



## Finding Of No Significant Impact

### Potomac Park Levee System Improvements

#### National Mall and Memorial Parks and the National Capital Region

The National Park Service (NPS), in cooperation with the U.S. Army Corps of Engineers (USACE), the National Capital Planning Commission (NCPC), and the Government of the District of Columbia (District), proposes to design and construct improvements to the Potomac Park levee system located in Washington, D.C. to improve its reliability for river flood protection in a manner that respects the resources and values of the National Mall. Without adequate flood protection measures, several downtown District of Columbia locations, including portions of the monumental core, portions of Pennsylvania and Constitution Avenues, as well as public and private facilities located south of the U.S. Capitol to Fort McNair, are at risk of flooding from a major (100-year plus) flood event and will consequently be required to acquire additional flood insurance and/or make costly upgrades to comply with building standards for facilities located in this floodplain. The proposed levee improvements address only river flooding that would likely occur during flood events. These levee improvements do not address other high-water problems or issues that may occur or have occurred in the study area from excess precipitation, interior ponding, and localized stormwater runoff.

The existing Potomac Park levee structure extends from the vicinity of 23<sup>rd</sup> Street, N.W., parallel to the Lincoln Memorial Reflecting Pool in Constitution Gardens, and ends on the Washington Monument Grounds (Monument Grounds), with 17<sup>th</sup> Street, N.W., cutting through the east end of it. Currently, in the event of a major flood, the NPS must provide a temporary sand bag closure at 23<sup>rd</sup> Street, N.W., and a temporary earthen closure across 17<sup>th</sup> Street, N.W., using a combination of sandbags, Jersey barriers, and soil taken from the Monument Grounds in order to block the flow of water into downtown Washington. This long-established method of temporary closure has not been favored by the USACE due to the large amount of work associated with constructing an earthen dike which could be further complicated by unknown weather conditions and logistical requirements. Based on new policies enacted since Hurricane Katrina in 2005, the USACE has deemed the 17<sup>th</sup> Street, N.W., closure unreliable and given it an unacceptable inspection rating. For this reason, the Federal Emergency Management Agency's (FEMA) most recently proposed 100-year floodplain map for this area identifies the larger flood rate zone which would be created if the emergency closure at 17<sup>th</sup> Street, N.W., did not exist. In addition to requiring the impacted facilities to purchase additional flood insurance and/or make costly upgrades to comply with building standards for facilities constructed in flood zones, the new maps would impact and potentially delay a number of projects that are currently in development, since they would need to be revised in order to comply with these building codes.

At the District's request, FEMA agreed to delay issuance of the new floodplain map until November, 2009, in order to allow the District and the NPS time to design and implement a solution that will, at a minimum, reliably stop a 100-year flood at 17<sup>th</sup> Street, N.W., and therefore make re-mapping unnecessary. In addition, the USACE requested that the solution be designed in such a manner as to allow it to be easily modified to meet the congressionally authorized level of protection. In 1936, Congress authorized the USACE to design and construct a permanent Potomac Park Levee system to contain a flow of 700,000 cubic feet per second (cfs). Currently the USACE does not have appropriated funds to upgrade the Potomac Park Levee. However, the District and the NPS agreed that since the original levee is a congressionally authorized project, any improvements should be consistent with the current authorization so that the congressionally authorized level of protection can ultimately be achieved once funding is appropriated.

The NPS completed an environmental assessment (EA) for this project that was prepared in accordance with National Environmental Policy Act of 1969, as amended (NEPA), its implementing regulations by the Council on Environmental Quality (CEQ), at 40 CFR 1500-1508, and NPS Director's Order #12, Conservation Planning, Environmental Impact Analysis and Decision-Making, and the accompanying Handbook (DO-12). The EA analyzed the environmental consequences of the alternatives considered for the proposed levee improvements. The scope of the analysis was limited to the impacts to the natural and cultural resources from the design and construction of the levee improvements, including the initial construction of the 100-year solution as well as the construction of the permanent improvements which would meet the congressionally authorized level of protection. Consequently, the EA did not assess impacts on resources from flood effects that could occur in the future.

## **SELECTED ALTERNATIVE**

The NPS identified alternative 1B as the preferred alternative in the EA and has selected it for implementation. During the EA process, it became apparent that considerable cost and disturbance to the National Mall and its visitors could be avoided if the closure structure at 17th Street, N.W., were constructed to the congressionally authorized level of protection initially, rather than raising it as part of another project some time in the future. However, since the amount of funding that would be available at the beginning of the project was uncertain, all of the alternatives were evaluated in a phased approach. Phase 1 solutions satisfy the FEMA requirements for reliably stopping the 100-year flood at 17th Street, N.W., (16.7 feet per the North American Vertical Datum<sup>1</sup> (NAVD)). Phase 2 solutions achieve the congressionally authorized level of protection (18.7 feet NAVD) at 17th Street, N.W., as well as along the rest of the levee running parallel to the Lincoln Reflecting Pool and along 23rd Street, N.W.

Under alternative 1B, the closure structure at 17th Street, N.W. would take the form of two exposed, arc-shaped flood walls, approximately 253 feet south of the centerline of Constitution Avenue, N.W., which flank 17th Street, N.W. Full closure of the levee would be achieved with a removable post and panel system, approximately 140 feet in length, which would be erected in advance of a major flood event. Concrete footings would be used for both the walls and the post/panel system.

The arc-shaped flood walls would be symmetrical, set back approximately 20 feet from the curb line of 17th Street, N.W., and each would measure approximately 120 feet in length. In order to minimize the visual effects of the adjacent cultural landscapes, this alternative was designed with the shortest exposed flood walls of any of the alternatives in overall length. However, in order to achieve this design, extensive re-grading is required in order to both conceal the walls and meet the required level of protection through adjacent berming. Due to the disturbance associated with the extensive re-grading, this alternative presumes that the levee improvements at 17th Street, N.W., would be built to the congressionally authorized level of protection (18.7 feet NAVD) as part of phase I in order to minimize future disturbance to Constitution Gardens. In this alternative, the height of the exposed flood walls would be approximately 8.7 feet tall at the location of the closure.

Setting back the flood walls from the curblines reduces the impacts to views looking north up 17th Street, N.W., towards President's Park. The walls were very carefully located so that the opening between them maintained the vista of the Monument Grounds from Virginia Avenue, N.W., one of the main diagonal avenues conceived in the L'Enfant plan.

The flood walls and berming will require some re-grading of the northwest corner of the Monument Grounds and, as mentioned previously, extensive re-grading along the eastern portion of Constitution Gardens between overlook terrace and 17th Street, N.W.. Due to this re-grading, a number of trees will be lost. In order to mitigate the impact of this project on Constitution Gardens, final grading will be required to be completed as part of Phase 1. During the re-grading process, improved topsoil will also be brought in to replace much of the poor, existing topsoil which has never allowed the existing trees in this area to

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<sup>1</sup> The North American Vertical Datum (NAVD) is the vertical control datum (elevation) established for surveying by the National Geodetic Survey (NGS 2008). All references to elevations and heights are in feet using the NAVD 88 Datum.

thrive. Final re-planting on the Constitution Gardens side of 17<sup>th</sup> Street, N.W., will also be required as part of Phase 1.

Alternative 1B also proposes to modify existing walkways in the project area as a means of mitigation. It re-centers the north/south walkway which leads from overlook terrace to Constitution Avenue and re-configures the two diagonal walkways which lead from overlook terrace towards the intersection of Constitution Ave, and 17<sup>th</sup> Street, N.W., and from overlook terrace to the southeast, just north of the pedestrian crossing at 17<sup>th</sup> Street, N.W., between the World War II Memorial and the Monument Grounds. The two reconfigured walks would be curvilinear to integrate with the arc walls and to complement the natural topography. In addition to improving circulation by redirecting pedestrian paths closer to the intersection of 17<sup>th</sup> Street and Constitution Avenue, N.W., and closer to the northern entrance of the World War II Memorial, the new curvilinear paths also forge a new relationship between two adjacent, but previously disconnected, cultural landscapes, Constitution Gardens and the Monument Grounds.

After Phase 1 has been completed and funds become available to implement Phase 2, the visible sections of the flood wall at 17<sup>th</sup> Street, N.W., will be clad in stone to match the historic character of the adjacent cultural resources and to mitigate the adverse effects of building flood walls in these cultural landscapes. In addition, a small stone plaza will be constructed to conceal the subterranean on-site storage vault for the post and panel system. The plaza will be designed in such a way as to accommodate the potential future relocation of the Lockkeeper's House which the NPS would like to relocate (south) of its current location which is uncomfortably close to Constitution Avenue, N.W. This relocation has not been scheduled or funded but would help preserve the historic structure and would provide a better opportunity for public interpretation of the Lockkeeper's House itself and the canal that it once served. The last component of Phase 2 mitigation would be the final grading and re-planting of the northwest corner of the Monument Grounds which would follow the previously approved landscape plan which was part of the June 2003 Washington Monument Perimeter Security Project.

The other requisite improvements to the remaining portions of the Potomac Park Levee which are required to bring the levee up to the congressionally authorized level of protection would also occur as part of the Phase 2. Portions of the site along 23<sup>rd</sup> Street, N.W., as it approaches Constitution Avenue, will be re-graded and raised between one and two feet. Along the levee running parallel to the Lincoln Reflecting Pool, several hundred feet of low spots will be filled to bring the height of the levee to the congressionally authorized level of protection. In addition, adjustments to overlook terrace may need to be made in order to maintain 18.7 feet NAVD all of the way to the point where Phase 2 will adjoin the Phase 1 construction.

#### **OTHER ALTERNATIVES**

The EA also analyzed the no action alternative and six other action alternatives: 1A, 2A, 2B, 3, 4, and 5. This broad range of alternatives was developed by the NPS as a result of comments received from the public, government agencies and others.

The no action alternative represents the existing plan and procedures that NPS personnel would currently use for implementing temporary closure structures at 17<sup>th</sup> and 23<sup>rd</sup> Streets, N.W., during a flood event. When notified of an impending flood, the NPS would construct a temporary earthen dike across 17<sup>th</sup> Street using a combination of Jersey barriers, sandbags and soil removed from the Monument Grounds. Sandbags would also be added along 23<sup>rd</sup> Street, N.W., up to the intersection of Constitution Avenue, N.W. While this plan has been in place since the 1930s, the USACE has decertified the temporary closure structure at 17<sup>th</sup> Street, N.W., and has deemed it unreliable. Therefore, the no action alternative does not satisfy the FEMA requirement to maintain a 100-yr level of flood protection.

The other action alternatives were addressed in two phases and varied in their proposed actions for the closure at 17<sup>th</sup> Street, N.W. These alternatives varied in terms of their respective physical characteristics: setbacks south of Constitution Avenue and from the centerline of 17<sup>th</sup> Street, length of flood walls on either side of 17<sup>th</sup> Street, length of the removable post and panel closure across 17<sup>th</sup> Street, and overall height resulting from the existing grade at each specific location. The other action alternatives also varied in landscape characteristics: the extent of re-grading versus flood wall installation and the extent

tree removal. In all of the other action alternatives, Phase 2 would include final grading and tree planting as well as stone cladding of exposed sections of the flood walls in order to match the historic character of the adjacent cultural landscapes and historic resources. Also common to all of the other action alternatives was the completion of the proposed levee improvements at 23<sup>rd</sup> Street, N.W., and along the Reflecting Pool as part of Phase 2. Unless otherwise noted, in each alternative, Phase 2 would also involve additional grading and raising the flood walls from an elevation of 16.7 feet NAVD to 18.7 feet NAVD, unless funding became available sooner and the walls could be built to 18.7 feet NAVD initially, as part of Phase 1.

**Alternative 1A** would utilize two exposed flood walls flanking 17<sup>th</sup> Street, N.W., and located approximately 198 feet south of the centerline of Constitution Avenue, N.W. The east wall would be an arc-shaped wall that would appear to recede into the Monument Grounds landscape; the west wall would be a diagonal wall, running parallel to the existing diagonal sidewalk in Constitution Gardens until it turned to the east to run parallel to Constitution Avenue, N.W. At the eastern end of the arc wall, a below-grade storage vault would be built to house the posts and panels.

**Alternative 2** would involve raising 17<sup>th</sup> Street, N.W., approximately one foot in height to fill in a localized depression and building flood walls on either side of the street in the form of abutments, 138 feet south of the centerline of Constitution Avenue, N.W. There would be two optional configurations of these abutments under this alternative. Option 2A is asymmetrical, relating to the adjacent walkways that currently exist on either side of 17<sup>th</sup> Street, N.W. Option 2B is symmetrical along the axis of 17<sup>th</sup> Street, N.W. In both options, moderate re-grading on both side of 17<sup>th</sup> Street is required. A storage vault for the post and panels would be built into the abutment on the east side.

**Alternative 3**, in contrast to the other alternatives, would have substantially different physical configurations during the two phases of construction. Phase 1 would use two concrete flood walls flanking 17<sup>th</sup> Street, N.W., approximately 365 feet south of the centerline of Constitution Avenue, N.W. The east and west walls would be chevron-shaped and symmetrical. Immediately east of overlook terrace, a subterranean storage vault would be constructed for the post and panels. Phase 2 would involve the demolition of the chevron-shaped flood walls and the re-grading of the entire area into a series of stone-clad terraces oriented parallel to 17<sup>th</sup> Street, N.W., and stepping up as they move further away from the street. This alternative has the longest run of post and panel removable closure elements, and since the profile of the permanent terraces would be stepped, the post and panels would be different lengths. Jersey barriers would also be required across the top of the walls to achieve the congressionally authorized height during an extreme flood event. Substantial re-grading and re-planting would also be completed as part of Phase 2.

**Alternative 4** is essentially a hybrid of Alternatives 1 and 2B. It would use an arc-shaped flood wall to the east of 17<sup>th</sup> Street, N.W., approximately 177.5 feet south of the centerline of Constitution Avenue, and then an abutment on the west side of 17<sup>th</sup> Street, set back significantly to the west of the street to minimize impacts to significant views from 17<sup>th</sup> Street, looking north and from Virginia Avenue, looking southeast towards the Washington Monument. A storage vault for the post and panels would be built into the abutment.

**Alternative 5** looked at integrating an arc-shaped flood wall on the Constitution Gardens (west) side, with an earthen berm and integrated structure on the Monument Grounds (east) side. The levee elements in this alternative would be located significantly further south than most of the other alternatives, approximately 525 feet south of the centerline of Constitution Avenue. This alternative sought to take advantage of the existing higher elevation of the Monument Grounds in this more southerly location. It also explored the idea that a structure in the form of a building might feel less intrusive than in the form of flood walls. Due to the complexities of trying to increase the height of this alternative at a future date, the building and flood wall structures would be built to 18.7 feet NAVD during Phase 1. The 25 foot by 40 foot building on the Monument Grounds would serve as the storage vault for the post and panels. During Phase 2, stone cladding would be installed on the flood wall and building to better integrate them into the cultural landscapes.

There were additional alternatives which were considered but rejected and are therefore not carried forward for further analysis because they were determined to be unreasonable, had technical or logistic problems, or had greater environmental impacts than similar options included in the analysis. These are described in the EA on pages 2-40 to 2-42. Elimination was based on:

- the alternative's lack of technical feasibility or reliability during a flood event;
- the alternative's lack of ability to obtain certification by the USACE;
- conflicts with already established park uses;
- duplication of other less environmentally damaging alternatives;
- conflicts with an up-to-date park plan, statement of purpose and significance, or other policy; or
- potentially severe environmental impacts.

#### **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

After completing the environmental impact analysis, the NPS identified alternative 1A as the environmentally preferred alternative, which is the one that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historic, cultural, and natural resources. The environmentally preferred alternative is not necessarily the one selected for action or the agency's preferred alternative. Even though Alternative 1A was selected as the environmentally preferred alternative, all the alternatives demonstrate approximately equal impacts relative to visitor use, floodplains, public health and safety, land use and socioeconomics, traffic and transportation, utilities and infrastructure, and park management and operations. They are differentiated in their effects on vegetation, visual resources, and cultural resources.

Alternative 1A seems that it would result in the least harm to the biological and physical environment. It would best protect the vegetation of the area because it would have the smallest area of impact per phase (0.44 acres in Phase 1 and 1.87 acres in Phase 2), as compared to 5.24 acres in alternative 1B. Alternative 1A would also remove the fewest trees (15 in Phase 1 and 38 in Phase 2), as compared to 98 in alternative 1B. The majority of the trees being impacted, however, are more than thirty years old but have not fully matured. Poor soils in the eastern end of Constitution Gardens have stunted much of the tree growth. Implementation of Alternative 1B affords the opportunity to replace much of this soil with more appropriate soil which will allow the replacement trees to thrive. While alternative 1A would not enhance the visual and cultural resources in the project area, it would introduce lesser adverse impacts to the environment than the other alternatives due to the relatively small affected area and tree loss. Alternative 1A was not selected, however, because the scale, size, and location of levee walls in alternative 1B create far less adverse effects to visual and cultural resources than alternative 1A<sup>2</sup>.

The placement of the arc flood walls in alternative 1B greatly reduces the impacts on viewsheds. Since the flood walls are located approximately 50 feet further south than alternative 1A, the adverse impact that the eastern arc wall has on the view of the Washington Monument from the north side of Constitution Avenue, N.W., (looking southeast) is greatly diminished, as is the impact on views looking northeast towards the White House and President's Park from 17<sup>th</sup> Street, N.W. As drivers and pedestrians travelling north on 17<sup>th</sup> Street, N.W., pass through the levee structures, the views looking northeast are more truncated the closer the structures to the street. In alternative 1B, the levee structures are set back further from either side of 17<sup>th</sup> Street, N.W., than in Alternative 1A so that the views and vistas looking north towards Constitution Avenue and northeast towards the White House and President's Park open up. The location and width of the opening between the arc walls in Alternative 1B also serve to maintain the southeasterly vista from Virginia Avenue, N.W., to the Monument Grounds, the only remaining diagonal

<sup>2</sup> The east and west walls are approximately 80 feet shorter than alternative 1A. In addition, the walls are setback approximately 25 feet east and west from 17<sup>th</sup> Street and approximately 50 feet further south from Constitution Avenue than alternative 1A.

vista towards the Washington Monument from an existing diagonal street as shown in the L'Enfant Plan. The topography of this solution works well too, as the eastern arc wall integrates well into the natural rise of the Monument Grounds only requiring a partial extension of rise towards the northwest.

The landscape design of alternative 1B, despite the tree loss, yields fewer adverse effects to cultural resources. By slightly raising the natural grade on the Monument Grounds, most of the eastern wall is concealed and the character of the Washington Monument landforms is preserved to the greatest extent possible<sup>3</sup>. On the west side of 17<sup>th</sup> Street N.W., the reconfiguration of two sidewalks into curvilinear paths helps to integrate the arc wall into the Constitution Gardens landscape. This new alignment improves site circulation by redirecting paths closer to the intersection of 17<sup>th</sup> Street and Constitution Avenue, N.W., and closer to the northern entrance of the World War II Memorial; but more importantly, it forges a new relationship between two adjacent, but previously disconnected, cultural landscapes.

## **MITIGATION MEASURES**

The NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of natural and cultural resources and the quality of the visitor experience, the following protective measures will be implemented as part of the selected action alternative. The NPS will implement an appropriate level of monitoring throughout the construction to ensure that protective measures are properly implemented and to achieve their intended results. This table outlines all appropriate mitigations and they will be employed to minimize impacts to park resources.

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<sup>3</sup> The Monument Grounds is not an unaltered landscape; it has been comprehensively re-landscaped in recent years as a result of security upgrades.

Mitigation Measures of the Selected Alternative	
Resource Area	Mitigation Measures
General	The amount of disturbed earth area will be minimized, and the duration of soil exposure to rainfall will be limited. Disturbed soil or soil stockpiles will be covered with plastic sheeting, jute matting, erosion netting, straw, or other suitable cover material.
	Erosion containment controls such as silt fencing and sediment traps (e.g., hay bales) will be used to contain sediment on site.
	Erosion and sediment control best management practices will be inspected on a regular basis and after each measurable rainfall to ensure that they are functioning properly.
	Exposed soils will be stabilized and replanted with vegetation as soon as possible following completion of construction activities.
Vegetation	Prior to clearing and grading, the area to be cleared or disturbed and trees to be removed will be clearly marked to minimize the amount of vegetation loss or impacts on nearby trees.
	Only those areas necessary for construction will be cleared or disturbed and trees will be preserved wherever possible.
	Low ground pressure equipment and structural matting will be used along the levee to minimize impacts on root systems.
	Prior to clearing, vegetated areas will be assessed to determine if there are trees in the area of the proposed alignments that need protection from construction activities. Any trees selected for protection will be marked and/or fenced.
	Where vegetation was removed for construction, new/replacement planting will be installed.
	A subcomponent of the landscape plan will be a planting plan which will prescribe the measures to be taken to rehabilitate the area disturbed by the construction of the levee during both Phase 1 and Phase 2 and to improve the soils in the eastern end of Constitution Gardens. Trees that require removal shall be replaced-in-kind with similar species in compatibly designed locations and spacing. The plan will ensure that there will be no net loss of trees on the National Mall. The number of trees replanted will be equal to or greater than the number lost as a result of the proposed action. The plan will provide specific details on the number and specific species of trees that will be replaced, the locations where they will be planted, and the timing. To the extent possible, the new trees shall be replanted as close to their original location as possible but must remain outside of the levee's minimum 30-foot no plant zone. USACE guidelines for flood structures require a minimum 30-foot wide no planting zone when a flood wall is used to ensure that the root systems do not affect the integrity of the levee structure. However, this distance represents the minimum requirement based on USACE guidelines. The actual width of the zone might be greater and is dependent on the specific type of wall and foundation which will be determined in the design process. If the number of trees that need to be replaced cannot fit within the original project area due to spatial constraints or other visual concerns, the remaining trees will be replanted in another appropriate area within the National Mall.
	Vegetation in areas replanted will be monitored following construction to ensure successful establishment. Any exotic invasive species that appear in the replanted areas will be removed.
Aesthetics/ Visual Resources	A treatment plan will be developed to define how the adverse visual effects of any visible elements (e.g., freestanding concrete walls) of the Phase 1 design will be mitigated through earthwork, and/or alternative surface wall treatments (such concrete stains), until such time that the Phase 2 design is completed and implemented.
	Under Phase 2, the remaining visible sections of the levee wall will be clad in stone to match the historic character of the adjacent cultural landscapes and historic resources. The cladding will enhance the aesthetic quality and character of the landscape to mitigate against adverse effects associated with the flood walls.
	During construction, equipment will be shielded using screening to be specified in the NPS construction permit to partially obscure the view where appropriate and possible.
	Upon completion of the final design, a landscape plan will be completed and submitted for approval. The landscape plan will outline the measures that will be taken to restore the overall visual character and integrity of the original cultural landscape to the greatest extent possible.
Cultural Resources	Additional interpretation and education appropriate to historic context of the project and the site will be developed.
	Under Phase 1, the use of a surface treatment for the concrete flood walls to minimize the adverse effect upon the character of the cultural landscapes will be evaluated and implemented, if feasible.
	Under Phase 2, the exposed portions of the levee wall will be clad in stone which relates to the aesthetic qualities of the structures in the surrounding cultural landscapes.
	Similar to the visual resources mitigations, a landscape plan will be completed following the final design of the levee improvements which will outline the measures to be taken to restore the overall visual character and historic integrity of the original cultural landscapes.
	A stabilization plan for the historic Lockkeeper's House will be prepared. The final design of the levee improvements will also allow space for the relocation of the Lockkeeper's house in the event that it can be relocated south, away from Constitution Avenue, as part of a future project.
Visitor Use	Public information will be made available on the park website and on signs in the park to inform visitors of the need for and progress of the project.
	At 23 <sup>rd</sup> Street, re-grading associated with Phase 2 will avoid the ball fields so as to not disrupt the permitted recreational use in this area.

	<p>NPS will implement public interpretation and education that broadly addresses the historical development of the flood control system and associated themes by identifying the levee as a contributing resource to the Constitution Gardens cultural landscape and explaining the importance of the resource. Interpretive media may include, but not be limited to, interpretive posters, wayside exhibits, historical reconstruction drawings, NPS-style brochures and internet-based content. Public interpretation will also include interpretive measures to be undertaken during the archeological fieldwork. These measures will broadly address the historical development of the lower Tiber Creek waterfront, including the Washington City Canal, the 17<sup>th</sup> Street Wharf, and associated themes.</p>
	<p>Once the levee project is completed, public safety information regarding the levee closure will be communicated to the public in a variety of ways through different forms of media.</p>
<p><b>Public Safety</b></p>	<p>Construction workers and employees will follow an approved health and safety plan which incorporates all applicable regulations.</p> <p>Barriers and signs will be used around construction sites to divert the public away from potentially dangerous situations.</p> <p>Public announcements will be made on the park website and in the media to alert the public to the construction schedule and locations.</p> <p>In the event of a flood notification, U.S. Park Police will evacuate visitors from the area.</p>
<p><b>Transportation</b></p>	<p>Two lanes of 17<sup>th</sup> Street N.W. will remain open at all times during construction, except for brief temporary periods during off-peak hours when the full street would need to be closed for logistical reasons. Such temporary closures would be subject to Traffic Control Plans worked out with the District Department of Transportation (DDOT) and approved by NPS.</p> <p>As part of the construction permitting process, the contractor will submit Traffic Control Plans to DDOT for review and approval prior to the implementation of any changes (lane or sidewalk closures, temporary truck access for site excavation, etc.). The Traffic Control Plans will include measures, such as detour signs, to safely divert traffic, transit and pedestrian and bicycle traffic flows during temporary off-peak closures, or for one-way traffic during peak periods to maintain partial peak directional flow. It is anticipated that the DDOT will provide any signalization, signs, and pavement marking improvements required at the adjacent intersections to accommodate increased vehicular and pedestrian traffic resulting from the diverted traffic within the local area.</p> <p>NPS and DDOT will coordinate Public Advisories to notify the public of the detours, likely delays, and alternate routes including transit.</p> <p>Additional mitigation measures will be undertaken by NPS in coordination with the DDOT to minimize impacts. These include measures to improve traffic flow at the most heavily impacted intersections, measures to divert traffic to alternate routes before they reach the vicinity of the Mall, and measures to divert trips to transit or shared rides.</p>
<p><b>Traffic Flow Mitigation:</b></p>	<p>Signal timing at 14<sup>th</sup> Street N.W. and Constitution Avenue, 15<sup>th</sup> Street, N.W. and Constitution Avenue, 17<sup>th</sup> Street N.W. and Constitution Avenue and 23rd Street, N.W. and Constitution Avenue will be evaluated and monitored closely to determine whether modest adjustments to timing at these intersections will improve flow without major adverse effects on through traffic on Constitution Avenue.</p>
<p><b>Diverting Traffic to Other Routes and Modes:</b></p>	<p>NPS and the DDOT will develop a cooperative plan to notify travelers well in advance of the lane closures and possible delays and to notify them of potential alternative routes before they reach Independence Avenue and the Mall.</p> <p>Major employers and visitor attractions in the vicinity of 17<sup>th</sup> Street N.W. and Constitution Avenue will be contacted (preferably by mail as well as email) well in advance of construction with website and a phone number to contact for updates.</p> <p>The notice will include advice on route and mode alternatives and a request to notify all potentially impacted employees.</p> <p>Agencies and institutions will be advised to be aware of the partial street closure when planning any special events.</p> <p>Agencies and employers should include at a minimum the Commerce Department, the Interstate Commerce Commission, the National Museum of American History, the Organization of American States, the Department of the Interior, the Federal Reserve Board, the National Academy of Sciences and Engineering, the Office of Personnel Management, the General Services Administration, the American Red Cross, the Daughters of the American Revolution, the U.S. Navy Bureau of Medicine and Surgery, and George Washington University. It is recommended that advisory Variable Message Signs (VMS) should be deployed at least two weeks prior to the start of construction to let people know of the detours in time to plan alternate routes. In addition, advisories should be posted on Maine Avenue and Independence Avenue. The NPS, the DDOT and the Virginia Department of Transportation (VDOT) should ensure that all local newspapers, radio and TV stations are well aware of the impending construction, particularly the stations noted for traffic advisories.</p> <p>The NPS, DDOT and VDOT will work with the Washington Metropolitan Area Transit Authority (WMATA), Commuter Connections, and the employers and agencies listed above to ensure that transit, carpool, vanpool, and other options, such as telecommuting, are made known to employees and visitors. Local tour bus companies will be notified as soon as possible to let them adjust schedules and tours as necessary based on diverted traffic and the partial lane closures.</p> <p>Visitor Centers and Visitor's Bureaus will be contacted immediately to let them know of the situation and to determine with them the best way to get notice of the partial closure to local and national tour bus companies, if deemed necessary.</p>
<p><b>Utilities &amp; Infrastructure</b></p>	<p>The foundation of the walls will be designed to avoid impacts on utilities to minimize impacts on water supply lines, sanitary sewer lines, natural gas lines, and underground electric lines. The water supply lines and electric lines will require the installation of sleeves to allow utilities to pass through the levee foundations unless it is determined that they must be relocated in order to ensure access for regular maintenance after construction.</p> <p>Several of the irrigation segments will be impacted by the construction of the walls. The affected lines will be relocated as necessary to provide the required irrigation.</p>

	Several underground telephone lines will be in conflict with the wall locations. If they cannot be relocated, then the wall foundation designs will be designed so as to avoid conflict with the lines in their current locations.
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## WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As documented in the EA, the NPS has determined that the selected alternative, alternative 1B, can be implemented without significant adverse effects. As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

***Impacts that may be both beneficial and adverse and which on balance may be beneficial, but that may still have significant adverse impacts which require analysis in an Environmental Impact Statement (EIS):*** Vegetation, floodplains, aesthetics/visual resources, cultural resources, visitor use and experience, public safety, land use/socioeconomics, traffic and transportation, utilities and infrastructure, or park management and operations will experience both beneficial and adverse impacts as a result of implementing the selected alternative, however, no significant impacts were identified that will require analysis in an EIS. Impacts to these resources were assessed for both the construction and operational phases of this project.

Implementation of the selected alternative will result in long-term moderate adverse impacts on vegetation over an area of 5.24 acres due to the removal of approximately 98 trees and disruption of surface vegetation, mainly due to the re-grading. Similar effects could occur to vegetation outside of the structural footprint from construction activities and staging resulting in short-term moderate adverse impacts on vegetation. The exact volume of trees to be removed under this alternative has not been determined yet; the type and number will be identified in the design phase of the project. Adverse impacts on trees and other vegetation outside of the structural footprint will occur, such as physical damage to the trees and their root zones, resulting from construction activities and construction staging. This damage could potentially affect the overall health of surrounding trees and vegetation. Impacts on trees and other vegetation will be minimized to the maximum extent possible by implementing mitigation measures to restrict the area of disturbance and by replacing the disturbed area with turf. Replanting will occur following re-grading, so these replacement trees outside the “no plant” zone will mitigate the net loss of trees. The poor soil in the eastern end of Constitution Gardens which has contributed to the stunted growth of many of the existing trees to be removed will be replaced with more appropriate soil so that the replacement trees can thrive. These will take several years to grow to the heights of trees removed, but the replanting will be effective in replacing the initial loss of vegetation.

During the construction and operation of the selected alternative, there will be negligible short-term impacts to floodplains since the levee improvements and new construction will not noticeably alter the ability to convey flood waters, so the existing floodplain designations will remain unchanged.

At the Reflecting Pool the impacts to visual resources will be negligible since the levee improvements are landscape design solutions that will require no new construction. At 23<sup>rd</sup> Street, N.W., there will be long-term moderate adverse impacts due to the loss of six American elms along Constitution Avenue. The removal of these trees and the re-grading of portions of the project area will have a moderate long-term adverse impact on the existing visual environment, because the allée of American elms along Constitution Avenue is a prominent visual feature, and the view from Constitution Avenue to the Potomac River, known as the Potomac Belvedere, was a prominent historic visual feature. A landscape plan will ensure that the overall visual character and integrity of the cultural landscape remains compatible with the area’s original design and will mitigate against adverse visual impacts. At 17<sup>th</sup> Street N.W., there will be short-term moderate adverse impacts due to construction activity and staging. There will be a long-term adverse impact that is greater than minor but less than moderate resulting from the removal of 98 trees and the addition of the new flood walls, which despite their relatively small scale, will adversely affect some existing views. In a subsequent phase of the project, stone cladding on the visible portions of the flood walls will mitigate the adverse visual impacts.

The EA provides a detailed analysis on cultural resources for three broad categories of National Register of Historic Places (NRHP) properties: historic districts and structures, cultural landscapes, and archeological resources. At the Reflecting Pool and 23<sup>rd</sup> Street, there will be negligible impacts since the

levee improvements are landscape design solutions that will require no new construction. At 17<sup>th</sup> Street N.W., the flood walls and topographical re-grading will yield a negligible effect on some of adjacent historic structures, the Lockkeeper's House, the Bulfinch Gatehouse, and the John Paul Jones statue. A long-term moderate adverse effect will occur on the adjacent Washington Monument and Grounds and Ellipse/President's Park South historic districts due to the levee's slight intrusion to the landscape and setting of President's Park South, and will cause minimal disruption to significant views and vistas of the Washington Monument. At 23<sup>rd</sup> Street, the temporary closure will affect the Lincoln Memorial cultural landscape causing a negligible indirect short-term adverse impact on the visual character of the Lincoln Memorial Grounds cultural landscape because after the flood event, the closure would be removed and the site rehabilitated to its pre-existing condition.. At 17<sup>th</sup> Street N.W., the closure will diminish the integrity of the landscape's original design intent, vegetation, and the views and vistas resulting in direct, long-term, moderate, and adverse impacts to the Washington Monument and Grounds and Constitution Gardens cultural landscapes. Archeological investigations will be implemented prior to or during construction which will mitigate adverse impacts on archeological resources, however, long-term negligible to moderate adverse impacts are possible.

There will be negligible short-term adverse impacts to both land use and socioeconomics during the construction phase of this project. There will, however, be long term-beneficial impacts due to the overall improvement in reliability over the current levee system which will eliminate the need for affected entities to purchase and maintain what can be costly flood insurance. and new construction will not need to comply with regulations and building codes for structures located in floodplains, which can be restrictive and costly.

There will be a short-term minor to moderate adverse impacts upon visitor use and experience due to the effects of construction activities and street closures during months that draw large numbers of visitors to this area of the National Mall. Construction of the arc wall will restrict the level of pedestrian access to the northwest corner of the Monument Grounds and Constitution Gardens since barriers will be placed around the area in order to ensure public and employee safety. Pedestrian access will be blocked along 17th Street N.W. on one side, and in the area of construction at the Monument and Constitution Gardens Grounds. During construction there will be adverse impacts to pedestrian access during the Cherry Blossom Festival and the Fourth of July Independence Day activities in this area, resulting in short-term, minor to moderate, and localized. Once completed, the levee walls will have a long-term minor to moderate adverse impact on visitor experience in this area mainly because of the presence and appearance of the wall and the removal of trees, including some larger street trees. The effect on visitor use and enjoyment of the various attractions and monuments/memorials will be negligible.

There will be short-term minor adverse impacts to traffic and utilities due to temporary disruption during construction. Finally, there will be negligible short-term impacts associated with construction, but there will be a long term beneficial impact since during a flood event the selected new closure system will require less time and staff to implement than the current procedures. There will be long-term minor adverse impacts associated with the annual maintenance of this new system.

Phase I of the arc wall would have short-term negligible impacts on public safety during the construction phase when barriers would protect the public from hazardous activities. Moderate adverse effects could occur from the short-term partial closure of 17<sup>th</sup> Street N.W. if alternate routes are overly congested. Following its completion, the arc wall would provide protection for the FEMA required solution, and possibly the congressionally authorized solution, which represents a long-term beneficial impact on public safety due to the improvement in reliability over the current levee system.

***Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, wetlands, prime farmlands, wild and scenic rivers, or ecologically critical areas:***

No wetlands, prime farmlands, wild and scenic rivers, ecologically critical areas, or significant ethnographic resources occur within or adjacent to the Project Area and none will be impacted by the actions associated with this alternative.

A Statement of Findings (SOF) for floodplains was completed concluding that considerable improvements must be carried out within the 100-year floodplain because the proposed project constitutes a strategy for the reduction of flood risk. Since the proposed improvements must be undertaken at the location of the existing levees, there are no other siting alternatives that could be reasonably considered for this project, however their location within the flood zone, albeit for the purpose of flood protection, would result in risks from the possibility of flooding and storm surge damage to these structures. Therefore, efforts to preserve existing vegetation within the floodplain would be undertaken as standard procedure during site preparation and construction. There would be substantial beneficial effects in flood protection resulting from the proposed improvements floodplain values would be protected to the maximum extent possible and potential flood hazards would be minimized. The SOF is attached.

#### *Historic or Cultural Resources*

The cultural resources within the project area are included in the defined Area of Potential Effect (APE)<sup>4</sup>, and range from cultural landscapes, individual buildings, monuments, statues, to potential archeological sites. Thirty-three individual buildings, eight cultural landscapes, and six historic districts are within the APE, and are listed in the Appendix of the EA. Some are located in the immediate vicinity of the flood control levee along the Reflecting Pool in Constitution Gardens, along 17th Street N.W. and a section of 23<sup>rd</sup> Street.

The project is adjacent to major NRHP-listed historic properties-- the Lincoln Memorial, the Washington Monument and Grounds, the Lockkeeper's House, West Potomac Park Historic District, the Northwest Rectangle Historic District, and the *L'Enfant* and *McMillan* plans of the City of Washington, and historic resources-- the Second Divisional Memorial, the Pan American Union building, the Ellipse, and the Bulfinch Gatehouses at the northeast corner of 17th Street N.W. and Constitution Avenue, and the Monument Grounds at the intersection of 15<sup>th</sup> Street and Constitution Avenue. In addition, the project is adjacent to the World War II Memorial and other commemorative works. None of these resources will be physically impacted by alternative 1B.

The National Historic Preservation Act (NHPA) Section 106 process was conducted concurrently and in coordination with the EA. It was initiated on June 26, 2008 by the NPS with letters to the District State Historic Preservation Office (DC SHPO) and the Advisory Council on Historic Preservation (ACHP). For the purposes of compliance with NHPA Section 106, consulting party meetings were held on May 23, 2008, June 10, 2008, August 19, 2008, September 8, 2008, and November 20, 2008. The November meeting resulted in the consulting parties providing a preliminary assessment of impacts on views and historic resources, the findings of which were included in the impact analysis and mitigations in the EA and Programmatic Agreement. This process concluded in a Programmatic Agreement which was finalized on May 1, 2009, and provides that the implementation of alternative 1B will have "no significant adverse effects" on cultural resources. The Programmatic Agreement is attached.

#### ***Degree to which effects on the quality of the human environment are likely to be highly controversial:***

No highly controversial effects in terms of scientific uncertainties as a result of the Potomac Park levee system improvements were identified during the preparation of the EA or the public comment period. There will be no changes to the current land use or existing flood maps as a result of the implementation of alternative 1B.

***Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks:*** No highly uncertain, unique, or unknown risks were identified during either preparation of the EA or through public comment. In recent years, structures similar to those in

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<sup>4</sup> The APE encompasses the area from the Potomac River on the west, north to the Theodore Roosevelt Bridge approaches, north along 23<sup>rd</sup> Street to E Street, roughly along E Street including the White House, continuing southeast along Pennsylvania Avenue to the western edge of the Capitol grounds, west along Independence Avenue, and south around the Tidal Basin terminating at the Potomac River.

alternative 1B have been constructed and implemented successfully by the USACE during flood events across the country.

***Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:*** The selected alternative neither establishes an NPS precedent for future actions with significant effects nor represents a decision in principle about a future consideration. While alternative 1B does require new construction on the National Mall, the Potomac Park levee improvements were borne out of the necessity to protect the downtown Washington, D.C. area from the effects of river flooding for a 100-year event and not the desire to arbitrarily introduce new structures on the National Mall.

Alternative 1B was designed in a way to minimize adverse effects to the maximum extent possible which is consistent with other planned or ongoing projects in the study area.

***Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:*** Implementation of the selected will have no significant cumulative impacts. As described in the EA, future projects within the project area that could affect these resource areas include the construction of other facilities on or near the National Mall, including the proposed Smithsonian National Museum of African American History and Culture and the Vietnam Veterans Memorial Center; U.S. Institute for Peace; and the Martin Luther King, Jr. Memorial on the northwest corner of the Tidal Basin. It will not compound the effects of previous projects in this area such as the World War II Memorial and the changes to the Washington Monument Grounds and Lincoln Memorial Grounds.

The impacts to vegetation associated with the ongoing maintenance, improvements, and public use, as well as those associated with the future construction of new facilities on the National Mall when added to the impacts that will occur from the implementation of the selected alternative will result in minor to moderate long-term adverse cumulative impacts to vegetation. The effects on floodplain functions and values in the area of analysis from the proposed action and from other projects in the vicinity will not result in any measurable or perceptible change to floodplain functions and values. As a result, there will be negligible cumulative effects on floodplains.

There will be long-term minor to moderate adverse cumulative impacts on visual resources. During Phase 1, the effects on views and vistas would be minimized under this alternative because the walls are the shortest in length of all alternatives and pulled back from 17th Street, N.W. A planting plan will ensure that the visual character of the project area is maintained to the maximum extent possible. During Phase 2, the effects would be further minimized since the visible portion of the levee walls will be clad in stone to better integrate into the adjacent cultural landscapes.

There will be long-term minor to moderate adverse cumulative impacts on the historic districts and structures due to the presence of an intrusive structure. However, each project would be subject to specific requirements to reduce the individual impact on historic districts and structures including design review. Consequently, any impacts associated with these projects described above would range from negligible to moderate long-term. There will also be long-term minor to moderate adverse cumulative impacts on the Washington Monument and Grounds, Lincoln Memorial Grounds, and Constitution Gardens cultural landscapes. However, each project would be subject to specific requirements to reduce the individual impact on cultural landscapes including vegetation, circulation, land use, structures, and vistas. Consequently, any impacts associated with these projects described above would range from negligible to moderate and long-term. Adverse cumulative impacts to archeology will be long-term and negligible.

Long-term negligible to minor adverse cumulative impacts on visitor use and experience will occur. In addition, long-term beneficial cumulative impacts to public health and safety will occur from the increased reliability and the long-term benefits of the new levee system.

There will be long-term beneficial cumulative impacts to land use and socioeconomic since the improvements in the Potomac Park levee system would avoid placing portions of Washington, D.C. in the 100-year floodplain. As such, new construction and development projects will not be required to purchase

flood insurance, nor will they need to comply with stricter building codes in this area. In addition, the new levee would also provide added protection from floods.

Traffic in the area will experience short-term moderate impacts during construction. Once construction is complete, the proposed action's impact to traffic would be negligible. There will be long-term minor adverse cumulative impacts from other nearby projects which are proposed (the National Museum of African American History and Culture, the Vietnam Veterans Memorial Center, the Martin Luther King, Jr. Memorial) which may increase visitation and change circulation/travel patterns. However, each of these projects would be subject to its own specific requirements to reduce the individual impacts on traffic.

There would be negligible cumulative impacts to infrastructure. Given the capacity of utilities for the proposed development and the scheduling of outages related to construction, cumulative impacts on utilities in the study area would be negligible. There will be long-term minor adverse cumulative effects to park maintenance and operations associated with annual maintenance.

***Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources:*** As articulated in the EA, the project area is adjacent to a multitude of historic resources and objects that are listed on the NHRP as well as other commemorative works such as the World War II Memorial. None of these will be physically impacted by alternative 1B. Pursuant to the NHPA Section 106 Process, the DC SHPO and others concluded in the Programmatic Agreement that the implementation of alternative 1B will have "no significant adverse effect."

***Degree to which the action may adversely affect an endangered or threatened species or its critical habitat:*** As described in the EA, because of the urban nature of the site and the fact that the proposed activities will be located entirely within previously disturbed or maintained landscapes, no impacts to any state- or federally-listed species are expected from implementation of alternative 1B. On September 16, 2008, the NPS wrote both the U.S. Fish and Wildlife Service and the District Department of the Environment regarding the potential for any state- or federally-listed species to be affected by the Potomac levee improvements. On September 25, 2008 the District confirmed that no Species of Greatest Conservation Need are known to inhabit the project area.

***Whether the action threatens a violation of federal, state, or local environmental protection law:*** The selected alternative violates no federal, state, or local environmental protection laws. The Potomac Park levee improvements will be consistent with all laws, regulations and requirements.

## **IMPAIRMENT OF PARK RESOURCES OR VALUES**

The impacts that will result from implementation of the selected alternative will not impair any park resources and values. This area has long been landscaped and further developed according to a series of plans, it is heavily visited and also used for large-scale public events, and it contains no endangered species. There will be no impairment to vegetation, despite the removal of trees, because the implementation of a landscape plan ensures that trees will be replaced-in-kind with similar species in locations and spacing consistent with the historic planting plans. The number of trees replanted will also be equal to or greater than the number lost as a result of the proposed action. In addition, implementation of alternative 1B will not result in any measurable or noticeable alterations to the current 100-year floodplain, or result in any changes to the current floodplain designations.

While there will be a loss of integrity to the setting and design of the Washington Monument landscape and the L'Enfant Plan, mitigations--the implementation of a planting plan, a treatment plan for the exposed portions of the flood walls, the development of a stabilization plan for the historic Lockkeeper's House, and public interpretation--will result in an overall negligible to minor adverse impact to the historic districts and structures. These historic districts and structures will not be impaired. Similarly, the selected alternative will have adverse effects to both the integrity of the Washington Monument Grounds and Constitution Gardens due to the impacts associated with contributing aspects of vegetation, views and vistas. However, implementation of the identified mitigations will make the overall adverse impacts

moderate, and these cultural landscapes will not be impaired. Finally, there would be no impairment of archeological resources because any adverse impacts will be mitigated through a program of archeological investigations that would be implemented prior to and during construction, followed by in-place preservation.

An NHPA Section 106 Programmatic Agreement between the NPS, NCPC, the Government of the District of Columbia, the DC SHPO, USACE, and the ACHP serves as the formal record document of the Section 106 Process. It outlines the stipulations of the design as well as mitigations for the Levee Improvements Project. Taken together, the stipulations and mitigations result in no impairment of historic and cultural resources in the project area. The Programmatic Agreement also outlines the development and review process for Phase 2 of the project, which ensures no impairment will occur in the subsequent design phase.

## **PUBLIC INVOLVEMENT**

The public has been involved throughout this process and their comments have been considered in the development of the EA and the FONSI. They have had the ability to provide comments, attend sessions held by the NPS, NCPC, Commission of Fine Arts (CFA), the District, and Historic Preservation Review Board, including at the site.

Public scoping began on May 19, 2008, and concluded on June 20, 2008. Public comments were solicited by mail, email, and online via the NPS' Planning, Environment, and Public Comment (PEPC) website and in a meeting held downtown in the NCPC offices on June 10<sup>th</sup>. Notice of the meeting was posted on the PEPC website, ads were placed in the *Washington Post Express*, *Washington Hispanic*, *Current Newspapers*, and *City Paper*. NCPC and the NPS posted messages on their websites, and the NPS emailed notices to potentially interested individuals and organizations.

Scoping comments focused on the need for additional information on alternatives and appropriate maps for analysis. Clarification was requested on whether the proposal represented both a temporary FEMA required solution and a congressionally authorized solution, or simply a congressionally authorized solution to an elevation of 18.7 feet NAVD. The issue of incorporating a more aesthetic quality for the flood protection structures was raised as well as was the potential effects of excavating the Monument Grounds under the current levee plan. One commenter asked if there will be more likelihood of interior flooding in downtown DC during a severe storm event once levee improvements have been implemented.

The EA was made available for public review and comment on January 30, 2009, as announced in the *Federal Register* and emailed to those on the original public scoping mailing list and those added after the June 2008 public scoping meeting. The NPS also mailed the EA to federal and District offices, and provided it for public review at the Martin Luther King Jr. Memorial Library, the Southwest Branch Library (900 Wesley Place SW, Washington, D.C. 20024) and the Southeast Branch Library (403 7<sup>th</sup> Street SE, Washington, D.C. 20003). The EA was also placed on the PEPC website.

The comment period concluded on March 2, 2009, with the NPS receiving five comments: four letters and one email to the PEPC website. These are attached. These were from two organizations, one commercial company, and two members of the public. Those comments that resulted in changes or additions to the EA are contained in the attached errata sheets. Other comments that required responses are summarized and attached with the NPS' responses. No changes to the selected alternative or the impact analysis were made as a result of public comment.

## CONCLUSION

The NPS has selected alternative 1B for implementation. The impacts that will result from the selected alternative will not impair any park resources and values. This determination is based on what we have learned in considering this proposal. Implementation of alternative 1B may occur after final design approval from NPS, USACE, NCPC and CFA. The selected alternative does not constitute an action that normally requires preparation of an EIS. The selected alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are negligible to moderate in intensity. There are no significant impacts on vegetation, floodplains, aesthetics/visual resources, cultural resources, visitor use and experience, public safety, land use/socioeconomics, traffic and transportation, utilities and infrastructure, or park management and operations. The proposed action will not cause highly uncertain or controversial impacts, unique or unknown risks, or significant cumulative effects. Implementation of the selected alternative will not violate any federal, state, or local environmental protection law.

The selected alternative does not constitute a major federal action that significantly affects the quality of the human environment. Based on the foregoing an EIS is not required for this action and thus will not be prepared. This is a finding of no significant impact.

**Recommended:**

Lisa A. Mendelson-Ielmini

May 4, 2009

Lisa A. Mendelson-Ielmini  
Acting Superintendent,  
National Mall and Memorial Parks

Date

**Approved:**

Margaret O'Dell

5-4-09

Margaret O'Dell  
Regional Director  
National Capital Region

Date



## RATIFICATION

### Finding Of No Significant Impact Potomac Park Levee System Improvements National Mall and Memorial Parks and the National Capital Region

This FONSI dated May 4, 2009 is ratified following the final approval of the Floodplain Statement of Findings which was executed on 6-8-09.

**Recommended:**

Lisa A. Mendelson-Ielmini

Lisa A. Mendelson-Ielmini  
Acting Superintendent,  
National Mall and Memorial Parks

5/27/09  
Date

**Approved:**

Margaret O'Dell

Margaret O'Dell  
Regional Director  
National Capital Region

6-8-09  
Date

# Attachment: Floodplain Statement of Findings





## FLOODPLAIN STATEMENT OF FINDINGS

*For the National Mall and Memorial Parks,  
Potomac Park Levee Improvements*

Washington, DC

May, 2009

Recommended: Lisa A Mendelson-Ielmini 5/26/09  
Lisa Mendelson-Ielmini Date  
Acting Superintendent NAMA

Concurred: Bill Jackson 5-21-09  
Bill Jackson Date  
Water Resources Division

Approved: Margaret O'Dell 4-8-09  
Margaret O'Dell Date  
Regional Director - National Capital Region

## Introduction

The existing Potomac Park levee structure extends from the vicinity of 23<sup>rd</sup> Street, NW, running parallel to the Lincoln Reflecting Pool on the Constitution Gardens side, and ends on the Washington Monument Grounds (Monument Grounds), east of 17<sup>th</sup> Street, NW. Currently, during a flood event, the National Park Service (NPS) must provide temporary closures at 23<sup>rd</sup> Street using sandbags and at 17<sup>th</sup> Street using a combination of sandbags, Jersey barriers, and soil to form an earthen dike across the street in order to block the flow of water into downtown Washington, D.C. Though this temporary closure system was designed by the US Army Corps of Engineers (USACE) and has been in effect since the late 1930's, it is no longer favored by the USACE due to the large extent of work associated with such a closure, logistical considerations, as well as the unknown weather conditions which may be faced by the crews erecting the temporary closure. Based upon new policies enacted since Hurricane Katrina, the USACE has deemed the 17<sup>th</sup> Street closure unreliable and given it an unacceptable inspection rating. As a result, the Federal Emergency Management Agency's (FEMA) most recently proposed 100-year floodplain map for this area reflects a 100-year flood event as if the currently designed closure at 17<sup>th</sup> Street, NW, did not exist. This new mapping puts a large portion of downtown and the monumental core within the 100-year flood insurance rate zone, which would require affected facilities to obtain additional flood insurance and/or make costly upgrades to comply with applicable building standards. In addition, a number of projects that are currently in development would need to be revised and could be delayed in order to comply with these building codes.

The FEMA has agreed to delay the final issuance of the new floodplain maps to allow the District of Columbia Government (District) and the NPS to design and implement a solution that would, at a minimum, reliably stop a 100-year flood at 17<sup>th</sup> Street, NW, south of Constitution Avenue. This solution would alleviate the need for FEMA to identify this area as being within the 100-year floodplain. However, unless the solution is implemented and accredited by FEMA by November 2009, FEMA will issue the new floodplain maps and the affected area will be subject to new constraints and more stringent requirements for development. Additionally, the USACE has requested that the new solution be designed to meet a 700,000 cfs rate of flow (which exceeds the requirements for a 100-year flood event) in order to achieve the congressionally authorized level of protection. In 1936, Congress authorized the USACE to make improvements to the Potomac Park Levee to meet the 700,000 cfs rate of flow; however, funding for those improvements has not become available. Therefore, the District and NPS agreed that this project would be designed in such a manner that it would both meet the 100-year level of protection as well as be capable of being easily modified, at a future date, to achieve the congressionally authorized level of protection once funding is appropriated.

During the development of the alternatives in the January 2009 *Potomac Levee Project Environmental Assessment* (EA), it became apparent that considerable costs and time of construction, and therefore the length of disturbance to the National Mall and visitors, could be avoided if the new closure structure at 17<sup>th</sup> Street, NW, was constructed to the higher level of protection initially. However, since the availability of funding was not certain, the alternatives in this EA are presented in a phased approach:

- Phase 1 solutions satisfy the FEMA requirements for reliably stopping the 100-year flood at 17<sup>th</sup> Street, NW, and could also be built to the congressionally authorized level of protection if funding becomes available by the time of construction.
- Phase 2 solutions are designed to satisfy the congressionally authorized level of protection at 17<sup>th</sup> Street, NW, along the Reflecting Pool, and at 23<sup>rd</sup> Street, NW, as well as to enhance the visual character of the exposed portions of the levee flood walls in the surrounding landscape.

**Justification for the Use of Floodplain**

Portions of the project area are located within designated high hazard floodplains. Although the NPS is under executive order and policy to reduce or eliminate development in floodplains, this is not possible in the project area because the required improvements to the existing levee system are located within the 100- year floodplain. The proposed levee improvements constitute maintenance actions necessary for the preservation of current floodplain function. Therefore, although the project must occur within the floodplain, the extent of development, placement of structures, and types of structures would be selected to minimize impacts.

**Site-Specific Flood Risk**

The project area within West Potomac Park lies at a low elevation and is relatively flat. The areas to the north and east of the existing 17<sup>th</sup> Street levee closure, including much of 23<sup>rd</sup> Street, are currently designated as Zone C, representing minimal flood potential and outside of the 100-year floodplain. The area immediately south of the closure is designated as Zone B—between the limits of the 100-year flood and 500-year flood—while the area further south, in the vicinity of the intersection of Independence Avenue and 17<sup>th</sup> Street, NW, is designated as Zone A12 within the 100-year flood zone. The Reflecting Pool levee also lies within this designation.

A one-hundred-year flood is calculated to be the level of flood water expected to be equaled or exceeded every 100 years on average. The 100-year flood can also be thought of as the 1 percent flood, since it is a flood that has a 1 percent chance of being equaled or exceeded in any single year. Data recorded at the USGS Little Falls gauging station near Washington, D.C., indicates that major flood events have occurred on March 19, 1936, and September 10, 1966. Extreme events outside the period of record include a flood on June 2, 1889, which is estimated to be approximately the same magnitude as that of March 19, 1936. As witnessed during past storm events, any buildings or other facilities located in this floodplain have the potential to be impacted by flood waters, high winds, and storm surge.

In a typical flood event (not a storm surge), there are gauging stations up river that predict the flood level several days in advance of the actual flood event. NPS preparations would begin immediately upon those predictions. If a flood notification is received, the U.S. Park Police would evacuate visitors from the park area, and the installation of the post and panel levee system would begin. Because of this advanced notification and the fact that the vast majority of people within the project area would be visitors to the National Mall, evacuation procedures would most likely be highly successful. While 17<sup>th</sup> Street, NW, would be closed between Constitution Avenue and Independence Avenue during a 100-year or greater flood event in order to install the post and panel system, this street closure would not impact a public evacuation because 17<sup>th</sup> Street NW is not a designated evacuation or emergency transport route.

**Flood Mitigation Plans**

All Alternatives:

The proposed project itself constitutes a strategy for the reduction of flood risk. All new structures and improvements would be constructed for the purpose of fortifying existing floodwalls and flood protection measures. During site preparation and construction, efforts to preserve existing vegetation within the floodplain will be undertaken as standard procedure. Vegetation necessarily removed for the construction of the 17<sup>th</sup> Street closure structure and the improvements at 23<sup>rd</sup> Street would be replaced in-kind within the flood zone.

### **Summary**

Because the proposed project constitutes a strategy for the reduction of flood risk, improvements to the current levee system must be carried out within the 100-year floodplain. Specifically, the proposed levee improvements at the 17<sup>th</sup> Street and Reflecting Pool levees are within or adjacent to the 100-year floodplain. Since the proposed improvements must be undertaken at the location of the existing levees, there are no other siting alternatives that could be reasonably considered for this project. The location of proposed structures within the flood zone, albeit for the purpose of flood protection, would result in risks from the possibility of flooding and storm surge damage to these structures. Efforts to preserve existing vegetation within the floodplain will be undertaken as standard procedure during site preparation and construction. Moreover, with the increased reliability of the improved levee system there would be beneficial effects in flood protection within portions of downtown Washington, D.C. and the monumental core. Therefore, floodplain values would be protected to the maximum extent possible and potential flood hazards would be minimized.

# Attachment: Programmatic Agreement



**PROGRAMMATIC AGREEMENT  
AMONG  
THE NATIONAL PARK SERVICE  
THE U.S. ARMY CORPS OF ENGINEERS  
THE NATIONAL CAPITAL PLANNING COMMISSION  
THE GOVERNMENT OF THE DISTRICT OF COLUMBIA  
THE DISTRICT OF COLUMBIA STATE HISTORIC PRESERVATION  
OFFICER  
AND  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING  
THE LEVEE IMPROVEMENTS PROJECT  
WASHINGTON, D.C.**

**WHEREAS**, the West Potomac Park Levee (Levee) is an earthen berm extending from the Potomac River to the Washington Monument that provides flood protection to central Washington, D.C.; and

**WHEREAS**, the National Park Service (NPS) is the Federal agency that controls, operates, and maintains the Levee as well as the agency responsible for issuing permits for work to be constructed in the subject location; and

**WHEREAS**, the U. S. Army Corps of Engineers, Baltimore District (USACE) inspected the Levee in 2007 and rated it “unacceptable” due to post-Hurricane Katrina standards; and

**WHEREAS**, as a result of the unacceptable rating the Federal Emergency Management Administration (FEMA) considered issuing new 100-year floodplain maps that would have placed large new areas of central Washington within the flood risk area and required additional flood insurance, building upgrades and other costly flood control measures; and

**WHEREAS**, the Government of the District of Columbia (DC) requested that FEMA delay issuing the new floodplain maps and FEMA agreed, provided that Levee improvements to contain a 100-year flood would be implemented by November 2009 (FEMA required level of protection); and

**WHEREAS**, USACE recommended that the Levee improvements be designed to a greater height that would provide a 700,000 cubic feet per second level of protection as originally authorized by Congress in the Flood Control Act of 1936 (Congressionally authorized level of protection); and

**WHEREAS**, NPS allocated funds and initiated planning and design for the Levee improvements that will provide the Congressionally authorized level of protection when the project is fully complete; and

**WHEREAS**, Phase I of the project will consist of flood walls and a post and panel closure system across 17<sup>th</sup> Street, NW, constructed to the Congressionally authorized level of protection, with permanent earthwork, permanent planting and an on-site post and panel storage facility on the west side of 17<sup>th</sup> Street, NW, as well as limited earthwork and planting on the east side; and

**WHEREAS**, Phase II of the project will consist of minor increases in grade along 23<sup>rd</sup> Street, NW, and the existing berm which runs parallel to the Reflecting Pool in order to bring the rest of the Levee up from the FEMA required level of protection to the Congressionally authorized level of protection; and will include the final surface treatments of exposed portions of the flood walls, as well as final grading and planting on the east side of 17<sup>th</sup> Street, to ensure that the Levee Improvements Project is compatible with its surrounding natural and cultural environment (together Phases I and II of this project are referred to herein as the Levee Improvements Project); and

**WHEREAS**, USACE has been authorized to implement the Levee Improvements Project in accordance with and subject to the limitations of documents entitled “Modifications to Washington, D.C. and Vicinity Flood Protection Project, Book 1 of 2, 1992. U.S. Army Corps of Engineers, Baltimore District” and “Modifications to Washington, D.C. and Vicinity Flood Protection Project, Book 2 of 2, 1992. U.S. Army Corps of Engineers, Baltimore District;” and

**WHEREAS**, NPS has determined that the Levee Improvements Project, including Phase I and Phase II, constitutes an “Undertaking” subject to Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, and its implementing regulations, 36 C.F.R. Part 800; and

**WHEREAS**, NPS has consulted with the District of Columbia State Historic Preservation Officer (DC SHPO) and, noting the potential for adverse effects, requested the Advisory Council on Historic Preservation (ACHP) to participate in the consultation; and

**WHEREAS**, ACHP determined that it would participate in the consultation; and

**WHEREAS**, DC has been working in collaboration with the NPS and has also allocated funds for planning, design and partial construction of the Levee Improvements Project; and

**WHEREAS**, DC will be responsible for the construction of Phase I, as necessary to meet the FEMA required level of protection, implementation of mitigation measures identified for Phase I in Stipulations 3(a) and 3(b) of this Programmatic Agreement (PA) and performance of archeological investigations associated with Phase I; and

**WHEREAS**, NPS will be responsible for the development of a plan to stabilize the exterior of the historic property known as the Lockkeeper’s House and the development

of educational materials to be used for public interpretation as identified in Stipulations 3(c) and 3(d) of this PA; and

**WHEREAS**, NPS consulted with other parties including, but not limited to, the U.S. Commission of Fine Arts (CFA), the National Capital Planning Commission (NCPC), the Committee of 100 on the Federal City, the District of Columbia Office of Planning (DCOP) the District of Columbia Department of Transportation (DDOT), the General Services Administration, the National Trust for Historic Preservation, the National Coalition to Save Our Mall, the USACE and the Washington Metropolitan Area Transit Authority (WMATA) (Consulting Parties); and

**WHEREAS**, the NPS has also developed an Environmental Assessment for the Levee Improvements Project in compliance with National Environmental Policy Act (NEPA); and

**WHEREAS**, NPS provided numerous opportunities for public review and comment on the Levee Improvements Project including documentation prepared for NEPA purposes and posted on the NPS's Planning, Environment and Public Comment (PEPC) website, regular inter-governmental agency working group sessions, public meetings and/or site visits held on May 23, June 26-27, and August 19, September 8 and October 23, 2008 and public meetings of the DC Historic Preservation Review Board, the CFA and the NCPC; and

**WHEREAS**, NPS, in consultation with DC SHPO, ACHP and the Consulting Parties, defined the Area of Potential Effect (APE) and identified numerous National Register listed and eligible properties within the APE including, but not limited to the Lockkeeper's House, West Potomac Park, the Washington Monument and Grounds and the L'Enfant Plan for the City of Washington (Appendix A); and

**WHEREAS**, the APE is likely to include National Register-eligible archeological resources such as the possible remains of the 17<sup>th</sup> Street Wharf; and

**WHEREAS**, the NPS elected to develop this PA pursuant to 36 CFR 800.14(b)(1)(ii) because the Levee Improvements Project is a complex, phased project whose effects on historic properties cannot be fully determined until the NCPC and the CFA complete their reviews and funding to design and implement future phases of work is secured; and

**WHEREAS**, in early 2009 the USACE learned that it may receive funding to implement the Levee Improvements Project; and

**WHEREAS**, the USACE has determined that its use of funding to implement the Levee Improvements Project would also constitute an "Undertaking" subject to Section 106 of the NHPA and its implementing regulations; and

**WHEREAS**, due to the uncertainty relating to the potential funding and the intent to meet the November 2009 FEMA deadline for construction of the Levee Improvements

Project, the NPS and USACE elected to develop an alternate process in this PA, as described in Appendix C, that USACE may use to fulfill to its responsibilities pursuant to Section 106 of the NHPA should funding be made available for USACE to implement the Levee Improvements Project; and

**WHEREAS**, NPS has agreed to be the lead Federal agency for the purpose of ensuring Section 106 compliance for the Levee Improvements Project pursuant to 36 CFR 800.2(a)(2); and

**WHEREAS**, the USACE has elected to sign this PA and, should funding be made available, to implement the alternate process as outlined in Appendix C; and

**WHEREAS**, this PA also establishes processes to consider the effects of design revisions that may occur as the result of the on-going CFA and NCPC reviews and future phases of work; and

**WHEREAS**, NCPC and DC have been invited to be Signatories to this PA pursuant to 36 CFR 800.6(c)(2) because of their respective approval responsibility and assistance and implementation roles.

**NOW, THEREFORE**, NPS, NCPC, USACE, DC, DC SHPO and ACHP (hereinafter Signatories) agree that the Levee Improvements Project will be carried out in accordance with following stipulations and in accordance with Appendix C, if applicable, in order to take into account the effects of the Levee Improvements Project on historic properties.

### STIPULATIONS

The NPS shall ensure that the following measures are carried out:

1. Levee Improvements Project Plans for Phase I
  - a. DC shall implement the plans for Phase I of the Levee Improvements Project, which were developed through Section 106 consultation and represent the “preferred alternative” selected pursuant to NEPA, and are attached for reference in Appendix B. DC shall implement Phase I of the Levee Improvements Project in accordance with these plans or in accordance with any changes required by CFA and NCPC pursuant to Stipulation 2 below.
2. CFA and NCPC Review of Levee Improvements Project Plans
  - a. NPS shall coordinate all CFA and NCPC reviews.
  - b. Levee Improvements Project plans may be subject to change as a result of future CFA and NCPC reviews. NPS and DC shall ensure that any changes to the plans required as a result of CFA or NCPC reviews will be treated in the following manner:

- i. If CFA and/or NCPC do require changes to the plans that were previously approved, NPS, in coordination with DC shall forward the plans approved by CFA and/or NCPC and supporting documentation to DC SHPO and ACHP along with a written determination as to whether the required changes would result in new adverse effects on historic properties or the intensification of previously identified adverse effects as soon as practicable, but no later than 30 days from the CFA and/or NCPC review.
- ii. Within fourteen (14) days of receipt of the documentation specified in Stipulation 2(b)(i), DC SHPO and ACHP shall notify NPS in writing of their concurrence or non-concurrence regarding whether any changes would result in new adverse effects on historic properties or any previously identified adverse effects would be intensified. NPS, in coordination with DC, may move forward with its determination if neither DC SHPO nor ACHP respond within the specified review and comment period.
- iii. If NPS, DC, DC SHPO and ACHP agree that there will be no new adverse effects and that no previously identified adverse effects will be intensified, NPS shall notify the Signatories in writing and the Consulting Parties via a posting on PEPC, or a similar site, and shall provide a fourteen (14) day review and comment period. If a Signatory or a Consulting Party objects in writing or via the PEPC website, NPS shall resolve the dispute in accordance with Stipulation 6 (Dispute Resolution), of this PA.
- iv. If NPS, DC, DC SHPO or ACHP determines that there will be new adverse effects or that previously identified adverse effects will be intensified, NPS shall notify the Signatories in writing and the Consulting Parties via a posting on PEPC, or a similar site, and shall consult further with the Signatories and Consulting Parties on the effect determination or consult to identify means to avoid, minimize, or mitigate the adverse effects, to consider amending this PA in accordance with Stipulation 9 (Amendments), and/or to determine how the resolution of adverse effects will be documented.

3. Mitigation for the Levee Improvements Project

- a. DC shall mitigate the adverse effect caused by the loss of trees within the Constitution Gardens landscape through implementation of the landscape plan that is part of the Phase I plans.

- b. DC shall also incorporate concrete stain, minor earthwork and turf restoration on the east side of 17<sup>th</sup> Street NW to mitigate the temporary adverse visual effect of the exposed Phase I flood walls.
- c. The NPS shall prepare a stabilization plan for the exterior of the Lockkeeper's House that is consistent with *The Secretary of Interior's Standards for the Treatment of Historic Properties* within one year of the date of the last signature on this PA.
- d. The NPS shall prepare public interpretation and education materials that broadly address the historical development of the flood control system and associated themes by identifying the Levee as a contributing resource of the Constitution Gardens cultural landscape and explaining the importance of the resource. Public interpretation and historical education media may include, but not be limited to, interpretive posters, wayside exhibits, reconstruction drawings, NPS-style brochures and internet-based content.
- e. The Signatories to this PA acknowledge that the permanent earthwork, surface treatment and plant material measures that are to be carried out in Phase II will provide additional mitigation for the adverse effects of the Levee Improvements Project.

4. Development and Review of Levee Improvements Project Plans for Phase II

- a. Within one (1) year of the date of execution of this PA, unless otherwise provided, the USACE shall work in consultation with the NPS to advance funding requests for the completion of plans for design, construction and implementation of Phase II of the Levee Improvements Project (Phase II Plans). NPS shall coordinate the development of Phase II Plans in consultation with the Signatories and shall include detailed drawings, descriptions, timeframes and recommendations for implementation of the remaining work that must be completed to provide the Congressionally authorized level of flood protection (i.e. minor increases in grade along the existing berm and along 23<sup>rd</sup> Street, NW) and the measures that will be used to provide long term mitigation for the adverse visual effects of the exposed flood walls including, but not limited to, the use of stone veneer, significant earthwork and substantial plant materials on the east side of 17<sup>th</sup> Street, NW, and other appropriate approaches.
- b. NPS shall coordinate the Phase II Plans with the National Mall Plan being developed by the NPS and other relevant planning initiatives to the greatest extent possible.
- c. NPS shall provide the Signatories with copies of the draft Phase II Plans, notify the Consulting Parties via a posting on PEPC, and provide all parties thirty (30) days for review and comment.

- d. NPS shall take into account any comments received within the thirty (30)-day review period and consult with the Signatories and Consulting Parties until consensus is reached regarding the final Phase II Plans or until such time that the NPS determines that consensus cannot be reached. The NPS shall resolve any failure to agree regarding the final Phase II Plans plan in accordance with Stipulation 6 (Dispute Resolution) of this PA.
- e. Any changes to the final Phase II Plans that result from CFA and NCPC review shall be evaluated by the Signatories in accordance with Stipulation 2 (CFA and NCPC Review of Levee Improvements Project Plans) of this PA prior to implementation.
- f. NPS shall coordinate implementation of the final Phase II Plans in accordance with timeframes and specifications included therein.

5. Archeological Provisions

- a. Interpretation and education materials. Prior to Phase I implementation:
  - i. DC shall develop content for interpretation and education materials that will broadly address the historical development of the lower Tiber Creek waterfront, including the Washington City Canal, the 17<sup>th</sup> Street Wharf and associated themes.
  - ii. NPS shall make recommendations to DC regarding the types of appropriate media, how the materials might be distributed and displayed to the public and for how long they might be distributed and displayed to the public by the NPS.
  - iii. NPS and DC shall develop these materials in close consultation with the DC SHPO and make a reasonable and good faith effort to incorporate DC SHPO comments.
- b. Archeological Investigations
  - i. DC shall ensure that the archeological investigations of the possible remnants of the 17<sup>th</sup> Street Wharf and other potentially National Register eligible archeological resources within the APE shall be undertaken in coordination with the construction of Phase I.
  - ii. Given the difficulties associated with opening excavations in a public park and an active roadway, DC shall schedule the archeological field investigations to occur when 17<sup>th</sup> Street, NW, is closed for construction.

- iii. DC shall ensure that the archeological fieldwork will consist of two elements: (1) testing and documentation of archeological resources and (2) monitoring of construction.
- iv. DC shall ensure that all archeological work required under the terms of this PA is conducted under the supervision of an archaeologist who meets the professional qualification standards outlined in the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44738-9), 36 CFR Part 61.
- v. DC shall ensure that all archeological work required under the terms of this PA shall take into account current professional standards and guidelines, including *The Secretary of the Interior's Standards for Archeological Documentation* [as amended and annotated], the *Guidelines for Archeological Investigations in the District of Columbia* (1998) and ACHP publications, including *Treatment of Archeological Properties: A Handbook* (1980), *Recommended Approach for Consultation on Recovery of Significant Information from Archeological Sites* (1999), and current Section 106 *Archaeology Guidance* (at: <http://www.achp.gov/archguide/>)
- vi. DC shall ensure that all other aspects of archeological work relating to research designs, curation of artifacts, post-review discoveries and treatment of human remains, if applicable, shall be carried out in accordance with the Archeological Resources Protection Act (ARPA) permit that will be issued by the NPS or, as subject to the conditions of a contract if the archeological work is to be carried out by a firm under contract to the DC.
- vii. If Phase II plans require additional ground disturbing activities that have the potential to affect archeological properties, NPS shall consult with the DC SHPO to determine the need for additional archeological investigation and/or mitigation.

6. Dispute Resolution

- a. Should any Signatory or Consulting Party to this PA object in writing to NPS regarding any action carried out in accordance with this PA, the Signatories shall consult to resolve the objection. The NPS may also trigger this process by notifying the Signatories in writing to its objection. Should the Signatories be unable to resolve the disagreement, NPS shall forward its proposed resolution of the dispute and any other documentation relevant to the dispute to ACHP. Within 45 days after receipt of all pertinent documentation, ACHP will either:

- i. Provide the NPS with recommendations, which NPS will take into account in reaching a final decision regarding the dispute; or
  - ii. Notify NPS that it will comment pursuant to 36 CFR 800.7(c), and proceed to comment. Any ACHP comment provided in response to such a request shall be taken into account by NPS in accordance with 36 CFR 800.7(c)(4). Any ACHP recommendation or comment will be understood to pertain only to the subject of the dispute; NPS's responsibility to carry out all actions under this PA that are not subjects of the dispute will remain unchanged.
- b. In reaching a final decision, the NPS shall prepare a response that takes into account any timely comments regarding the dispute and notify the Consulting Parties in writing of its decision.

7. Reporting and Notifications

NPS will update the public on the status of the Levee Improvements Project and on the status of NPS' compliance with this PA via the PEPC website and electronic notification on at least a semi-annual basis.

8. Duration

This PA shall be in effect for a period of eight (8) years from the date of the last Signatory's signature.

9. Amendments

This PA may be amended when an amendment is agreed to in writing by all Signatories. The amendment shall be effective on the date a copy signed by all of the Signatories is filed with ACHP.

10. Termination

If any Signatory to this PA determines that the terms of the PA cannot or are not being carried out, that objecting party shall so notify the other Signatories in writing and consult with them to seek amendment of the PA. If within sixty (60) days, an amendment cannot be reached, any Signatory may terminate the PA upon written notification to the other Signatories. Once the PA is terminated, and prior to work continuing on the Levee Improvements Project, NPS must (a) either execute a new Programmatic Agreement pursuant to 36 CFR Section 800.14 or (b) request, take into account, and respond to the comments of the ACHP per 36 CFR Section 800.7. NPS will notify the Signatories as to the course of action it will pursue.

11. Availability of Federal Funds / Anti-Deficiency Act

The obligations of NPS and USACE under this PA are subject to the availability of appropriated funds, and the stipulations of this PA are subject to the provisions of the Anti-Deficiency Act and other applicable provisions of federal fiscal law. The NPS and USACE shall make reasonable and good faith efforts to secure the necessary funds to implement its obligations under this PA. If compliance with the Anti-Deficiency Act or other applicable provisions of federal fiscal law alters or impairs the NPS's or USACE's ability to implement its obligations under this PA, the NPS and/or USACE shall consult in accordance with Stipulation 9 (Amendments) and, if necessary, Stipulation 10 (Termination).

12. Availability of District Funds / Anti-Deficiency Act

The obligations of DC under this PA are subject to the availability of appropriated funds and the District of Columbia Anti-Deficiency Act, D.C. Official Code §§ 47-355.01-355.08 (2001), (iii) D.C. Official Code § 47-105 (2001), and (iv) D.C. Official Code § 1-204.46 (2006 Supp.). DC shall make reasonable and good faith efforts to secure the necessary funds to implement its obligations under this PA. If compliance with the D.C. Anti-Deficiency Act alters or impairs DC's ability to implement its obligations under this PA, DC shall consult in accordance with Stipulation 9 (Amendments) and, if necessary, Stipulation 10 (Termination).

13. Potential USACE Funding and Participation

- a. If the USACE receives funding to implement the Levee Improvements Project:
  - i. The USACE shall immediately notify the other Signatories to this PA in writing.
  - ii. The USACE shall meet with the other Signatories of this PA within thirty (30) days of the notification above to coordinate and clarify how it will comply with this PA.
  - iii. The USACE shall comply with the provisions outlined in Appendix C of this PA to fulfill its responsibilities pursuant to Section 106 of the NIIPA as a Signatory to this PA.
- b. In the event USACE does not receive funding to implement the Levee Improvements Project, its signature on this PA will not commit USACE to any provisions set forth in this PA except those articulated in Stipulation 4(a) of this PA wherein the USACE agrees to work with the NPS to advance funding requests for the development of planning, design, construction, and implementation of Phase II of the Levee Improvements Project.

Execution of this Programmatic Agreement and implementation of its terms evidences that NPS, and USACE if its broader participation is triggered by the receipt of funds, have taken into account the effects of the Levee Improvements Project on historic properties and afforded ACHP a reasonable opportunity to comment.

### **SIGNATORIES**

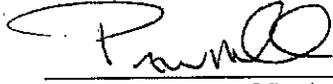
Individual Signature Pages Follow

**NATIONAL PARK SERVICE**

Margaret D. Daal  
Regional Director, National Capital Region, NPS

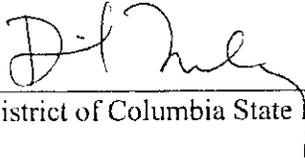
4-27-09  
Date

U.S. ARMY CORPS OF ENGINEERS

  
Paul R. Coyle, USA  
U.S. Army Corps of Engineers, Baltimore District

4/30/09  
Date

**DC STATE HISTORIC PRESERVATION OFFICER**

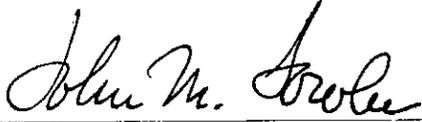


District of Columbia State Historic Preservation Officer

4-28-2009

Date

**ADVISORY COUNCIL ON HISTORIC PRESERVATION**



\_\_\_\_\_  
Executive Director, Advisory Council on  
Historic Preservation

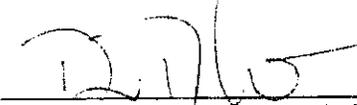
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Date 5/1/09

**NATIONAL CAPITAL PLANNING COMMISSION**

  
\_\_\_\_\_  
Executive Director, National Capital Planning Commission

4/30/09  
\_\_\_\_\_  
Date

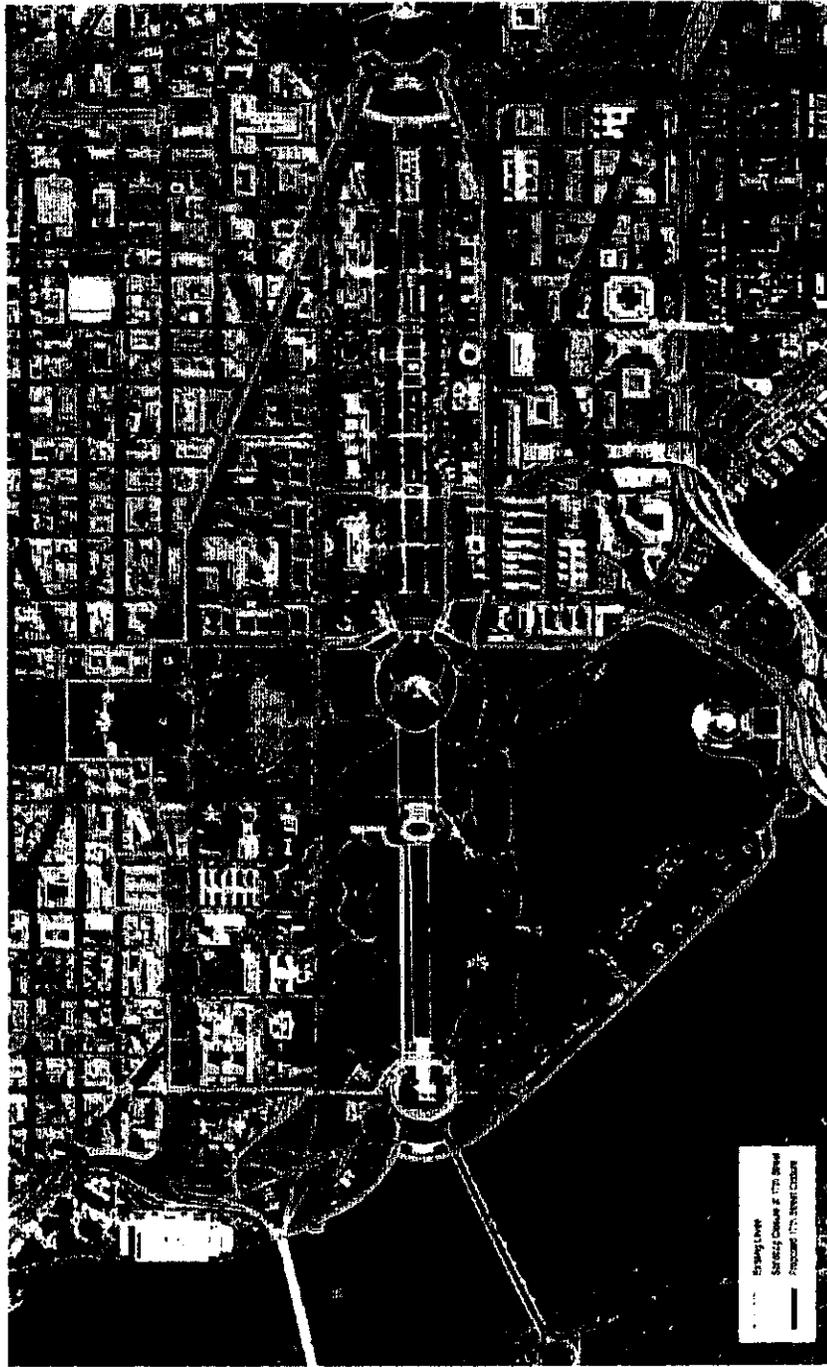
**GOVERNMENT OF THE DISTRICT OF COLUMBIA**

  
\_\_\_\_\_  
District of Columbia City Administrator

4/29/2009  
\_\_\_\_\_  
Date

**APPENDIX A**  
**The Levee Improvements Project**  
**Area of Potential Effect (APE)**

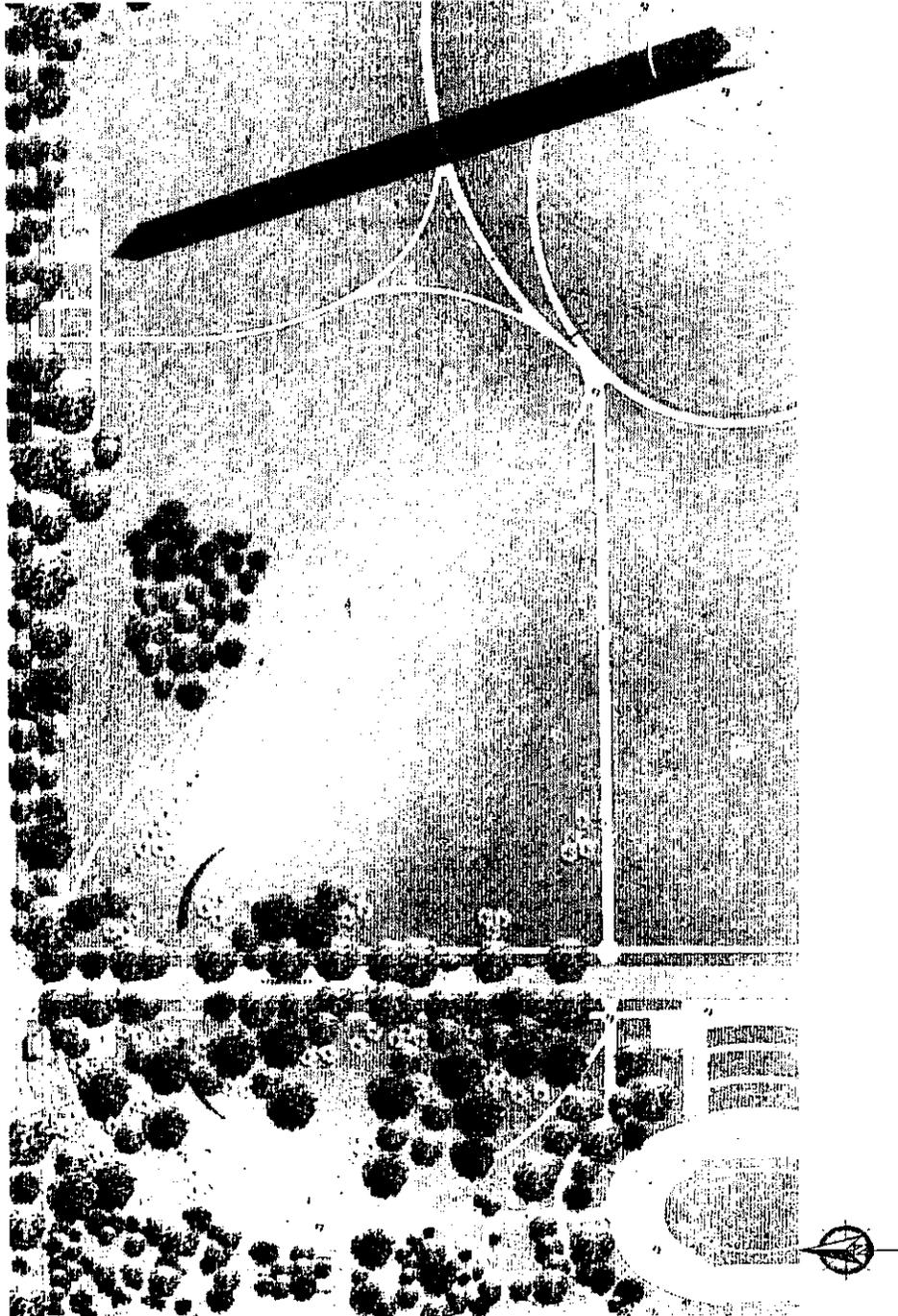
Potomac Park Levee Area of Potential Effect (APE)



Existing Levee  
Study Corridor (17th Street  
to Potomac Park Street)



**APPENDIX B**  
**The Levee Improvements Project Plans**



**APPENDIX C**  
**Potential U.S. Army Corps of Engineers Funding**  
**For the Levee Improvements Project**

1. The U.S. Army Corps of Engineers, Baltimore District (USACE) has determined that its use of funding to implement a part or portion of the Levee Improvements Project would constitute an “Undertaking” subject to review under Section 106 of the National Historic Preservation Act and its implementing regulations. In the event that funding becomes available, the USACE shall fulfill its responsibilities for this undertaking under Section 106 of the NHPA and its implementing regulations by complying with this Appendix and by implementing the Programmatic Agreement (PA) of which this Appendix is a part. USACE will be responsible for Section 106 compliance only for that part or portion of the Levee Improvements Project being implemented with USACE funding, and not for other Section 106 compliance associated with Levee Improvements Project work being funded and implemented by other Signatories, nor for Section 106 compliance and mitigation measures assigned to others in Paragraph 2 of this Appendix below.
2. If the USACE receives funding to implement the Levee Improvements Project:
  - a. The USACE shall immediately notify the other Signatories to this PA in writing.
  - b. The USACE shall meet with the other Signatories of this PA within 30 days of the notification above to coordinate and clarify how it will comply with this PA, and to reassess the role of the NPS as lead federal agency for Section 106 compliance.
  - c. Except as noted herein, below, USACE shall fund and implement all remaining phases of the Levee Improvements Project, and any incomplete phases, except for the development of an exterior stabilization plan for the Lockkeeper’s House and the development of public interpretation and education materials identified previously in the PA as NPS responsibilities. All actions shall be carried out in accordance with this Appendix and the PA and in consultation with the Signatories of the PA.
  - d. DC shall retain direct responsibility for funding and implementing the construction of Phase I as necessary to meet the FEMA required level of protection, and for the mitigation measures and archeological investigations associated with Phase I.
3. Should USACE propose any changes to previously approved plans and/or the development of any future plans, USACE shall follow the provisions outlined in Stipulation 2 of the PA. Such changes may require amending the PA in accordance with Stipulation 9 of this PA.

4. Should any of the Signatories require an amendment to this Appendix and/or the PA, the development of such amendment shall follow the provisions as provided in Stipulation 9 of this PA.



# Attachment: Public Comment Correspondence



# LINDSLEY WILLIAMS

3307 HIGHLAND PLACE NW  
WASHINGTON, DC 20008

PHONE: (202) 246-4814  
EMAIL: LWILLIAMS@HIS.COM

February 27, 2008

Glenn DeMarr, Project Manager  
National Park Service National Capital Region  
1100 Ohio Drive, SW  
Washington, DC 20242

Re: Comments on the "Potomac Park Levee Project Environmental Assessment"

Dear Mr. DeMarr:

This letter's contents provide comments, observations, and suggestions about the options set forth in the above-captioned environmental assessment ("EA"), a document transmitted from the Louis Berger Group, Inc., on behalf of the Park Service by that firm's letter of January 29, 2009, that letter inviting comments and requesting that they be submitted on or prior to March 2.

My remarks focus only on the Option 1B, which is noted as being "NPS Preferred" – a choice with which I associate myself fully, subject to consideration and incorporation, when justified, of the observations and suggestions this letter provides.

Option 1B proposes a design that is symmetric, centered on the centerline of 17<sup>th</sup> Street, NW whose right of way *north* of Constitution is part of the historic L'Enfant Plan. My own studies suggest that this alignment continues to the south, but the mid-point of the symmetry should be the axis of 17<sup>th</sup> Street in the L'Enfant Plan, even if this is not quite the same as that of 17<sup>th</sup> Street south of Constitution.

Option 1B also proposes that the design be situated where all of the post and panel system and much of the two arc walls would be in the area that Virginia Avenue, NW's right of way would occupy had that right of way extended across the Mall to the so-called "Jefferson Pier". That point, where Virginia Avenue's "projected and extended" right of way from the northwest meets the corresponding projected and extended right of way of Virginia Avenue from the southeast, is also the point due west of the Capitol where the Washington Monument would have been erected but for adverse soil conditions. It is also the point at which the projected and extended right of way of the segment of Indiana Avenue, NW, which extended from Judiciary Square at 5<sup>th</sup> and D Streets across what is now the eastern tip of "Federal Triangle" to Constitution Avenue, but with a direct bearing for the Jefferson Pier.

Surviving **open** portions of these rights of way, particularly that of Virginia Avenue, NW, constitute critical view corridors that are urban assets to be preserved and enhanced. In the context of this project and this particular EA, I urge you to build on the EA's own extensive analysis of "viewsheds" that aimed to reduce losses from the development of any levee alternative. As the EA notes (at page 2-43), of all the "remaining diagonal vistas" that L'Enfant's plan provided, Virginia Avenue northwest of the site of the levee closure is the only one that survives at this time relevant to this project. I recommend that asset be examined carefully so that the **north-south** placement of the post-and-panel wall and the two symmetric flanking arc walls be centered not only on the axis of 17<sup>th</sup> Street but also on the axis of Virginia Avenue as it was laid out by L'Enfant to the northwest, the latter axis terminating at the "Jefferson Pier" southwest of the site and due west of the Washington Monument.

The EA notes that some, particularly pedestrian, viewsheds will be adversely impacted as the symmetric walls block views they would otherwise enjoy. This occurs due to both the height of these walls and the width of the

opening. The viewshed is maximized as the width of post and panels increases and as the height of the arc walls is reduced. Indeed, if segments of the permanent wall closest to the gap that the post and panels close in flood events could be reduced in their height, with additional panels or other barriers added to bring needed protection in flood events, that would also reduce the adverse impact the built walls would have.

From the EA, it seems that the overall opening would be 140 feet, presumably meaning 70 feet either side of the mid-point centered on axis of the 17<sup>th</sup> Street right of way and, I recommend, that of Virginia Avenue as well. The final design should consider the tradeoff between an opening of greater width, its benefit to the viewshed and vistas, and the reduced cost of cladding the permanent wall. Likewise, the final design should explore if the portions of the built wall nearest 17<sup>th</sup> Street could be permanently set at a lower height than the rest, to be capped as storm surges dictate if this is at all feasible and cost effective.

From my examination of historic records, I know that the Virginia Avenue right of way northwest of Constitution Avenue is 120 feet. I have also collected and extrapolated data on the east-west and north-south distance this right of way utilizes. From my math (which used lengths stated of the sides of the triangle formed at Reservation 108) and is subject to correction, I find that the overall east-west width would be just under 211 feet (instead of 140), or about 105.5 (instead of 70) feet east and west of the centerline. Ideally, then, the post and panel system would be made that full width, but that is likely not feasible due to cost and other considerations.

I ask, however, that you confirm my math, correct it if need be, and, in particular, place suitable “monuments” along the two arc walls **above** their cap showing where the overall right of way of Virginia Avenue would have passed had that Avenue ever been developed across the Mall. While I am not recommending any such development, as an active roadway, I strongly recommend that the Park Service declare, as part of their Plan for the National Mall, the area within the overall Virginia Avenue’s hypothetical alignment as a “no build” area for any **building** use other than those needed by the Levee, that the area be one that would be landscaped with surface and low lying plants so as to open up vistas of the Monument from the northwest along the resulting viewshed. Doing so would support the EA’s own discussion of the value of viewsheds and vistas and, further, promote the urban design and cultural objectives being articulated by the National Capital Planning Commission in its soon-to-be released “**Framework Plan**” as they relate to significant viewsheds in the Nation’s capital – one of which they identify as being that along Virginia Avenue NW.

A very crude diagram corresponding to the above discussion is attached; it does not depict the suggested “monuments” which would likely be no larger than one security bollard.

While this concludes my comments on the EA, allow me, in closing to add the following:

- First, the timeline for completion of the project is later this year and that deadline is one that is urgent both for the abstract protection of central area properties of the U. S. Government, the District Government, utilities, transit systems, private institutions, businesses, and residents all of which are put “at risk” and a need for correct flood maps to be published reflecting the protection that the new levee system will provide.
- Second, the EA notes that the project may result, for an indefinite period, with walls bringing about the needed flood protection but that they would not necessarily be finished and landscaped. Given the location at the core of the monumental city, the visual blight would be most unwelcome and inappropriate. Thus, I recommend that NPS explore all possible means to secure funding for full completion and not leave the project in “raw” form for an indefinite period of time.
- Third, I want to express my appreciation to you and your colleagues at NP, the National Capital Planning Commission, and others in various Agencies that have allowed my ideas on the project to

Page 3: Mr. Glenn DeMarr  
February 27, 2009

take root. Indeed, while Option 1B is not “my idea,” it emerged after various other ideas were advanced and found wanting, none of which even looked with care at Virginia Avenue northwest of the site. Thus, perhaps by fortuitous confluence of circumstances and geography, a design has emerged that is clearly better, one that fully meets its functional requirements yet honors and literally builds upon L’Enfant’s Plan for the City of Washington.

Again, my thanks for considering the ideas that the public, stakeholders, and I have provided in this process.

Sincerely,

Lindsley Williams

Attachment





## POTOMAC PARK LEVEE PROJECT EA



THE INVISIBLE FLOOD CONTROL WALL™



FLOOD CONTROL AMERICA, LLC.



ON FIGURE C.58 (BELOW) THE IFCW™ WOULD ELIMINATE THE HIGH PROFILE/SIGHT RESTRICTING EARTH LEVEE, WHICH WOULD BE PERMANENT. BY USING THE IFCW™ FOR THE CLOSURE AND EXTENDING IT BACK UP THE SLOPE ON BOTH SIDES, THE OBJECTIONABLE SIGHT RESTRICTIONS ARE BASICALLY ELIMINATED, SINCE THE WALL PROFILE IS ONLY IN PLACE DURING A FLOOD EVENT. ADDITIONALLY, THE PROPOSED EMBANKMENTS WOULD BE LARGELY ELIMINATED, AND THE DRAMATIC TREE REMOVAL AND REPLACEMENT LANDSCAPING WOULD BE UNNECESSARY.

*Figure C.58 – 2B Gate Wall View B, Phase 2*





## INVISIBLE FLOOD CONTROL WALL™ - THE IFCW™

PROJECT: ST. PAUL DOWNTOWN AIRPORT

LOCATION: ST. PAUL, MN

SPONSOR: HNTB

SCALE: 3500 LINEAL FEET, REPORTEDLY THE LARGEST FLOODWALL IN THE WORLD





AT THE ST. PAUL AIRPORT, THE IFCW™ SPANS A PAIR OF 1500 FT WIDE RUNWAYS, INTEGRATING WITH PERMANENT CONCRETE WALLS AT EITHER END OF EACH RUNWAY. “HEADLESS” BOLTS IN THE WALL’S FOUNDATION REMAIN FLUSH WITH THE TARMAC, ENSURING A PERFECTLY SMOOTH TEXTURE FOR ARRIVING AND DEPARTING AIRCRAFT WHEN THE WALL IS DEMOUNTED.





AT THIS MANUFACTURING FACILITY, THE IFCW™ HAS BEEN ADAPTED TO FIT “STEPS” IN THE CONCRETE FOUNDATION. A GASKETED INTERIOR CHANNEL IN THE FOUNDATION ALLOWS A CONTINUOUS AIRTIGHT SEAL WITH THE INTERLOCKING ALUMINUM PLANKS.





AT BOTH EAST GRAND FORKS, MN (TOP) AND ST. PAUL, MN (BELOW), THE IFCW™ HAS BEEN INTEGRATED WITH ORNAMENTAL PARAPET WALLS. GASKETED CHANNELS IN THE BULKHEADS SMOOTHLY ACCEPT THE ALUMINUM PLANKS, WHILE THE REINFORCED WALLS HAVE EMBEDDED ANCHORS TO BOLT THE PARTING AND SUPPORT POSTS.





PROJECT: LOUISVILLE SLUGGER FIELD  
LOCATION: LOUISVILLE, KY

AT THIS HISTORIC BASEBALL FIELD ADJACENT TO THE OHIO RIVER, THE EXISTING ARMY CORPS OF ENGINEERS CONCRETE WALL, WHICH WAS INSTALLED AFTER A MASSIVE FLOOD IN THE 1930S, WAS REMOVED TO SUB GRADE. THE IFCW™ WAS INSERTED, CREATING AN INVISIBLE FLOOD WALL TO ENABLE PROJECT PROTECTION AND DEVELOPMENT.





## HOW DOES IT WORK?

TYPICAL ANCHOR BY MEADOW BURKE EMBEDDED IN CONCRETE FOUNDATION. SECURES VERTICAL PARTING SUPPORT POST TO FOUNDATION.

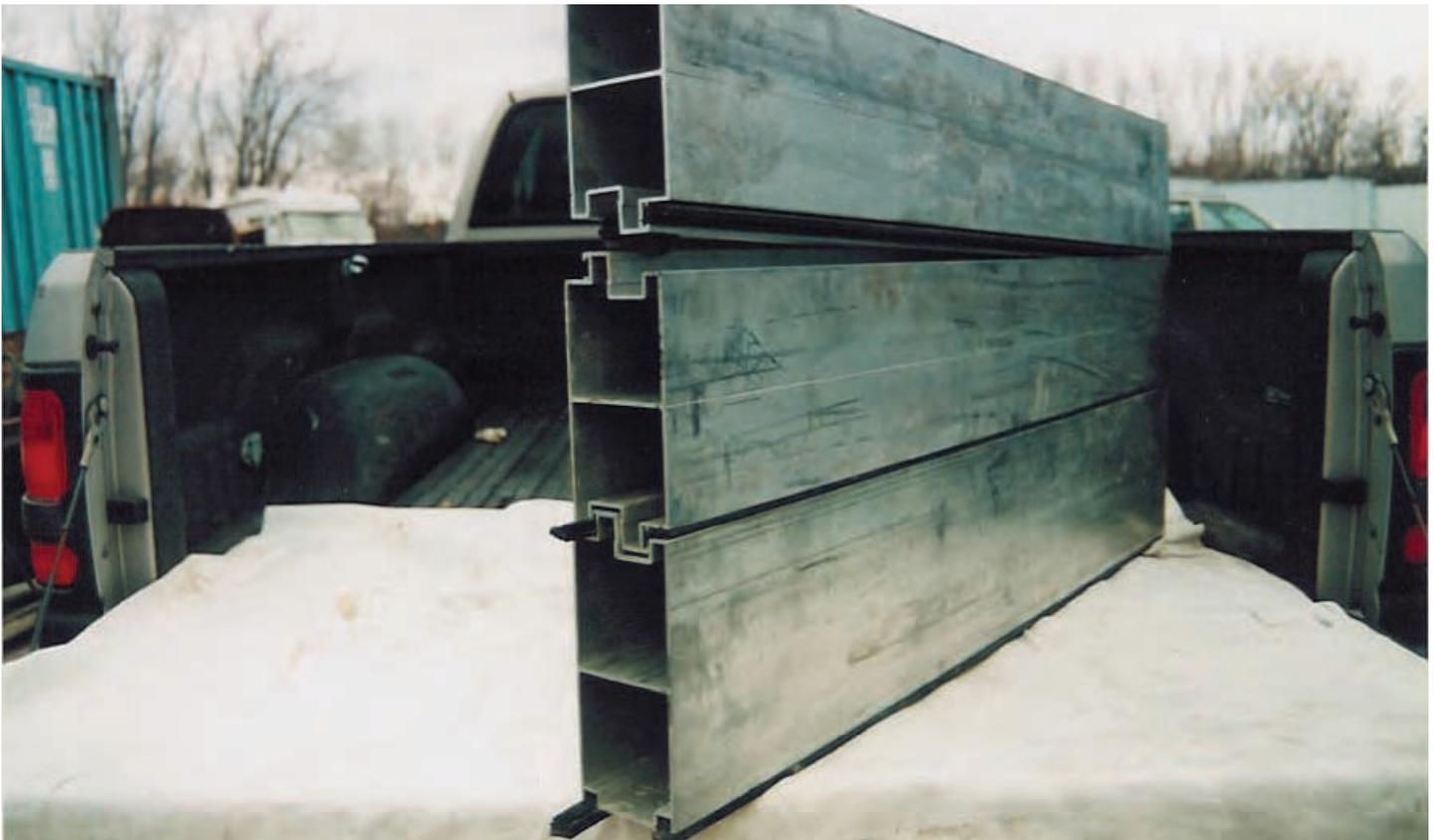
IFCW™ COMPONENTS ANCHORED INTO CONCRETE FOUNDATION.





THE IFCW™ WALL INSTALLATION HAS EASILY HANDLED COMPONENTS. VERTICAL PARTING SUPPORTS ARE PLACED (TYPICAL I-BEAM/POST), THEN TWO ANCHOR BOLTS CONNECT POST BASE PLATE TO SILL PLATE/FOUNDATION.

THE PATENTED ALUMINUM PLANKS SEAL WITH HARD RUBBER GASKETS AND BECOME SIDE-THRUST RESISTANT WITH A UNIQUE TONGUE AND GROOVE DESIGN. THE SPECIALLY DESIGNED BASE PLANK HAS GASKETS THAT SEAL WITH THE FOUNDATION.





BASE ALUMINUM PLANK ORIENTS WET/DRY SIDE. THE PLANKS FILL WITH WATER AS FLOOD HEIGHT INCREASES, CREATING MORE STABILITY AND INTEGRITY. THE SEALS ON THE PLANK AND VERTICAL SUPPORT INDICATE THE “WET SIDE.”

THIS PROJECT USED 20 FT PLANK LENGTHS. IT REQUIRED FOUR MEN TO INSTALL, WITH NO CRANES OR HEAVY MACHINERY NEEDED.





LOUISVILLE STADIUM WALL DIMENSIONS: 700 FT IN LENGTH FROM HEIGHTS OF 4 FT TO 9 FT.  
TOTAL INSTALLATION TIME: 8 MEN – 12 HOURS.

NOTE (ABOVE): INTERMEDIATE PARTING SUPPORTS ARE INSTALLED WITH HOLD DOWN CLAMPS SQUEEZING SEALS TO SET.

(BELOW) THE IDENTICAL BASE OF THE IFCW™ DISMANTLED – AN INVISIBLE FLOOD CONTROL WALL!





NOTE THE PROXIMITY OF THE IFCW™ SILL PLATE TO STADIUM ENTRANCE—AN UNLIKELY PLACE FOR A FLOODWALL, DOOR, PROMENADE, AND STATUE OF A HOMETOWN HERO. HOWEVER, THIS IS VERY TYPICAL OF AN IFCW™ INSTALLATION, WHICH ALLOWS FOR PROTECTION, PRESERVATION, AND DEVELOPMENT.

ONE OF THE MOST OUTSTANDING ASPECTS OF THE IFCW™ IS THAT IT IS PERMANENT WHEN INSTALLED, BUT WHEN NOT INSTALLED (WHICH IS 99% OF THE TIME) THE SURROUNDING ENVIRONMENT IS NOT NEGATIVELY AFFECTED BY AN UNSIGHTLY CONCRETE WALL OR EARTH LEVEE.





PROJECT: HEADWATERS PARK  
LOCATION: BRECKENRIDGE, MN

THIS IS THE HEADWATERS OF THE RED RIVER OF THE NORTH, FORMED BY THE JOINING OF THE BOIS DE SIOUX AND OTTER TAIL RIVERS. IT IS ALSO THE SITE OF A SERIOUS FLOOD IN APRIL 1997.

BRECKENRIDGE INSTALLATION: 5 FT CONCRETE WALL AND IFCW™  
IFCW™ WALL: 4 FT X 90 FT  
INSTALLATION TIME: 4-6 MEN, 1½-2 HOURS





## CLOSURES

AN OPENING IN A CONCRETE WELL OR LEVEE CAN BE ANY WIDTH OR HEIGHT – 1 FT TO 100 FT. TOP PHOTO SHOWS MAIN STREET CLOSURE IN EAST GRAND FORKS, MINNESOTA: 60 FT X 14 FT HEIGHT, PART OF AN 870 FT IFCW™ FLOOD WALL INSTALLATION. THIS IS AN AWARD-WINNING PROJECT.

LOWER PHOTO ALLOWS THRIVING CITY CENTER TO HAVE UNIMPAIRED VIEW OF RIVER IN NON-FLOOD TIMES. RIVER ACCESS, PARKING, STROLLING...NO NEGATIVES, YET PERMANENT FLOOD PROTECTION—THE IFCW™.





**CHAIR**

LAURA M. RICHARDS, ESQ.

February 28, 2009

**VICE-CHAIR**

GEORGE R. CLARKE, ESQ.

Glenn DeMarr, Project Manager  
Potomac Park Levee Project EA  
National Park Service-National Capital Region  
1100 Ohio Drive, SW  
Washington, DC 20242

**SECRETARY**

RICHARD HOUGHTON

**TREASURER**

FRANCIS M. CLARKE, III

Dear Mr. DeMarr:

**TRUSTEES**

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W. KENT COOPER, FAIA  
ANDREA C. FERSTER, ESQ.  
CARROLL GREEN  
KEVIN LOCKE  
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EVELYN WRIN  
JOHN YAGO  
BARBARA ZARTMAN

This letter is to provide comments of The Committee of 100 on the Federal City on the *Potomac Park Levee Project Environmental Assessment* dated January 2009. The Environmental Assessment was circulated for a 30-day comment period that will end on March 2, 2009. The Committee of 100 has had a long history of concern with the planning of Washington, D.C., including the Monumental Core of the city. The Potomac Park Levee Project is important in terms of preventing future flood damage to certain areas of Central Washington and in terms of the visual, historic and environmental impacts of the proposed levee improvements on areas of the National Mall, especially in the corridor along 17<sup>th</sup> Street, NW south of Constitution Avenue.

The Committee of 100 has been involved in the consultation process on the Levee Project design over the past nine months. We have submitted previous written comments dated August 22, 2008, September 10, 2008, and January 9, 2009. We had the benefit of the November 20, 2008 Staff Report to the D.C. Historic Preservation Office on earlier alternative designs. We also reviewed the information presented on the West Potomac Park Levee PEPC site (Concept Review Package), and the National Capital Planning Commission staff report dated December 31, 2008 (approved by the Commission on January 8). Members of the Committee of 100 visited the 17<sup>th</sup> Street site several times to observe mockups of the location of potential levee structures. Finally, we have reviewed the voluminous *Potomac Park Levee Project Environmental Assessment*, approximately 500 pages of text, charts, plans, maps, perspectives and drawings. It is a very significant report and, we feel, is likely to be a significant "source document" in the future.

**CHAIR EMERITUS**

DON ALEXANDER HAWKINS

## **Recommendation**

The Committee of 100 on the Federal City believes that the latest proposed design solution, referred to as “Option 1B” in the Environmental Assessment, is a good solution to a difficult design problem. The Environmental Assessment report indicates that Option 1B is the NPS preferred alternative (pages iv and 2-6). We have previously expressed, and want to repeat our hope, that as planning, design and construction proceeds, it will be possible to combine Phase I and II of Option 1B, so that the stone facing, the related earthwork and landscaping can all be completed as soon as the main concrete walls are completed. We understand that this is also the National Park Service position. We also want to stress our support for opening and maintaining the vista from Virginia Avenue, NW, toward the Washington Monument (actually aligned with the Jefferson Stone) as an important element of the Option 1B design.

## **Status of the Environmental Assessment Process**

We would appreciate having the status of the Environmental Assessment process clarified, and the next steps outlined as specifically as possible. Although the report which is being reviewed, by ourselves and others, is simply called an Environmental Assessment, it is our understanding that this is a Draft Environmental Assessment that has been circulated for public comment. We would appreciate information on the next steps with the Environmental Assessment process and how comments will be addressed. We recognize the critical time constraints for moving forward with the Potomac Levee Project and understand that special steps to expedite the review may be necessary, so that design and construction work can move ahead.

## **Other Flooding Issues**

We understand that this Environmental Assessment deals only with the Potomac Park Levee system. However, there are other flood risks to portions of Central Washington that should at least be mentioned in the final Environmental Assessment, or provided in other reports.

If the Potomac Park Levee areas, especially the site near 17<sup>th</sup> Street and Constitution Avenue can be considered the “front door” for flooding risk, it would seem that the “back door” for flooding would be off the Washington Channel on the west side of Fort McNair (see map on page 1-5). We assume that some actions are being taken at that location to prevent flooding through the “back door”. Although that location is not the subject of this Environmental Assessment, it would be useful to indicate what preventive actions are being taken at that location.

In addition to the flood threat that is being addressed, there is also the possibility of “interior flooding” from runoff and underground streams that would not be prevented by the actions indicated in the Environmental Assessment. It would be useful to at least indicate that possibility and other steps that are being taken to address that problem.

In addition to the danger of “normal flooding” (floodwaters coming down the Potomac River from the northwest), there has also been concern with the possible long-term rise of the water

level in the tidal Potomac River due to effects of global warming. Even a relatively small rise would pose some threat to low areas of Washington, especially East and West Potomac Parks. Such a rise could also mean that “normal flooding” could become more serious, even with limited floodwaters. The possibility of rising water levels of the tidal Potomac River (and the Anacostia River) have been raised in various questions in the context of the National Park Service planning for the National Mall and the National Capital Planning Commission work on the Framework Plan. However, no information on this serious matter has been provided. As part of the overall look at flood threats, it would be useful to have definitive information on this issue.

### **Flooding of Portions of the National Mall**

The Committee of 100 on the Federal City (and other organizations) has a strong interest in the planning, protection and future development of the National Mall. The map on page 1-5 of the Environmental Assessment indicates (in blue) the areas of the National Mall and adjacent areas that would be protected by construction of the improved Potomac Park Levee (and whatever measures are to be taken at Fort McNair). The map also makes it clear that, even with the new flood protection improvements, there would still be significant flooding of portions of the National Mall, especially in the Tidal Basin and the Reflecting Pool areas, and in nearby East Potomac Park, that are in the “Existing FEMA 100-Year Floodplain” (shown in orange on the map). The Committee of 100 requests that, in the ongoing planning work for the National Mall, more information be provided about potential damage from a “100 year flood” and current measures (and potential future measures) to mitigate that damage.

### **Factual and Editorial Concerns**

The Potomac Park Levee Environmental Assessment is an impressive document and is likely to be used as a “source document” for other future planning work. It is therefore important that facts be accurate, even when they may not in fact relate directly to the primary environmental and other assessments. As a result of our review, we believe several matters need to be clarified.

**Monumental Core/Downtown Confusion:** The Central Area of Washington, D.C. has a unique physical structure that is different from other American cities. There are numerous references to the Monumental Core (some times capitalized, sometimes not) in the Environmental Assessment report. The Monumental Core is generally defined in the footnote on page 1-2. However, there is no map. It would be useful to have a map and a better description, so that readers would have a better idea of what subareas are included in the Monumental Core definition (National Mall, Federal Triangle, etc.).

In addition, there are various references to “downtown” which give a misleading impression of the location of Downtown and the impact of potential floodwaters. At least since the Federal Triangle complex was built in the 1930s, Downtown has generally been understood to be the area north of Pennsylvania Avenue, extending to Massachusetts Avenue or M Street. The boundaries of Downtown were outlined in the *Downtown Urban Renewal Plan* and in the

*District Elements of the Comprehensive Plan for the National Capital.* As indicated by the maps in the report (page 1-5 for example), only a thin strip of land of land in “Downtown” along the north side of Pennsylvania Avenue is subject to flood effects which would be prevented by the Potomac Park Levee Project and other measures. Statements about Downtown flooding, such as on page 1-6, are not true, and are misleading. Such statements should be corrected. However, in requesting such clarifications, we do not want to minimize the adverse effects of even limited flooding. Damage from even a narrow flood area in Downtown along the north side of Pennsylvania Avenue could be significant.

**Evolution of the National Capital Planning Commission:** On page 1-9 there is a brief description of the evolution of the name of the National Capital Planning Commission. This evolution seems limited and should be checked.

**Framework Plan Timing:** The *National Capital Framework Plan*, which has been prepared by the National Capital Planning Commission, is noted on page 1-19. However, the timing of the plan should be checked. Most recently, a *Draft National Capital Framework Plan* was released on July 10, 2008 for a ninety-day public comment period. The final plan is being prepared.

**Full name for the Committee of 100 on the Federal City:** The “Committee of 100” is noted on pages 5-2 and 5-4 of the Environmental Assessment. The “Committee of 100” is generally well known. However, there are other organizations with the “Committee of 100” name. We would therefore appreciate if our organization’s full name could be used in the report: **The Committee of 100 on the Federal City.**

None of these editorial issues has a direct impact on the design of the levee walls that are being recommended in the Environmental Assessment. However, in view of the likely future use of this report, it would be useful to check these statements and make appropriate revisions. We look forward to the next steps with the Environmental Assessment process and to early action to complete design and construct the improved Potomac Park Levee Project.

Sincerely,

*John Fondersmith*

John Fondersmith, AICP

**Representing the Committee of 100 on the Federal City**

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**Comments on the Environmental Assessment for the  
Potomac Park Levee Project**

**by  
National Coalition to Save Our Mall  
March 2, 2009**

The National Coalition to Save Our Mall, a nonprofit organization dedicated to the protection and improvement of the National Mall, has participated in the public consultation for the Potomac Park Levee project during the past year. We submit the following comments on the EA.

Any of the proposed changes to this area of the National Mall to accommodate flood control measures will have a significant adverse effect on the historic and cultural resources involved. We understand the stated need to address the changing requirements for river flooding control at 17<sup>th</sup> Street due to updated FEMA regulations. We recommend that further development of any alternative through the NEPA and Section 106 Historic Preservation review be carefully mitigated to ensure minimum intrusion by any new structures in order to protect the landscape, views, and public access and use of this area of the National Mall.

We have stated during meetings and in testimony that Alternative 1B, NPS's Preferred Alternative, appears to be the least obtrusive solution. Our concern is that without full funding for all Phases of the project, completion of only Phase I would leave bare concrete walls exposed to view and create a jarring intrusion into the landscape, especially on the Washington Monument grounds portion. If full funding is not assured for the stone facing, alternative configurations should be considered, perhaps involving more berming of the landscape east of 17<sup>th</sup> Street.

The EA does not adequately address a number of critical factors that still need to be considered:

**The Need for a Comprehensive Flood Program that Addresses Internal  
Flooding and Flooding on the National Mall**

This project is called the Potomac Park Levee Project yet its purpose is to extend an existing levee in order to protect areas outside Potomac Park from river flooding. The Project does not protect Potomac Park and the National

Mall. Nor does it address interior flooding that was the cause of the June 2006 floods that devastated parts of the Mall, federal buildings in Federal Triangle, and Downtown.

While we understand the urgency for completing the 17<sup>th</sup> Street Levee Project that led federal and DC agencies to limit the scope of this project to river flooding of Downtown, such a piecemeal approach to an increasing problem in the nation's capital should not become the norm. A more comprehensive approach to flooding in central Washington is needed to deal with the threat of continued flooding and effects of global warming that put at risk our nation's iconic memorials and museums, public buildings, and national treasures on the Mall, as well as areas of the city affected by interior flooding.

### **Recommended Mitigation Measure: A Comprehensive Flood Plan for flood-prone areas of Downtown and the National Mall**

NCPC has announced it is working on a study of interior flooding. That is a start. But what is needed is a bigger, multi-agency effort that engages the best thinkers to pull together a comprehensive flood program that addresses both river and interior flooding for federal and District lands.

### **The Need to Adequately Identify Affected Lands and Resources**

On p. 1-1 "Purpose Of and Need For Action," the EA recognizes that the location of the Levee Project is on the National Mall. However, in identifying the "Purpose and Significance" of the affected resource on p. 1-9, the EA provides documentation for "National Mall & Memorial Parks" –an administrative unit of NPS with jurisdiction over federal lands throughout Downtown—instead of defining the Mall itself and the purposes for which it was created. This section should be supplemented to include information on the "Establishment," "Purpose," and "Significance" of the National Mall itself, which will be affected by the Project. A logical basis for identifying the Mall's boundaries and purpose is the historic McMillan Plan of 1901-2.

### **The Need for an Operations and Maintenance Plan for Coordinating Flood Control Response**

The EA identifies NPS *Management Policies 2006* as the basic NPS-wide policy document and states that NPS "will develop a program of emergency preparedness" (p. 1-20) but does not describe any existing such program for the 17<sup>th</sup> Street Levee and other areas controlled by NPS. If NPS does not have an Operations and Maintenance Plan for coordinating flood control response, it needs to develop one.

### **Other**

- On p. 1-15, "Applicable Federal Laws..." "Local Plans," the information regarding the Washington Mall Master Plan should be made to conform to p. 1 of

The Washington Mall, Circulation Systems (1973) posted at  
<http://www.nps.gov/nationalmallplan/Whatsnew.html>

- Please note that on 5-4, the name of our organization is the National Coalition to Save Our Mall, not “the Mall.”

We look forward to participating in the next steps of the consultation process.

For the National Coalition to Save Our Mall,

W. Kent Cooper, FAIA  
Vice Chair  
1000 Potomac Street, N.W., Suite 119  
Washington, DC 20009  
202-338-3442  
w.kent.cooper@verizon.net

**Keep Private:** No  
**Name:** Charles E. Karpowicz  
**Organization:**  
**Organization Type:** I - Unaffiliated Individual  
**Address:** 7915 Bressingham Drive  
Fairfax Station, VA 22039  
USA  
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### Correspondence Information

**Status:** New                      **Park Correspondence Log:**  
**Date Sent:** 03/02/2009        **Date Received:** 03/02/2009  
**Number of Signatures:** 1    **Form Letter:** No  
**Contains Request(s):** No    **Type:** Web Form  
**Notes:**

Date: March 2, 2009

Subject: Comments on the Environmental Assessment for the West Potomac Park Levee Portion of the "Washington, D.C. and Vicinity Flood Protection Project". Deadline, March 2, 2009

From: Charles Karpowicz, P.E. dam safety engineer, retired National Park Service, U.S. Department of the Interior, 703-493-8050

To: Glenn DeMarr, Project Manager; Potomac Park Levee Project EA; National Park Service-National Capital Region; 1100 Ohio Drive, SW; Washington, DC 20242

General comment: Besides the list of losses, damages, effects, etc. that would occur to cultural and natural resources during project modification, another list should be given or referenced for the losses, damages, effects, etc. that the 100-year and the 500-year floods would have in the event this portion (West Potomac Park Levee) of the Washington, D.C. and Vicinity Flood Project failed. I could not determine where this is available. Also, it would be beneficial to clearly delineate and specifically state those areas that are unprotected from the Project. This additional list should include: 1) the Metro subway system which would flood and drastically affect business and government operations for several months, 2) underground utilities, and 3) critical personal, business, and government records, collections, artifacts, etc.

Specific Comments:

From: "Potomac Park Levee EA Cover and Project Summary:

page i:

Comment: The Summary should also describe here the overall federal government flood control project which is titled: "Washington, D.C. and Vicinity Flood Protection Project", in which the West Potomac Park Levee is a portion of the Project.

Page i: "The purpose of this action is to improve the reliability of river flood protection..."

Comment: Reference should be made in the EA or other appropriate documents about the severe flooding that has and could occur again along Constitution Avenue due to the inadequate interior drainage feature of the Washington, D.C. and Vicinity Flood Protection Project even if

successful flood emergency closures are made. The flood of June 2006 is an example of this other type of flooding condition. A complete assessment should be done of all other possible forms of flooding including tidal surges. As I understand there is not an early flood warning and preparedness plan for tidal surges.

page ii

Reference: Phase 1 solutions satisfy the FEMA requirements for reliably stopping the 100-year flood at 17th Street, although it is recognized that they may be built to the congressionally authorized level of protection if funding becomes available at the time of construction and the design lends itself to this. A few Phase 1 alternatives would be built to Phase 2 elevation standards, based on specific design requirements.

Phase 2 addresses design solutions to satisfy the congressionally authorized level of protection [700,000 c.f.s.] at 23rd Street, the Reflecting Pool, and 17th Street and includes measures to enhance the visual character of the levee and the surrounding landscape.

Comment: The design levels of flood protection should be doubled checked against the NPS Director's Order 77-2: Floodplain Management (Executive Order 11988) and FEMA regulations for critical areas of protection from flooding. Considering that critical business and government property and operations including the Metro subway system would be greatly damaged from flooding above the 100-year event, the 500-year or greater flood should be selected as the project design flood.

pages ii & iii

No Action Alternative - The no action alternative represents the existing plan for the levee system and the implementation of existing NPS operations and procedures during a flood event. The current Potomac Park levee system extends from the vicinity of 23rd Street, parallel to the Lincoln Memorial Reflecting Pool in Constitution Gardens, and ends on the Monument Grounds east of 17th Street. When notification of an impending flood is received, the NPS would implement temporary closures at 17th Street (construction of a temporary earthen levee, using a combination of Jersey barriers, sandbags and soil/fill), and sandbags would be added at the 23rd Street location across Constitution Avenue if the flood would meet or exceed the 100-year level. The no action alternative does satisfy the FEMA requirement at the north edge of the Reflecting Pool levee. However, no part of the existing levee currently meets the congressionally authorized solution.

Comment:

- For the phrase, "existing NPS operations and procedures.." there is no known written, periodically reviewed, tested, and approved plan as such. Also the two following and any other similar documents should be reviewed, updated, and approved by an independent expert before, during or after the project modification. They are referenced as the "National Park Service Maintenance and Operations Manual", flood protection plan, and emergency manual" [no office, name, nor date given] and the U.S. Army Corps of Engineers, Baltimore District, "Flood Emergency Manual for Washington, D.C. and Vicinity", USACE Baltimore MD, March 2006.

- For the phrase, "no action alternative does satisfy the FEMA requirement ..." contradicts the Corps of Engineer's official rating of Unacceptable [unsafe] & the need for modification of this project. Please elaborate what is meant by this.

Also I do not know what is meant by, "north edge of the Reflecting Pool Levee". Is it the same as the West Potomac Park Levee feature of the "Washington, D.C. and Vicinity Flood Protection Project"?

Page v:

Alternative 5 – "3B" - This alternative (Phase 1) would use a concrete wall to the west of 17th Street and a stand-alone structure to the east of 17th Street, on the Monument Grounds, at a location approximately 525 feet south of the centerline of Constitution Avenue. The west wall would be arc-shaped and would extend to the southeast off of the existing walkway from Overlook Terrace. The Phase 1 structure would be built to the height of the congressionally authorized solution (18.7 NAVD), since it would be difficult to increase the height of a building at a later time. Given that, the west wall would also be built to 18.7 NAVD in Phase 1.

Comment: Alternative 5 – "3B" is my recommendation; however, as I understand, the elevation of 18.7 NAVD is the congressional authorized design top of project. How was that elevation determined and who reviewed and certified the hydrology and hydraulic analysis based upon current conditions and meeting current hydrologic and hydraulic engineering standards?

# Attachment: Public Comment/NPS Response



Potomac Park Levee System EA  
 Summary of Public Comments & Responses

No	Commentor	Comment	NPS Response
1	Lindsley Williams	As the EA notes (at page 2-43), of all the “remaining diagonal vistas” that L’Enfant’s plan provided, Virginia Avenue northwest of the site of the levee closure is the only one that survives at this time relevant to this project. I recommend that asset be examined carefully so that the north-south placement of the post-and-panel wall and the two symmetric flanking arc walls be centered not only on the axis of 17th Street but also on the axis of Virginia Avenue as it was laid out by L’Enfant to the northwest, the latter axis terminating at the “Jefferson Pier” southwest of the site and due west of the Washington Monument.	The placement of the levee abutment walls and post and panel closure resulted from extensive consultation with the NPS, DC Historic Preservation Officer, Commission of Fine Arts, and NCPC. The opening between the walls is in fact laid out symmetrically about the central Axis of Virginia Avenue. The preservation of diagonal vistas, particularly from Virginia Avenue, as well as the avoidance of adverse impacts to trees and vegetation along 17 <sup>th</sup> Street, were primary factors in the design, placement, and alignment of the 17 <sup>th</sup> Street closure structure.
2	Lindsley Williams	From the EA, it seems that the overall opening would be 140 feet, presumably meaning 70 feet either side of the mid-point centered on axis of the 17th Street right of way and, I recommend, that of Virginia Avenue as well.	Many factors were taken into account in designing the placement, width, and alignment of the levee structure, both in the distance south of Constitution Avenue as well as the setback to the east and west of 17 <sup>th</sup> Street.
3	Lindsley Williams	The final design should consider the tradeoff between an opening of greater width, its benefit to the viewshed and vistas, and the reduced cost of cladding the permanent wall.	<p>First, the setback to the south from Constitution Avenue was determined by the topography in the project area. The further south the walls were located, the greater the height of the walls. Yet, the higher the walls, the greater the impact on views and vistas. Secondly, a greater setback to the east and west from 17<sup>th</sup> Street (and consequently, a wider opening) resulted in more open views looking north on 17<sup>th</sup> Street towards the Ellipse. Yet, a greater width opening required more extensive re-grading and landscaping which resulting in a greater tree loss in the project area.</p> <p>Additionally, the greater the opening, the more post and panel would be required. The post and panel is the most expensive component of the levee system which also requires manpower in order to be erected. Based upon the required erection time per panel, the anticipated crews that would be available, and the amount of advance notice assumed during a flood emergency, as well as the potential weather conditions that such crews might have to work in, the NPS was not comfortable expanding the width of the opening.</p> <p>The balance of the loss of trees against the preservation of views and vistas was carefully considered in the design process. Alternative 1B reflects the best compromise of reducing or avoiding adverse impacts to all resource areas. It also incorporates the maximum amount of the temporary post and panel closure system that the NPS feels could be reasonably installed given the size of their workforce and the conditions that workforce may have to work in.</p>
4	Lindsley Williams	From my examination of historic records, I know that the Virginia Avenue right of way northwest of Constitution Avenue is 120 feet. I have also collected and extrapolated data on the east-west and north-south distance this right of way utilizes. From my math (which used lengths stated of	See final response to comment #1/2.

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		the sides of the triangle formed at Reservation 108) and is subject to correction, I find that the overall east-west width would be just under 211 feet (instead of 140), or about 105.5 (instead of 70) feet east and west of the centerline. Ideally, then, the post and panel system would be made that full width, but that is likely not feasible due to cost and other considerations.	
5	Lindsley Williams	Place suitable “monuments” along the two arc walls above their cap showing where the overall right of way of Virginia Avenue would have passed had that Avenue ever been developed across the Mall.	As part of the consultations with the DC SHPO and in response to comments received by the Commission of Fine Arts, the design of the exposed arc walls is purposeful in its simplicity in order to best fit into the cultural landscapes. Unfortunately “monuments” along the wall to indicate Virginia Avenue’s historic right of way would not be in keeping with character of the proposed flood walls.
6	Flood Control America (FCA)	Use of an Invisible Flood Control Wall (IFCW) would eliminate the high profile/sight restricting earth levee. By using the IFCW for the closure and extending it back up the slope on both sides, the objectionable sight restrictions are basically eliminated, since the wall profile is only in place during a flood event.	See attached revised errata. USACE provided a response on 3/24/09
7	FCA	IFCW would also eliminate the proposed embankments and the dramatic tree removal and replacement landscaping would be unnecessary.	See attached revised errata. USACE provided a response on 3/24/09
8	Committee of 100	The National Capital Framework Plan, which has been prepared by the National Capital Planning Commission, is noted on page 1-19. However, the timing of the plan should be checked. Most recently, a Draft National Capital Framework Plan was released on July 10, 2008 for a ninety-day public comment period. The final plan is being prepared.	See attached revised errata
9	Committee of 100	The “Committee of 100” is noted on pages 5-2 and 5-4 of the Environmental Assessment. The “Committee of 100” is generally well known. However, there are other organizations with the “Committee of 100” name. We would therefore appreciate if our organization’s full name could be used in the report: The Committee of 100 on the Federal City.	See attached revised errata
10	NCSOM	Please note that on 5-4, the name of our organization is the National Coalition to Save Our Mall, not “the Mall.”	See attached revised errata
11	Charles Karpowicz	The Summary should also describe the overall federal government flood control project here which is titled: “Washington, D.C. and Vicinity Flood Protection Project”, in which the West Potomac Park Levee is a portion of that project.	Since emphasis is intended to be placed on the Potomac Park Levee in the EA, references to other parts of the Levee system were omitted. However, page 1-19 of the EA refers to the Washington, D.C., and vicinity flood control projects including projects that are not analyzed in the Potomac Park EA.
12	Charles Karpowicz	Considering that critical business and government property and operations including the Metro subway system would be greatly damaged from flooding above the 100-year event, the 500-year or greater flood should be selected as the project design flood.	FEMA requires levee design to protect against a 100 year event. USACE requires compliance with the congressionally authorized solution, a flow of 700,000cfs which is comparable to and exceeds a 500-year flooding event. Alternative 1B has been designed to meet the congressionally authorized rate of flow

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13	Charles Karpowicz	“no action alternative does satisfy the FEMA requirement ...” contradicts the Corps of Engineer’s official rating of Unacceptable [unsafe] & the need for modification of this project. Please elaborate what is meant by this.	The no action alternative at the Reflecting Pool Levee satisfies the height required for protection against the 100-year event. The USACE de-certified the method of closure at the 17 <sup>th</sup> Street project location only.
14	Charles Karpowicz	I do not know what is meant by, “north edge of the Reflecting Pool Levee”.	See attached revised errata



# Attachment: Errata



**POTOMAC PARK LEVEE SYSTEM IMPROVEMENTS**  
**NATIONAL MALL AND MEMORIAL PARKS AND THE NATIONAL**  
**CAPITAL REGION**  
**ENVIRONMENTAL ASSESSMENT - ERRATA**

The following changes have been made to the *Potomac Park Levee System Improvements Environmental Assessment* (January 2009) *Finding Of No Significant Impact (FONSI)* to correct minor statements of fact and update information. Additions to the text are identified by underlines and deletions are marked by ~~strikeout~~ unless otherwise noted.

**PROJECT SUMMARY**

**1. ALTERNATIVES CONSIDERED, PAGE iii**

The description of the No Action Alternative on page iii requires clarification describing the “north edge of the Reflecting Pool Levee”; the following change was made:

The no action alternative does satisfy the FEMA requirement at the levee that runs along the north edge of the Reflecting Pool levee.

**PURPOSE AND NEED**

**2. APPLICABLE FEDERAL LAWS, REGULATIONS, EXECUTIVE ORDERS, PLANS, AND POLICIES, PAGE 1-19.**

Since the release of the Draft Environmental Assessment, a final National Capital Framework Plan has been released.

**National Capital Framework Plan (Planning Initiative)**

The *National Capital Framework Plan (Framework Plan)* is a multiagency effort led by the NCPC with the CFA. This planning effort, by both agencies, 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. A ~~preliminary~~ final plan was released in ~~fall 2007~~ March 1, 2009 accentuating the *Extending the Legacy Plan* and the *Malls and Memorials Master Plan*.

**ALTERNATIVES**

**3. ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD, PAGE 2-41**

In the process of evaluating alternatives for the 17<sup>th</sup> Street closure structure, one additional flood control system was considered but not carried forward.

## **USE OF A INVISIBLE FLOOD CONTROL WALL**

Use of an Invisible Flood Control Wall (IFCW) was considered because the system would eliminate the high profile/sight restricting earth levee since the wall profile is only in place during a flood event. USACE determined that a light weight aluminum surface mounted system (such as IFCW) would be unacceptable because of reliability issues associated with this type of system. Proper installation of this type of system is complex and requires a large the amount of hardware. There is also a risk of damage to the posts and panels due to the soft nature of aluminum. In addition, the system could fail due to improper installation of component parts, and the fact that there is an inherent vulnerability of the structural struts and stoplogs used in the system.

## **CONSULTATION AND COORDINATION**

### **4. CONSULTATION AND COORDINATION, PAGE 5-1**

In the list of project stakeholders, two organizations are incorrectly named.

- Advisory Council on Historic Preservation (ACHP)
- ~~Committee of 100~~
- The Committee of 100 on the Federal City
- District of Columbia Office of Planning (DCOP)
- District of Columbia Department of Transportation (DDOT)
- District of Columbia Historic Preservation Officer (DC HPO)
- District Water and Sewer Authority (DC WASA)
- Federal Highway Administration (FHWA)
- General Services Administration (GSA)
- ~~National Coalition to Save The Mall~~
- The National Coalition to Save Our Mall
- National Trust for Historic Preservation (NTHP)
- Office of the Deputy Mayor for Planning and Economic Development (DMPED)
- Smithsonian Institution
- U.S. Commission of Fine Arts (CFA)
- U.S. Fish and Wildlife Service (USFWS)
- Washington Metropolitan Transportation Administration (WMATA)

### **5. CONSULTATION, PAGE 5-2**

On the list of consulting party agencies and organizations, two organizations are incorrectly named.

- ACHP
- CFA
- ~~Committee of 100~~
- The Committee of 100 on the Federal City
- DCOP
- DC HPO
- DC WASA
- GSA
- ~~National Coalition to Save The Mall~~
- The National Coalition to Save Our Mall
- National Parks Conservation Association
- NTHP
- Smithsonian Institution
- Washington DC Guild of Professional Tour Guides

## **6. LIST OF AGENCIES AND ORGANIZATIONS WHO WILL BE NOTIFIED OF THE PUBLICATION OF THE EA**

- Alliance for Global Justice
- American Hiking Society
- American Institute of Architects
- American Society of Landscape Architects
- Architect of the Capitol
- Capitol Hill Business Improvement District
- Casey Trees
- ~~Committee of 100~~
- The Committee of 100 on the Federal City
- Councilmember Carol Schwartz
- Councilmember Jack Evans
- Councilmember Phil Mendelson
- Cultural Tourism DC
- DC Preservation League
- District of Columbia Chamber of Commerce
- Downtown DC Business Improvement District
- Eastern National
- Eisenhower Memorial Commission
- Equal Honor For All
- Howard University
- Landmark Services Tourmobile, Inc.
- Leadership Arlington
- Martin Luther King Jr. Memorial Organization
- Maryland-National Capital Park and Planning Commission
- National Association for Olmsted Parks
- ~~National Coalition to Save the Mall~~
- The National Coalition to Save Our Mall
- National Parks Conservation Association
- Organization of American States
- Penn Quarter Neighborhood Association
- Smithsonian Institution
- The National Park Foundation
- Trust for the National Mall
- United States Navy Memorial Organization
- Urban Land Institute
- Washington Area Bicyclist Association
- Washington DC Guild of Professional Tour Guides
- Washington Post
- Washington Smart Growth Alliance
- World Monuments Fund