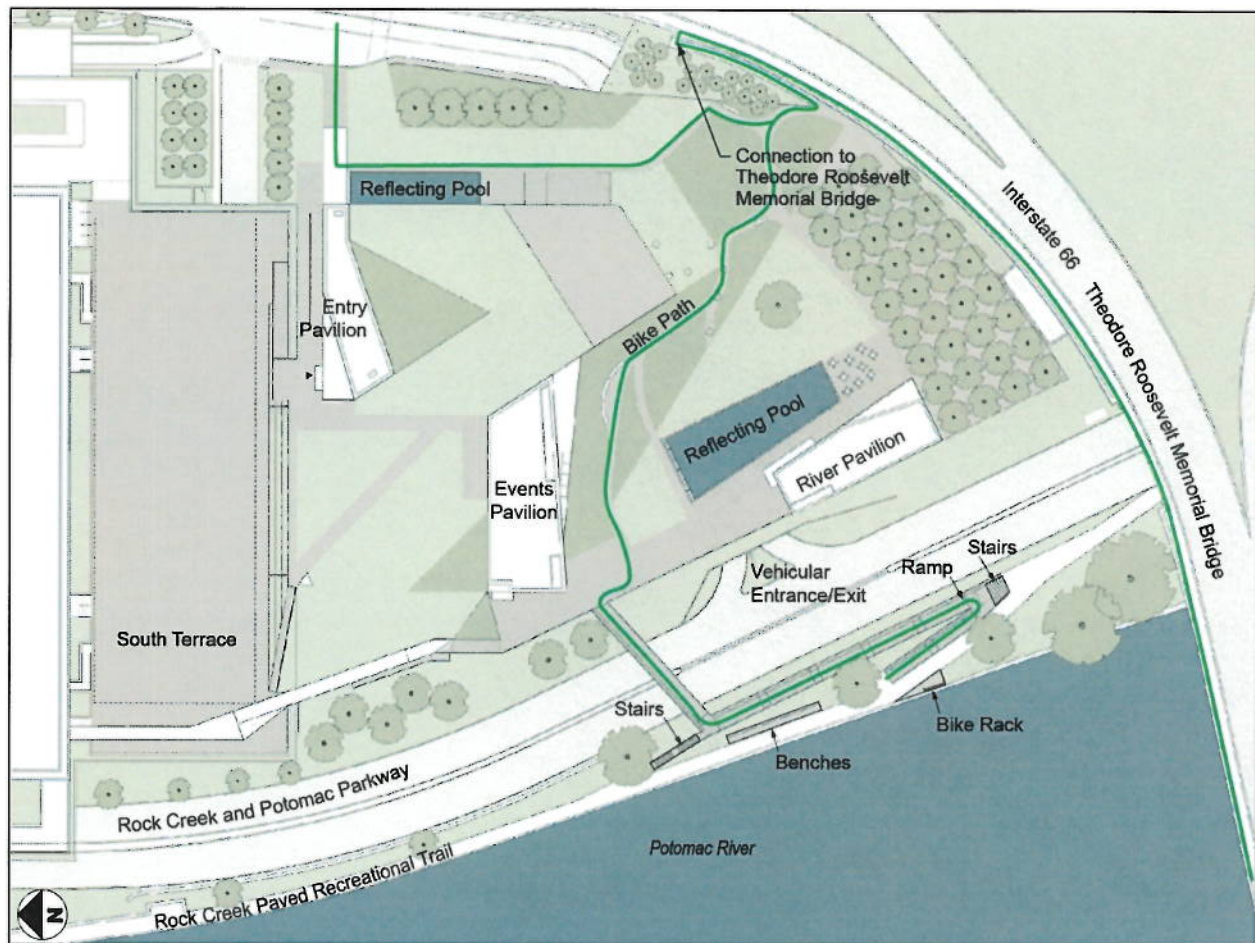


Figure 5: Alternative C - Bridge Access with Ramp and Stairs

Alternative D – Bridge Access with Ramp and Elevator

The Bridge Access with Ramp and Elevator Alternative (Figure 6) proposes to connect the Kennedy Center Expansion Project and the Rock Creek Paved Recreation Trail via a bridge that would span the northbound and southbound lanes of the RCPP and would be accessed from the Rock Creek Paved Recreation Trail by both a ramp and an elevator. The connection would be a steel structure, and the bridge component would measure approximately 11-feet wide and be ADA-compliant for use by pedestrians, including persons with disabilities, and also by bicyclists. Under this alternative, a section of the Rock Creek Paved Recreation Trail would be rerouted and three trail spurs would be added to connect the trail with the landing of the stair at the south end of the ramp, the ramp landing, and the elevator threshold. The trail spurs would provide a transition area where the stairs and ramp meet to provide sufficient space to minimize user conflicts. The Kennedy Center would develop policies for bicycle usage on the bridge and ramps, which would include dismounting and walking bicycles on the bridge and ramp. The Kennedy Center is also considering the installation of a bicycle trough for the stairs that would allow bicyclists to walk their bicycles up and down the stairs. Small-scale features, including a bench and a bicycle rack, would be added along the trail in the vicinity of the bridge. One tree would be removed for the construction of the ramp, and a replacement tree would be planted near the location of the original.

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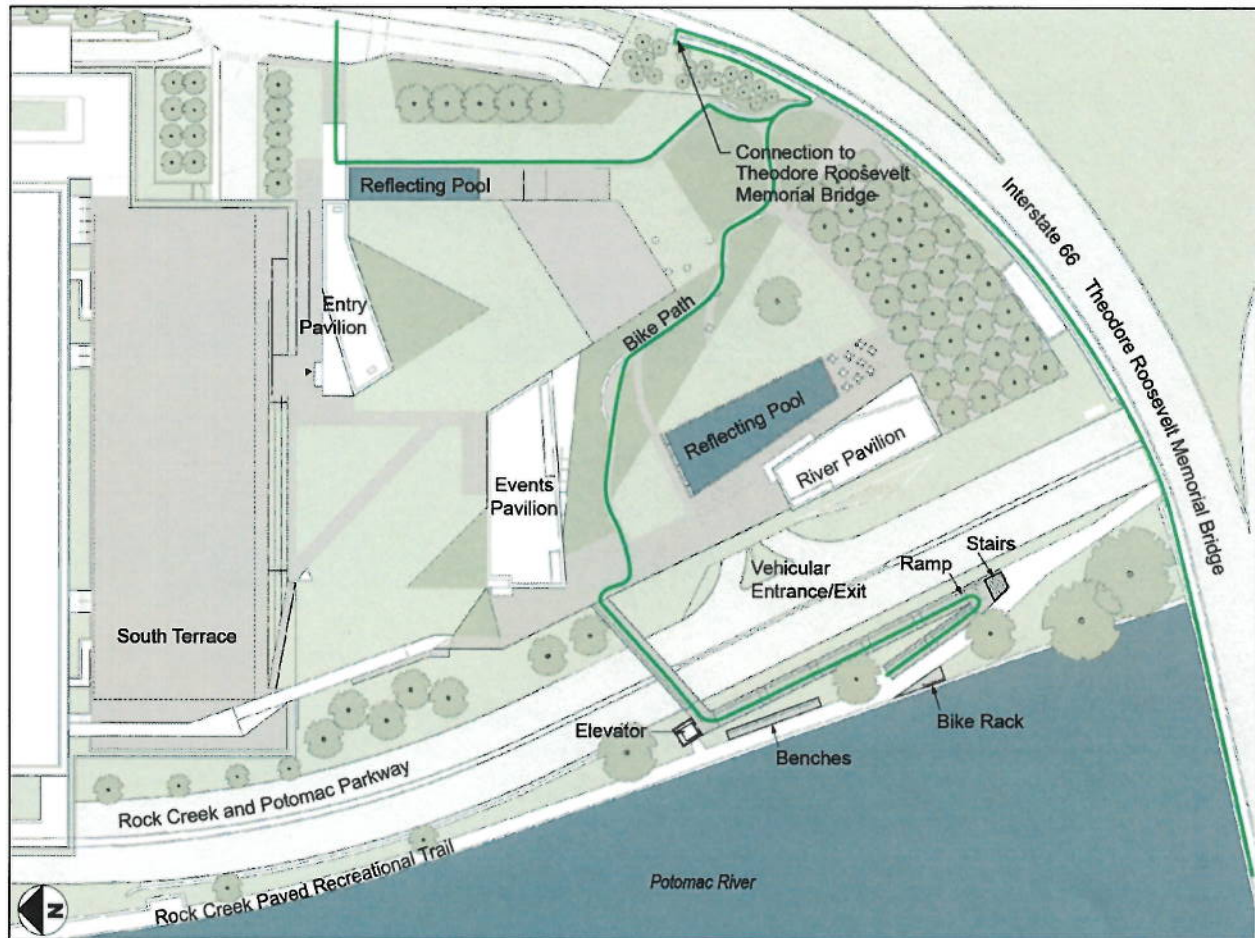


Figure 6: Alternative D - Bridge Access with Elevation and Ramp

Alternative E – River Terrace Access Alternative

Alternative E includes a pair of curved staircases with integrated elevators that would provide pedestrian and bicycle access from the Kennedy Center to the Potomac riverfront (Figure 7). Portions of the existing terrace wall and planter structure would be removed and 20-foot wide platforms would be constructed to extend approximately 16 feet over the southbound lanes of the RCPP. Each platform would be centered on the existing terrace fountains and the entrances to the Hall of Nations and the Hall of States and connect to a staircase and hydraulic elevator. At the bottom of the stairs and elevator structures, a landscaped plaza of approximately 13,100 square feet would be constructed of asphalt, concrete, or pavers. The plaza would provide unimpeded accessibility to the Rock Creek Paved Recreation Trail and the Potomac riverfront. In order to alert Rock Creek Paved Recreation Trail users to the plaza approach, the segment of trail in front of the Kennedy Center would be resurfaced with a material unique from the surrounding trail and the new plaza. Alternative E would not provide dedicated bicycle access through the Kennedy Center, but a pedestrian/bicycle path would be created through the expansion area on the south end of the Kennedy Center and would connect with the terrace. The Kennedy Center would develop policies for bicycle usage on the terrace, which would

include dismounting and walking bicycles across the terrace. The Kennedy Center is also considering the installation of a bicycle trough that would allow bicyclists to walk their bicycles up and down the stairs. Bicyclists could also utilize the proposed elevator in order to access the Rock Creek Paved Recreation Trail.

Site Specific Flood Risk

The Preferred Alternative (Alternative C) includes development that would be located in the 100-year floodplain (the floodplain that has a one percent chance of being equaled or exceeded in any given year).

A proposed pedestrian/bicycle bridge over RCPP would provide access from the Kennedy Center Expansion Project to the Rock Creek Paved Recreation Trail. This bridge would be located above the 100-year flood elevation at an elevation of 29 feet msl; however, up to six bridge and ramp supports would be located within the 100-year floodplain. The bridge and ramp supports would require the clearing of one tree and would convert a small area of existing grass for trail spurs. Removal of this vegetation would not affect flood flows or flood levels. The supports would decrease the flood storage capacity by a negligible amount and would not impede the flow of flood water through the area. However, in its current condition, the floodplain within the project area provides little flood storage, as it is already covered with impervious areas. The supports would be subject to flood flow during flood events, but would be designed to withstand the forces of a 100-year flood event. Therefore, the decrease in flood storage capacity resulting from the proposed action would be too small to detect.

Executive Order 13690: "Establishing a Federal Flood Risk Management Standard and Process for Further Soliciting and Considering Stakeholder Input," establishes a new Federal Flood Risk Management Standard which takes into account climate change and gives agencies the flexibility to choose among different approaches to assess risk. Per the report entitled "Surging Seas: Sea Level Rise, Storms, and Global Warming's Threat to the US Coast" published in March 2012, the Potomac River is expected to rise by 13 inches by the year 2050 project an increase to the 100-year flood elevation to 16.08 feet. The bottom of the proposed bridge would be built to 29 feet mean sea level (msl). Because the design of the bridge uses both the freeboard value approach and a climate-informed science approach, the connection would be protected from floodwaters and would not have short- or long-term impacts on the floodplain, even with climate change. Based on the relative magnitude of the Potomac River, the proposed action would not have appreciable effects which would increase the risk of flooding or hazards to human life or property.

Mitigation

The preferred alternative is not expected to significantly alter the natural and beneficial functions of the floodplain.

Compliance with Development Requirements

Communities that participate in the National Flood Insurance Program, such as Washington, DC, are required to enforce floodplain management regulations that meet the requirements of the National Flood Insurance Program. Furthermore, in order to comply with Executive Order 11988 & 13690, Federal Agencies must demonstrate there are no reasonable alternatives outside of the floodplain and study ways to reduce the flood risk associated with the proposed action. Therefore, in order to follow guidelines for regulated development in the 100-year floodplain so that there are minimal impacts to the floodplain, adherence to general building and development requirements as outlined in the National Flood Insurance Program requirements is recommended.

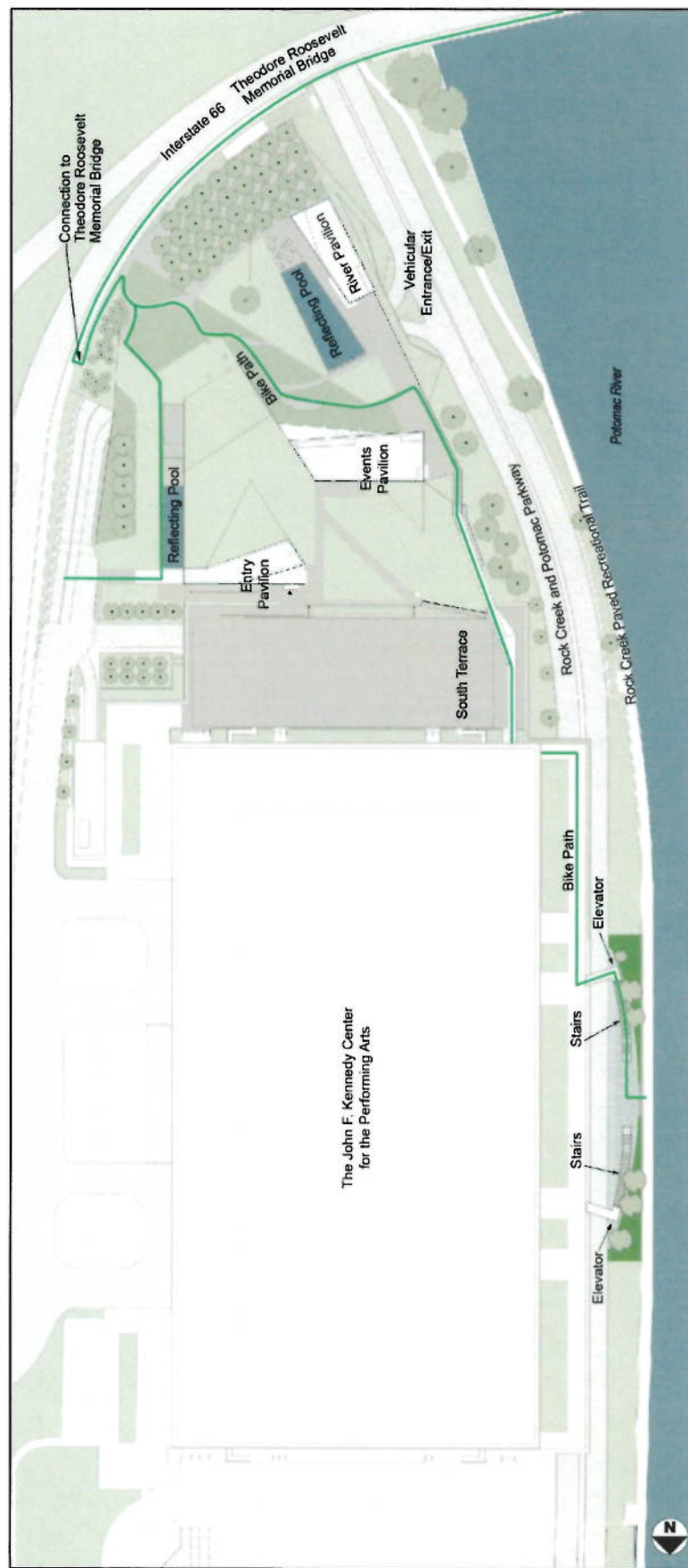


Figure 7: Alternative E - River Terrace Access

Development in the floodway is also an issue to consider for compliance purposes. Development is generally not permitted in the floodway, and fill is prohibited in the floodway. The floodplain consists of two types of flood areas: the floodway and the flood fringe. The floodway is the area that encompasses the stream channel and is where floodwaters generally flow the fastest. By definition it is the area where fill cannot be placed without resulting in a cumulative one foot rise in the 100-year floodwater elevation. The flood fringe comprises the remainder of the floodplain that extends beyond the floodway area. According to the detailed hydraulic study for Washington, DC, the Potomac River does not have a designated floodway (FEMA, 1985). Therefore, the preferred alternative meets compliance requirements for floodway development. The proposed actions under the preferred alternative will be able to comply with these requirements.

Conclusions

The proposed action would include activities located within the regulated 100-year floodplain of the Potomac River. The proposed Kennedy Center Expansion Connection Project would create additional obstructions within the floodplain; however, the obstructions would not noticeably impact the water surface level during a flood event. A slight decrease in the capacity of the floodplain to store floodwaters would occur, as well as a slight decrease in infiltration. However, due to the limited capacity of the floodplain in its current condition, these alterations would not result in a measureable adverse impact. Based on the relative magnitude of the Potomac River, the proposed actions would not have appreciable effects which would increase the risk of flooding or hazards to human life or property.

In summary, the proposed pedestrian/bicycle connection would have no significant effect on natural or beneficial floodplain functions. The project would not increase the risk associated with flooding for the 100-year event. Therefore, the National Park Service has determined the proposed actions would be consistent with Executive Order 11988 and 13690.