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National Mall and Memorial Parks
Washington, D.C.

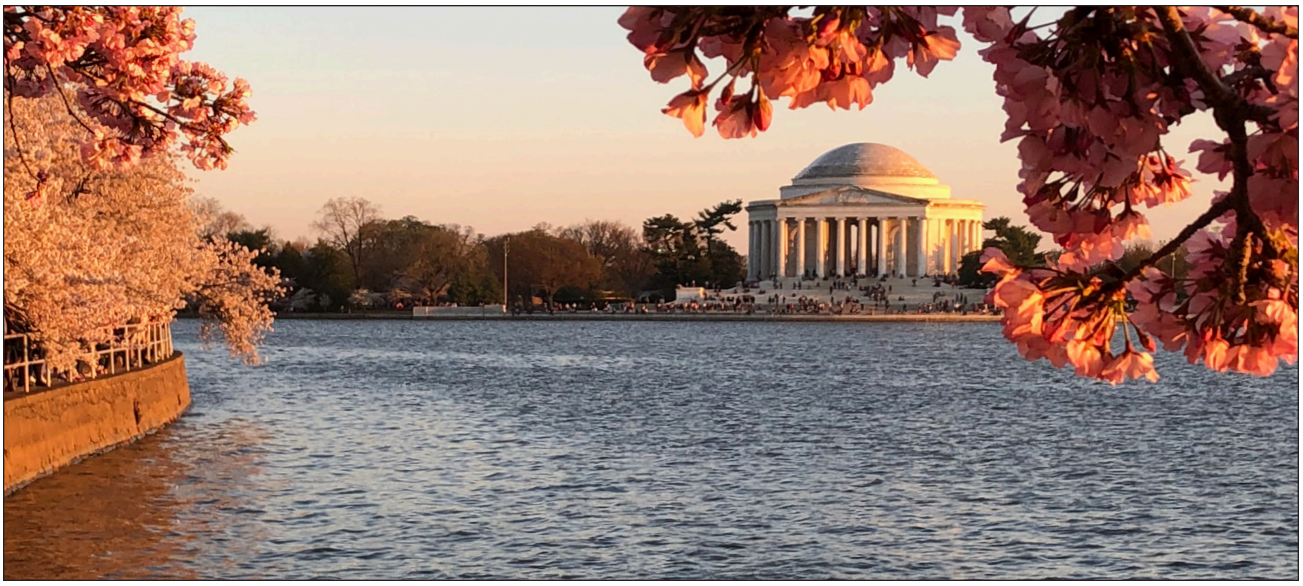
Cultural Landscape Report
Tidal Basin

June 2020

Resource Stewardship and Science
Division of Cultural Resources, Region 1 - National Capital Area

Cultural Landscape Report
Tidal Basin

National Mall and Memorial Parks
Washington, DC



Parts 1 and 2

Landscape History ❖ Existing Conditions ❖ Analysis and Evaluation ❖ Treatment

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2020

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Washington, DC

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Title Page: View of the Thomas Jefferson Memorial during the National Cherry Blossom Festival

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Executive Summary

The Tidal Basin is an iconic American landscape and an important component of the Washington, DC monumental core. First engineered in the 1880s, the basin is a major structure within the national capital's park system and urban plan. The creation of the basin landscape helped fulfill the design intent of the L'Enfant and McMillan Plans by combining commemorative, civic, and recreational uses in one complex park. Managed by multiple government agencies over its history, the landscape's spaces and activities help revitalize shared civic values for millions of people, including local residents and visitors. The landscape's centerpiece is the gently curving, multi-lobed, gated, water management basin. In both form and function, the basin provided a structure for the designed park and memorial elements that would follow.

Today, the Tidal Basin suffers from challenges related to flooding and other environmental issues, high visitation, and increasingly complex transportation systems in and around the cultural landscape. Previous National Park Service studies documented general treatment goals for the landscape, namely: improve the sense of arrival at the basin and the recreational experiences throughout the landscape; create safer circulation systems for visitors; and respond to regular flooding by rehabilitating the sea wall and related walkway.

The cultural landscape report project team identified other specific treatment challenges during the kick-off meeting. These challenges relate to flooding, viewsheds, vegetation (particularly cherry tree management), landscape maintenance for events, multimodal circulation, security, and small-scale features. In response, the cultural landscape report provides guidelines to build flexible resiliency into the long-term management of the landscape. Resilient systems not only help a cultural landscape recover quickly from disasters such as major floods, but also establish management and maintenance practices that support the long-term protection of the landscape's overall character, function, and environmental health. Cultural landscapes such as the Tidal Basin may require a high level of treatment flexibility to build resilience. Strategies may include planting more diverse vegetation, establishing designed flood zones, improving soils, rotating land use areas, elevating or relocating key designed resources, or other practices.

During the project's treatment workshop, the team addressed questions such as:

- What is the best performance standard for flood protection?
- What kind of coordination is required to manage changes to the sea wall and adjacent memorials, trees, and other features?
- Should the park diversify the cherry tree collection with native cherry species?
- Should the park designate or design new flood zones?
- Should the National Park Service remove parking from the White House vista corridor?
- What kind of soil treatments would help mitigate event-related damage to cherry trees and lawn?
- How can the park minimize the proliferation of social trails?
- Should the park consider providing additional in-basin boat access?
- What is the best way to enhance accessibility to the basin and memorials?
- What areas of the landscape could accommodate additional visitor amenities, such as restrooms?
- Do the inlet and outlet gates function as designed and could they be updated to provide better flood protection?

This cultural landscape report is intended to provide a broad set of design guidelines rather than specific treatment alternatives. The guidelines will inform treatment discussions for future planning documents and will also be an essential part of the park's efforts to manage and maintain the historic landscape within a rapidly changing environment.

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Introduction

INTRODUCTION

First built from the silted channels and mud flats of the Potomac River in the late 1800s, the Tidal Basin is today a complex cultural landscape within the National Mall and Memorial Parks. Its dual role as a 250 million gallon flushing basin for the Washington Channel and the centerpiece of the nation's capitol parkland has influenced its construction and continued use. Defining the landscape are a sea wall, the basin, bridges, roadways, the city's famed collection of cherry trees, hollies and other vegetation, important memorials, walkways, and open recreation areas. Designed vistas across the landscape visually and thematically connect many of the National Mall's key commemorative and governmental buildings, including the Thomas Jefferson Memorial, Washington Monument, Lincoln Memorial, United States Capitol, White House, Martin Luther King, Jr. Memorial, and Franklin Delano Roosevelt Memorial. As a part of the National Mall, the Tidal Basin landscape receives millions of visitors every year, many of whom visit the landscape each spring to participate in the National Cherry Blossom Festival, a multi-week celebration that commemorates the 1912 gift of 3,000 cherry trees from Tokyo, Japan to the city of Washington, DC.

MANAGEMENT SUMMARY

According to *Director's Order 28, Cultural Resource Management Guideline*, a cultural landscape report (CLR) "is the primary guide to treatment and use of a cultural landscape…Typically interdisciplinary in character, it includes documentation, analysis, and evaluation of historical, architectural, archeological, ethnographic, horticultural, landscape architectural, engineering, and ecological data as appropriate. It makes recommendations for treatment consistent with the landscape's significance, condition, and planned use" (National Park Service 1998a). This CLR addresses the general treatment guidance for the Tidal Basin area—with an emphasis on vegetation management, pedestrian/bicycle access, resiliency, and safety enhancements, among other issues—to inform future design and contemporary maintenance requirements.

This CLR builds on a foundation of extensive studies, listed below. These documents provide evaluations of the landscape's significance according to the criteria in the National Register of Historic Places program, identify its contributing features, assess its integrity, and establish planning goals. These key documents include:

- *National Register of Historic Places Nomination: East and West Potomac Parks Historic District* (National Park Service, 1972, updated 2001). East and West Potomac Parks comprise a portion of the monumental core of Washington, DC and are situated roughly between the Potomac River and the grounds of the Washington Monument. The nomination provides an extensive historical context for the parks in general and for the Tidal Basin in particular.
- *National Register of Historic Places Nomination: National Mall Historic District* (National Park Service, 1981, updated 2016). The nomination documents the "oldest and most iconic public lands in our nation," expanding previous documentation to address new boundary information, reevaluate the historic context of the property, and reassess the significance of its resources. West Potomac Park is a primary component landscape of the National Mall Historic District.
- *Cultural Landscape Inventory, Thomas Jefferson Memorial* (National Park Service, 2004, updated 2015). In addition to documenting the significance, period of significance, and historic context themes associated with the memorial, the cultural landscape inventory identifies the contributing landscape features for the property.
- *Cultural Landscape Inventory, Washington Monument Grounds* (National Park Service, 2009). The cultural landscape inventory documents the significance, physical history, landscape characteristics and features, and integrity of the landscape, which extends to the Tidal Basin on its southern end.
- *Historic American Landscapes Survey, Tidal Basin. Historic American Landscapes Survey DC-59* (National Park Service, 2018). Composed of extensive historical information and detailed drawings, the Historic American Landscapes Survey provides a standard two-part narrative, including historical information (site physical history and historic context statement), and analysis (landscape description summary and identification of character-defining features). The Historic American Landscapes Survey expands the list of character-defining features to include more landscape elements than had been identified in previous studies.
- *National Mall Plan* and associated background reports (National Park Service, 2007-2010). The plan reiterates the purpose and significance of the National Mall and identifies several park management problems that require remedy to retain the landscape's important uses and character. The background studies include *Best Management Practices Used at Designed Landscapes in Washington, D*C and *Best Management Practices Used at Urban Parks in National and International Locations*. Management topics include designing to create a sense of place, controlling pedestrian movement, planning for large events, enhancing security, providing effective wayfinding, undertaking sustainable maintenance, and other issues.
- *Foundation Document, National Mall and Memorial Parks* (National Park Service, 2017). The document defines the significance for the park and identifies its fundamental resources and values. These fundamental resources and values are the National Mall, an enduring symbol of the country; the dispersed urban landscape components of the L'Enfant Plan; gathering spaces for civic and special events; commemorative spaces and events; and urban recreation. The document also lists the interpretive

themes that visitors should understand after experiencing the park. The associated analysis of the park's resources and values identifies the conditions, trends, threats, opportunities, and data and planning needs for the park; these inform treatment guidelines for the Tidal Basin.

The National Park Service provided graphic data that illustrates the historic and existing conditions of the landscape, including:

- NPS-NCA Regional GIS data;
- 2018 CAD data and associated printed drawing sheets for the Tidal Basin landscape, provided as part of the Historic American Landscapes Survey submission; and
- Historic photographs, drawings, maps, and plans included with the studies listed above.

PURPOSE OF THE REPORT

The Tidal Basin is an important component of the National Mall and Memorial Parks landscape and the primary purpose of the CLR is to support the short- and long-term stewardship of the historic property through the development of broad treatment guidelines.

Landscape treatment guidance provided in this CLR is consistent with other National Mall and Memorial Parks initiatives and goals and National Park Service standards for the protection of cultural landscape resources. The treatment information establishes general guidelines for the resilient management of cultural resources, addressing landscape maintenance; management for events and increased visitation; pedestrian access; flooding; security; vegetation protection and replacement; viewshed encroachment; and the maintenance of small-scale features.

PROJECT LOCATION AND SETTING

The project area encompasses 212 acres within the National Mall and Memorial Parks in southwest Washington, DC. The basin is south of the Washington Monument Grounds and the Reflecting Pool in West Potomac Park and east of the Potomac River (Figure 1). The Tidal Basin area includes the constructed water basin (composing approximately half of the entire project area); the John Paul Jones, Thomas Jefferson, Franklin Delano Roosevelt, George Mason, and Martin Luther King, Jr. Memorials; recreation fields; roads; walkways; structures such as bridges, walls, and inlets; the premier collection of Japanese cherry trees; and other landscape features. The Tidal Basin landscape is connected to systems and features that extend through the broader Washington, DC area, including natural

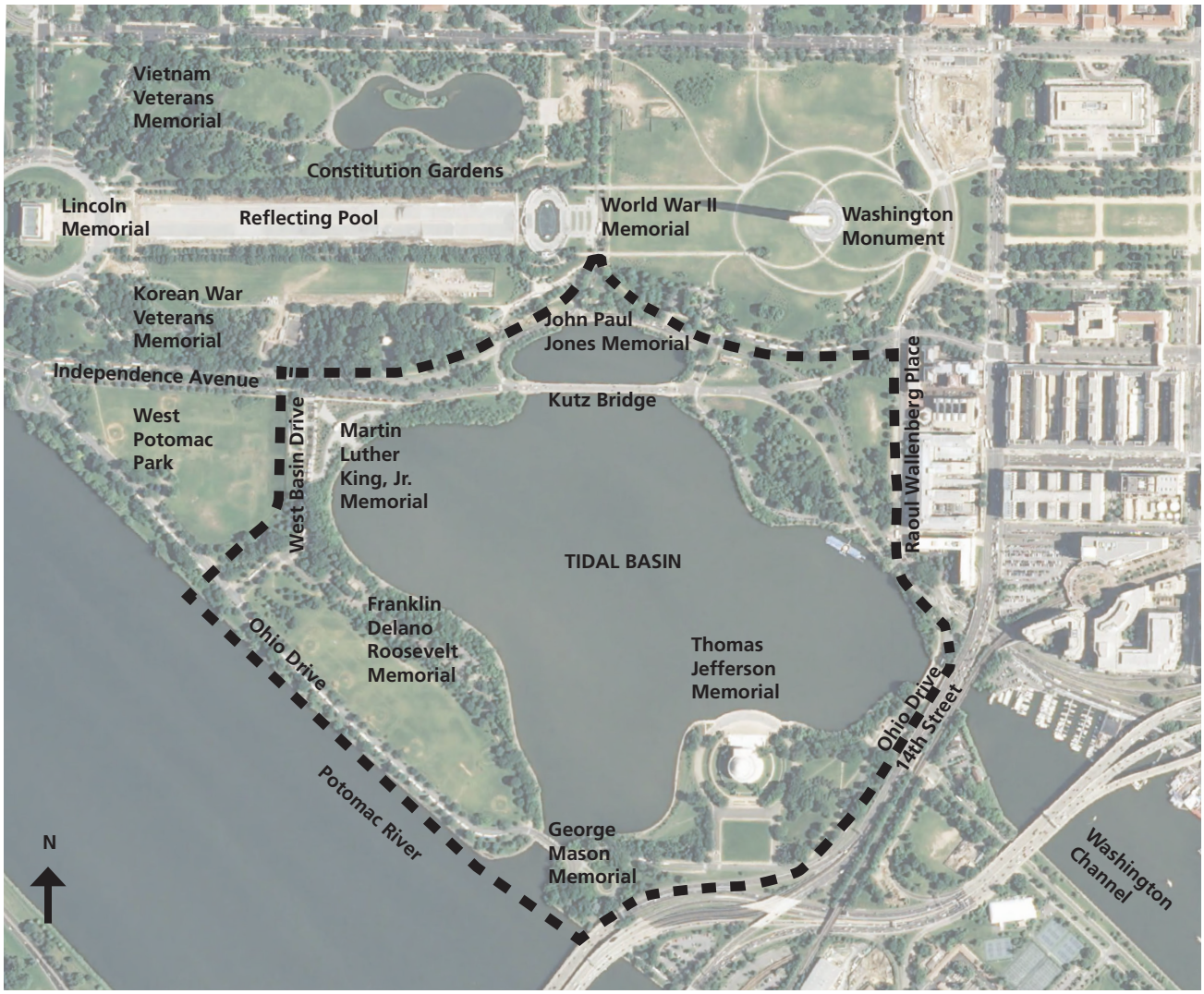


Figure 1. Project study area within the context of the National Mall.
(Source: Google Earth)

systems such as the Potomac River, views and vistas to the Lincoln Memorial and other key monuments, and road and path networks.

STUDY BOUNDARY DESCRIPTION

The project area is generally bounded by Independence Avenue SW to the north, Raoul Wallenberg Place SW and Ohio Drive SW to the east, 14th Street SW/US Highway 1 to the south, and the Potomac River and West Basin Drive SW to the west. This CLR will not address the Martin Luther King, Jr. and Franklin Delano Roosevelt Memorial landscapes in detail as part of the study but will discuss improving physical and visual connections between these memorial landscapes and the larger Tidal Basin study area.

SCOPE AND METHODOLOGY

SCOPE OF WORK

The scope of work for the CLR calls for the completion of an introductory narrative that summarizes the property's historic context and evolution, existing conditions, significance, and integrity; and the development of treatment guidelines. The work for this CLR is focused on the steps required to achieve the project's historic landscape preservation goals and is based on best preservation management theory and practice.

The CLR documents the property's existing conditions and compares them to known historical conditions from the periods of significance. Extensive documentation of the landscape's history and characteristics is available in primary resources such as maps and plans, photographs, and narrative descriptions; and secondary resources such as the documents and reports described previously. The analysis and evaluation are grounded primarily in the direction provided by the National Register of Historic Places program. The information developed through the analysis and other programming and planning, such as the *National Mall Plan*, forms the basis for landscape treatment guidance.

METHODOLOGY

The standards used to guide the appropriate content and format for the CLR have been established in several National Park Service documents that include the following. Full citations are available in the bibliography at the end of this report.

- *A Guide to Cultural Landscape Reports: Contents, Process, and Technologies*
- Denver Service Center Cultural Landscape Report Standards
- *Director's Order 28: Cultural Resource Management Guideline*, Chapter 7- Management of Cultural Landscapes
- The Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*
- The Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*
- National Park Service Management Policies
- Architectural Barriers Act Accessibility Standards for Federal Facilities and for Outdoor Developed Areas
- *Best Management Practices Used at Designed Landscapes in Washington, DC; A Background Report for the National Mall Plan*
- *Best Management Practices Used at Urban Parks in National and International Locations; A Background Report for the National Mall Plan*

Specific tasks undertaken for the project include:

- Project Kick-off Meeting: The project kick-off meeting occurred on October 3, 2018. The meeting participants included staff from the National Mall and Memorial Parks, National Capital Region office, and the CLR team. The participants discussed the project background, goals for the CLR, treatment opportunities and constraints, and then visited the project site.
- Document Review: National Park Service staff provided the CLR team with the documents and map data described above.
- Field Investigations: The CLR team, accompanied by National Park Service staff, visited the project site on October 18, 2018 to document the landscape through photographs and field notes. The CLR team has undertaken additional field investigations throughout the winter and spring of 2018-2019.
- Prepare Draft CLR Part 1: The CLR team summarized the most recent information about the project site, including the National Park Service planning data and history and evaluation of the cultural landscape.
- Treatment Development: The CLR team prepared draft guidance for the management of the landscape's historic resources. The treatment options focused on key management and maintenance issues identified during the kick-off meeting.
- Treatment Workshop: National Park Service staff, a member of the Trust for the National Mall, and the consultant team met to discuss the cultural landscape's complex treatment issues and options on July 24, 2019.
- Complete CLR (Drafts and Final): The CLR team refined the treatment guidelines for National Park Service review based on the discussion during the treatment workshop. A draft CLR, complete with Parts 1 and 2 information, was formatted in the standard National Park Service template and printed in draft and final versions.

SUMMARY OF FINDINGS

The Tidal Basin is a historically significant landscape within the capital city, and is associated with late nineteenth and twentieth century urban engineering, park and recreational development, beautification, and the commemoration of important figures and events in American history. At the nexus of the city's monumental core and national parks, the Tidal Basin is documented as a contributing resource for multiple properties listed in the National Register of Historic Places. The L'Enfant Plan of the City of Washington, DC, National Mall, and West Potomac Park historic districts include the Tidal Basin as an important contributing resource. The basin also provides a spatial connection for significant landscape resources around its perimeter: the city's iconic cherry tree collection, major national memorials, and other vegetation, artwork, bridges, views, recreation and circulation resources. The Tidal Basin receives visitors from around the country and the world and accommodates multiple special events throughout

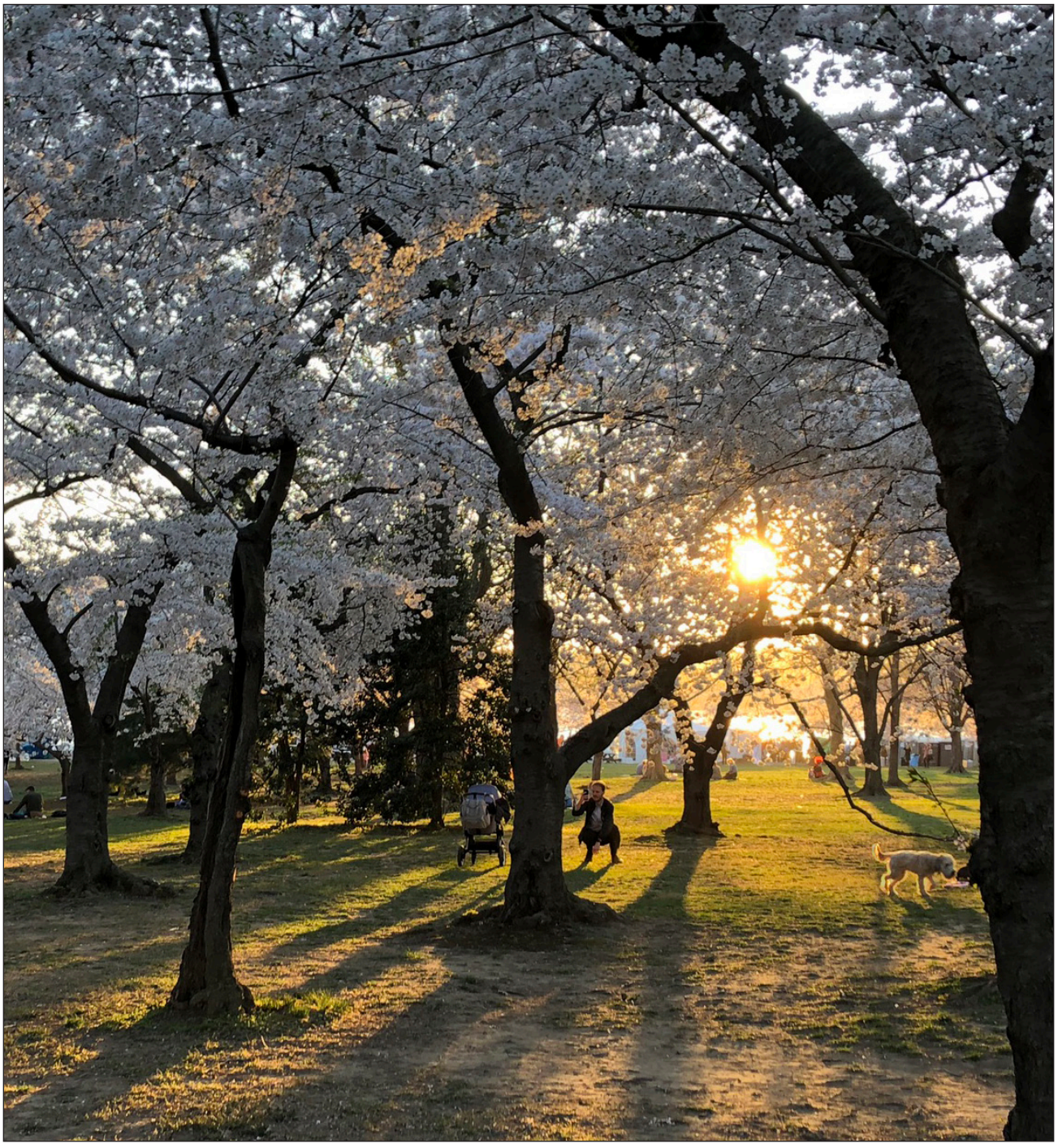
the year. In addition to commemorative events, rallies, and other civic activities, the basin hosts the National Cherry Blossom Festival each spring.

Although the cultural landscape retains integrity to its period of significance, defined as 1882-2011, its integrity is threatened by a very high level of use and by ecological change, primarily more frequent flooding. While most of the landscape's key historic features survive, they experience increased inundation, heavy traffic, and deferred maintenance. Limited site lighting and inaccessible circulation systems also challenge visitors to the park landscape.

Analysis suggests that the landscape could be organized into specific management zones based on integrity, significance, and use; these zones structure the presentation of related treatment guidelines. The zones include: 1) the basin's water resources and associated features and uses; 2) the basin perimeter and its related landscape features such as the sea wall, walkway, and cherry trees; 3) the memorial landscapes and primary vistas; and 4) other park and circulation resources. All of the features and systems within the cultural landscape are tightly interwoven, complicating short- and long-term treatment.

The treatment for the Tidal Basin recognizes that preserving current conditions is not a sustainable option, given the intense threats to the landscape. Treatment is therefore focused on preserving historic resources while building resiliency, sustainability, and accessibility into the cultural landscape through a rehabilitation approach. Broad guidelines suggest treatment considerations for managing landscape change. These guidelines will inform future visioning and master plans for the basin and the related resources. They address the structural elements of the basin itself, water management, vegetation (especially the cherry trees, lawn, and other trees and plantings), circulation systems, accessibility, and safety.

Future studies may provide additional historic context and guidelines for selected issues. New information about twentieth century beautification efforts, particularly those that extended into the mid-century decades, may inform appropriate treatment strategies for important features within the landscape, such as the Floral Library and other distinctive plantings. Other heritage documentation, master planning, and engineering studies may address the future needs of the park landscape.



PART 1

Landscape History Summary

The information provided in this chapter summarizes the extensive information about the Tidal Basin's historic context and landscape evolution available in a multitude of sources. Detailed information about aspects of the landscape's development is available in the documents listed in the bibliography, in particular:

- Historic American Landscapes Survey documentation for the Tidal Basin (National Park Service, 2018)
- National Register of Historic Places nomination for East and West Potomac Parks (National Park Service, 1973, updated 2001)
- National Register of Historic Places nomination for the National Mall (National Park Service, 1981, updated 2016)
- Cultural Landscape Inventory documentation for the Thomas Jefferson Memorial (National Park Service, 2004, updated 2015)
- Cultural Landscape Inventory documentation for the Washington Monument Grounds (National Park Service, 2009)

Historic maps, plans, and other drawings are housed at the Library of Congress Geography and Map Division. Additional photographic documentation is housed at the Library of Congress in the following collections:

- Andrew J. Russell Military Installations, Activities, and Views
- Harris & Ewing Photograph Collection
- Detroit Publishing Company Photograph Collection
- Historic American Engineering Record
- Office of War Information Photograph Collection

The concise landscape history narrative below is supplemented by illustrations and a table listing events in the landscape's history.

INTRODUCTION

The land reclamation and engineering that created the Tidal Basin has served many historically significant roles in the city of Washington, DC: it was a "vital sanitary measure" and flood control device, it enhanced river navigation, and ultimately, it created "vast new acreage" for urban development along the city's riverfront (KressCox Associates 1986). Sophisticated engineering for basic waterfront improvements merged with an elegant approach to modern city

building that shaped the nation's capital in what would become the nexus of its recreational and commemorative landscape.

The creation of the Tidal Basin and its park landscape fits within a nationwide context of major urban park creation and associated engineering efforts. The goal to sanitize, expand, and beautify increasingly polluted, dense, and urban landscapes drove much of the movement. Inspired in part by the design and construction of Central Park in New York City in 1857-1858, cities throughout the United States embarked on ambitious efforts to establish designed public landscape spaces that served multiple roles. They served the recreational needs of citizens, provided a natural respite from the built urban environment, and wrested usable space from ecologically dynamic, contaminated, and seemingly uninhabitable landscapes. Achieved through the ambitions and skills of engineers, landscape architects, and architects, major park development and land reclamation projects employed the latest engineering and construction techniques. Often focused on improving noxiously dirty, stagnant or flooding urban waterways, engineers—many of whom worked for the US Army Corps of Engineers—developed new dredging, shoring, bridging and gating techniques to manage the urban edge conditions that posed a danger to citizens. The parks' designs often employed a picturesque design style popular from the mid-nineteenth to early-twentieth centuries in Europe and the United States. Landscape architects proposed gentle curvilinear paths, divided road systems, naturalistic plantings and topography, controlled views and vistas, ornate architectural features such as bridges, memorials, and garden follies, and often a central formal space defined by features such as fountains or elm allées for new public parks.

Related park design efforts included, for example, the development of San Francisco's Golden Gate Park, claimed from the shifting sandy dunes of what was then known as the "Outside Lands" by engineer William Hammond Hall in 1870-1871. Boston followed soon after with the engineering of the Muddy River in 1878-1880; designed by Frederick Law Olmsted, Sr., the project evolved into an "emerald necklace" of parks around the city that transformed a series of waterways, such as the Back Bay Fens, into usable parkland and flood control space. The Chicago World's Columbian Exposition in 1893—with its Beaux Arts architecture and picturesque landscape—represented the era's apotheosis of urban public space design. Complete with neoclassical architecture, engineered canals and lagoons, and lush landscape, the Exposition represented a key event in the City Beautiful movement. This movement was a progressive reform campaign that focused on the ability of architecture, landscape architecture, art, and urban planning to not only promote beauty and grandeur within the nation's cities,

but to reinforce social order within a rapidly growing and changing population. The City Beautiful movement inspired park and public space design throughout the United States during the late nineteenth and early twentieth century and influenced the design of the Tidal Basin.[1]

The Tidal Basin landscape is the result of stewardship and maintenance by several public agencies (Table 1). The US Army Corps of Engineers undertook major dredging and reclamation efforts at the edge of the Potomac River between 1868 and 1901. Beginning in 1901, the Army Corps of Engineers transferred the land to the Office of Public Buildings and Grounds, parcel by parcel, until 1909 when the entire area was under their jurisdiction. After 1909, the Office of Public Buildings and Grounds led commemorative and beautification efforts to create a park from the reclaimed land. In 1925 the Office of Public Buildings and Grounds was replaced by the Office of Public Buildings and Public Parks of the nation's capital and in 1933 was reorganized under the Department of the Interior's National Park Service, which manages the study area today.

Table 1. Tidal Basin landscape owners/managers.

OWNER/MANAGER	KEY DATES
US Army Corps of Engineers	1897-1901
War Department Office of the Chief Engineer, administering the Office of Public Buildings and Grounds	1901-1925
Office of Public Buildings and Public Parks of the National Capital	1925-1933
Department of Interior, Office of National Parks, Buildings and Reservations	1933-1934
National Park Service	1934-present

URBAN PLANNING CONTEXT OF THE CAPITAL CITY

The city of Washington, DC was established by the federal Residence Act of July 16, 1790, officially titled *An Act for Establishing the Temporary and Permanent Seat of the Government of the United States*, that created the permanent seat of the United States government in a ten mile square of land, with the wide mouth of the Potomac River and Eastern Branch (now known as the Anacostia River) running along part of its perimeter. The marshy shoreline of the Potomac River followed the western edge of what would eventually become the Tidal Basin landscape.

1 The City Beautiful movement was an important, complex, and controversial movement that won't be described in detail in this CLR. See *Designing the Nation's Capital: The 1901 Plan for Washington, DC* online at https://www.nps.gov/parkhistory/online_books/ncr/designing-capital/index.html for additional information.

Soon after the capital was established, artist and engineer Pierre Charles L'Enfant and later Andrew Ellicott were assigned the task to design the capital city on the land above the Potomac and Anacostia Rivers (Figure 2). L'Enfant developed a baroque plan for the city that intertwined multiple spatial, transportation, and natural systems: the landscape's topography and waterways were overlain by ceremonial spaces, a background grid of streets, and broad, radiating avenues. The hierarchy of ceremonial spaces privileged the new country's seats of legislative and executive power: Congress and the "President's House," today's White House. The plan assigned the location of many monuments, memorials, civic structures, and other significant landscape spaces to the topographic high points. L'Enfant's plan for the monumental core of the capital city identified the area that would become the Tidal Basin as a significant cardinal point of the urban design. The President's House lay just north of the Potomac Flats, and the public space between the President's House and the water formed a north-south axis that intersected the east-west axis created by the placement of the Capitol. This proposed north-south axis was never fully realized—in part because of the off-center placement of the Washington Monument—until the establishment of the Thomas Jefferson Memorial at the Tidal Basin many years later (National Park Service 2018a).

Approximately a hundred years after its founding, the city of Washington, DC embarked on an urban park planning process that was heavily influenced by the ideals of the City Beautiful movement and the World's Columbian Exposition. The 1902 McMillan Plan, formally titled *The Report of the Senate Park Commission; The Improvement of the Park System of the District of Columbia*, was a planning document developed for the city's monumental core and park system. The Commission, composed of Frederick Law Olmsted, Jr., architects Daniel Burnham and Charles McKim, sculptor Augustus Saint-Gaudens, and Congressional liaison Charles Moore, was led by Chairman Senator James McMillan of Michigan. The McMillan Plan (Figure 3) proposed a unified and comprehensive modern park system that would "complement the neoclassical grandeur of the monumental core so that the two elements of the plan would together form 'one great composition designed to comprehend the entire District of Columbia.'" The plan re-emphasized the great cross axes of the L'Enfant Plan, proposing a formal framework of greenswards, tree allées, monumental structures, water features, and roads, linked by long structured vistas. The plan illustrated grand baroque design principles and also a sensitivity to the local conditions that resulted in proposals for shady tree-lined landscape spaces and multiple water features. The proposed water features—fountains, pools, and canals among others—provided value as environmental improvements and public health amenities in addition to their aesthetic qualities (US Commission on Fine

Figure 2. Detail from L'Enfant's Plan of the City of Washington, 1791.

The plan highlights the city's monumental core and cross axes on the shore of the Potomac River. (Source: Library of Congress)

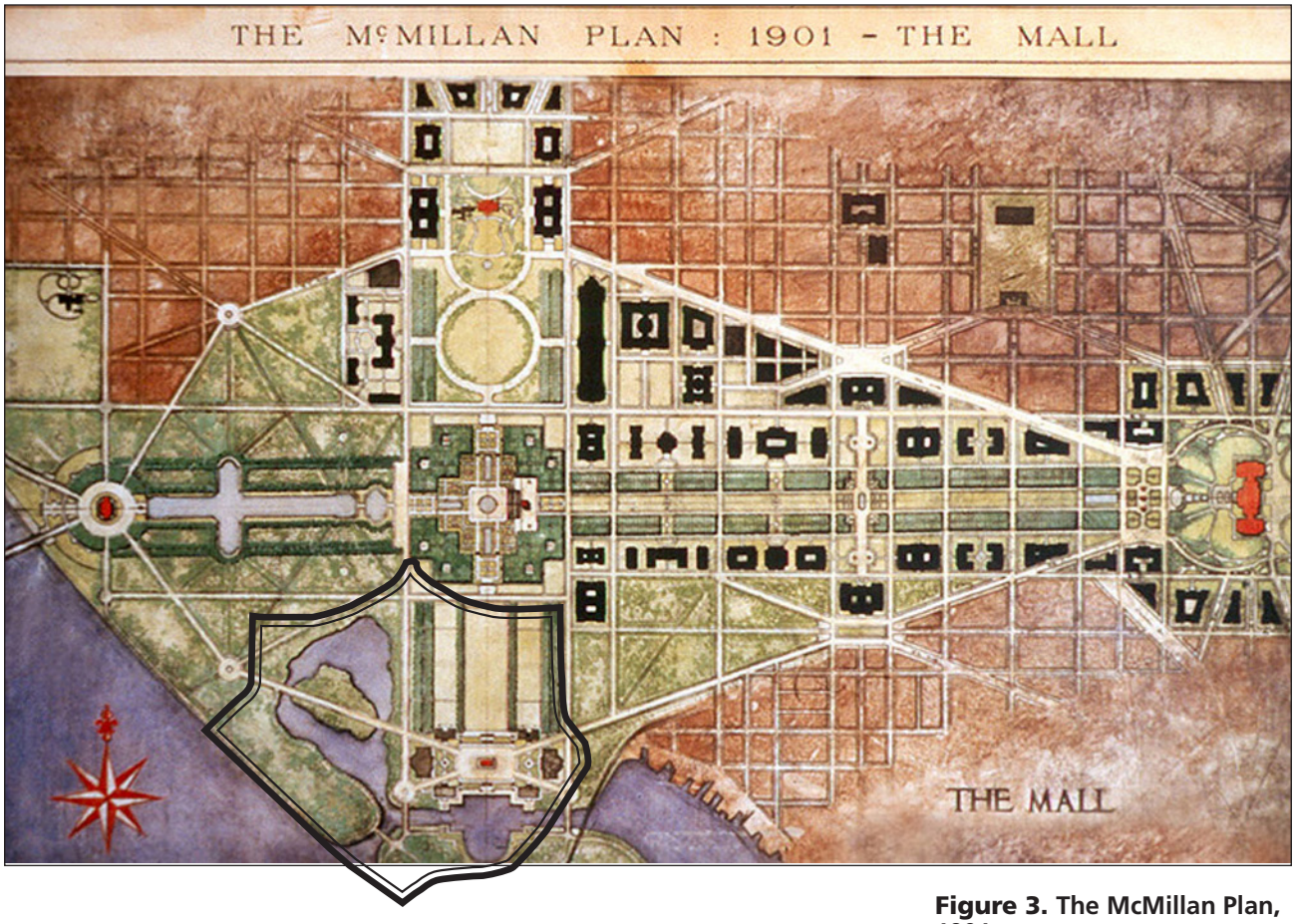


Figure 3. The McMillan Plan, 1901.

The plan illustrates the Mall and defines important symbolic places and their spatial relationships. These places would become the location of memorials in the following decades. The Tidal Basin study area is outlined in black. (Source: National Mall Coalition)

Arts 2006). Among its many recommendations, the plan integrated the recently-reclaimed Tidal Basin as the southernmost point of the kite-shaped monumental core plan (National Park Service 2018a). The plan suggested the creation of an extensive "Washington Commons" recreational area along the south and west side of the Tidal Basin in what is now West Potomac Park. The commons housed a variety of public recreational facilities and activities, such as bathing and swimming facilities along the river's edge, athletic fields, several gymnasiums, and a stadium (National Park Service 1999). Some of these facilities were later incorporated into plans for East and West Potomac Park.

Both the L'Enfant Plan and the later McMillan Plan codified the urban design framework for the city, sustaining the political symbolism of the capital and the designed public spaces for its citizens. The urban system—the avenues, vistas, greenswards, parkways, monuments, and waterfront parks of which the Tidal Basin is a part—represents a uniquely flexible yet enduring and significant design.

TRANSFORMATION OF THE POTOMAC FLATS, C. 1800-1881

Throughout the nineteenth century, the Potomac Flats became a large, shallow, increasingly polluted marsh. The flats formed below Georgetown where the river widened and turned, causing sediment to drop and accumulate on the river bottom (National Park Service 1999). As agricultural and urban development converted the former natural wetlands around the city into a deforested and hardened landscape—with an increasing number of river-side ports and open sewers—the flats became more susceptible to regular flooding, sedimentation, and pollution. Each summer, the flats transformed into a "garbage-clogged area of muck and mosquitos." Mud and five-feet-high stands of eel grass made navigation through the city's waterways increasingly difficult, which threatened the port economies of the city (KressCox Associates 1986).

The earliest transformation of the wetland began after the 1808 Congressional Act approved "the erection of a bridge over the river Potomac," resulting in the construction of the Long Bridge and a solid earth causeway.[2] Mud and fill from the dredging of the river channels and from excavation under Dupont Circle were used to build the bridge approach on the shoals of the Potomac River's north shore, directly south of the Tidal Basin study area (National Park Service 2001). This effort pushed the Potomac River shoreline west, and outward, from

2 The Long Bridge was located near the CSX Transportation railroad bridge that runs alongside the current alignment of 14th Street. The current bridge was constructed over the Potomac River in 1904.

the base of the Washington Monument. Dredging and deposition of fill and mud continued through the following decades. In 1866, Civil Engineer Alfred Landon Rives submitted plans to reclaim 166 acres of land near the Long Bridge. In the 1870s, the US Army Corps of Engineers, headed by Major Nathaniel Michler, dredged the Potomac River to improve access for ship traffic along the channels, and deposited material into the tidal flats along the Washington waterfront. By 1875, Sylvanus Thayer Abert proposed filling in the Potomac Flats with the dredged material to reclaim land and ensure navigability of the river through the shipping channels (National Park Service 1996a) (Figure 4).

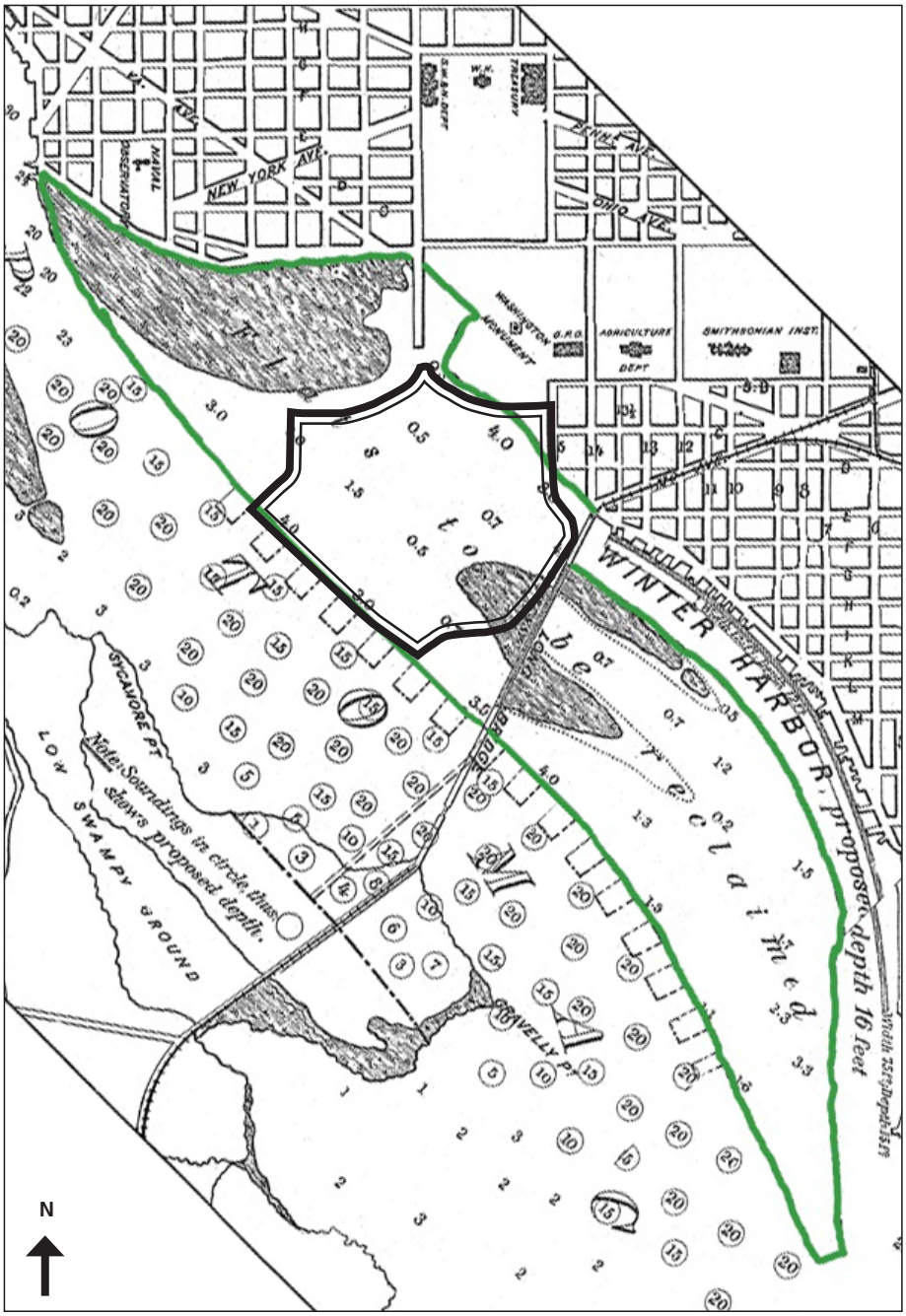


Figure 4. Map of the harbors of Washington, DC, 1880.

This map shows the "flats to be reclaimed" outlined in green, and the Tidal Basin study area outlined in black southwest of the Washington Monument.
(Source: Historic American Landscapes Survey, Historic American Landscapes Survey DC-59; US House Executive Documents, 46th Congress, 3d Session, Part I, Appendix H to the "Report of the Chief of Engineers," Report of S.T. Abert, June 30, 1880.)

The Washington Channel became a focus of engineering work. The channel was a critical waterway for the nation's capital city (Figure 5) but often filled with mud and other debris, necessitating regular dredging to maintain its flow (National Park Service 2001). In 1879, Major W. J. Twining, the first Engineer Commissioner of the District of Columbia to be appointed under the city government reorganization of 1878, proposed advancing the land area of the city westward into the Potomac River and closing the Washington Channel at its upper end, making it a tidal arm of the river. The plans for the channel proposed that it flow parallel to the Potomac River and empty into the Anacostia River. The plans also recommended the addition of four flushing basins equipped with automatic gates. Water from the Potomac River would fill the basins during the waxing tide and then discharge into the Washington Channel on the waning tide, sweeping mud and sand through the channel and keeping the waterway clear (National Park Service 2001; National Park Service 2018a). Twining's plans for the Tidal Basin placed it upstream from the channel at the site of the Potomac Flats. He furthermore proposed the basins be treated as ornamental features of a large new park area for the city of Washington, DC, the first formal proposal to use the reclaimed flats for recreational purposes (National Park Service 2018a; KressCox Associates 1986).

INITIAL CONSTRUCTION AND DEVELOPMENT OF THE TIDAL BASIN LANDSCAPE, 1882-1911

Congress allocated more than two million dollars for substantial modifications of the Potomac River in response to the devastating freshet of February 1881, in which flood water overflowed the flats and reached the foot of Capitol Hill (KressCox Associates 1986). The act called for a "tidal reservoir to be provided with automatic inlet and outlet gates" and for the flats to be reclaimed to a height of three feet above the recent flood level (National Park Service 2001).

The resulting engineering and construction widened and deepened the river's channels; reclaimed the tidal flats by depositing the material dredged from the channels; cleared the channels of sewage; and established new harbor lines. The US Army Corps of Engineers performed the dredging, reclamation, and basin construction work at the same time. The dredging and wall construction (Figure 6) were overseen by Abert and Major Peter Conover Hains, who replaced Abert in 1882. In his nine years as head of the project, Hains completed most of the dredging and reclamation work undertaken by the US Army Corps of Engineers (National Park Service 1996a). The designation of "Hains Point" at the south end of the newly reclaimed land honored his important contributions to the project.

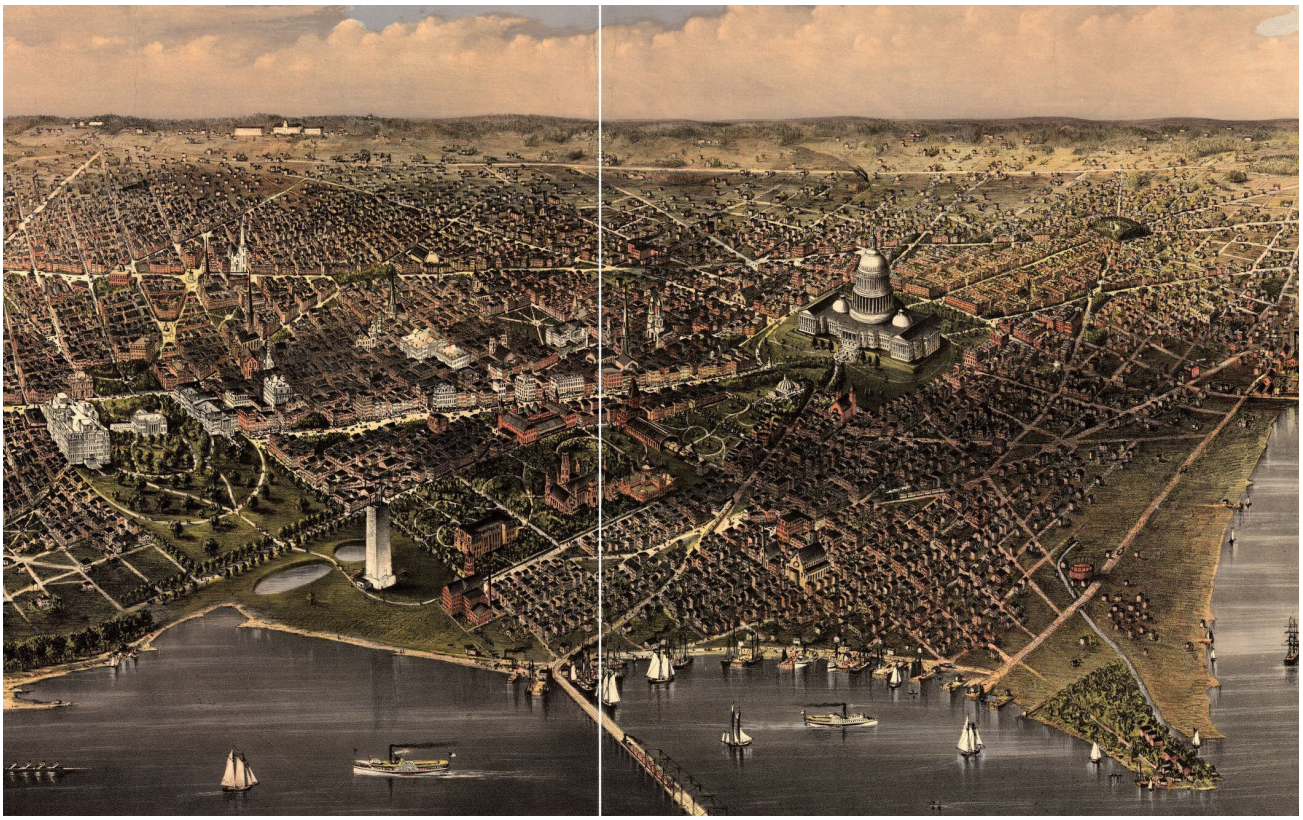


Figure 5. The City of Washington, 1880.

The foreground of the drawing depicts the Long Bridge, wharves along the Washington Channel, and the future Tidal Basin area southwest of the Washington Monument. Drawn by C.R. Parsons. Currier and Ives, publisher. (Source: Library of Congress Prints and Photographs Division)

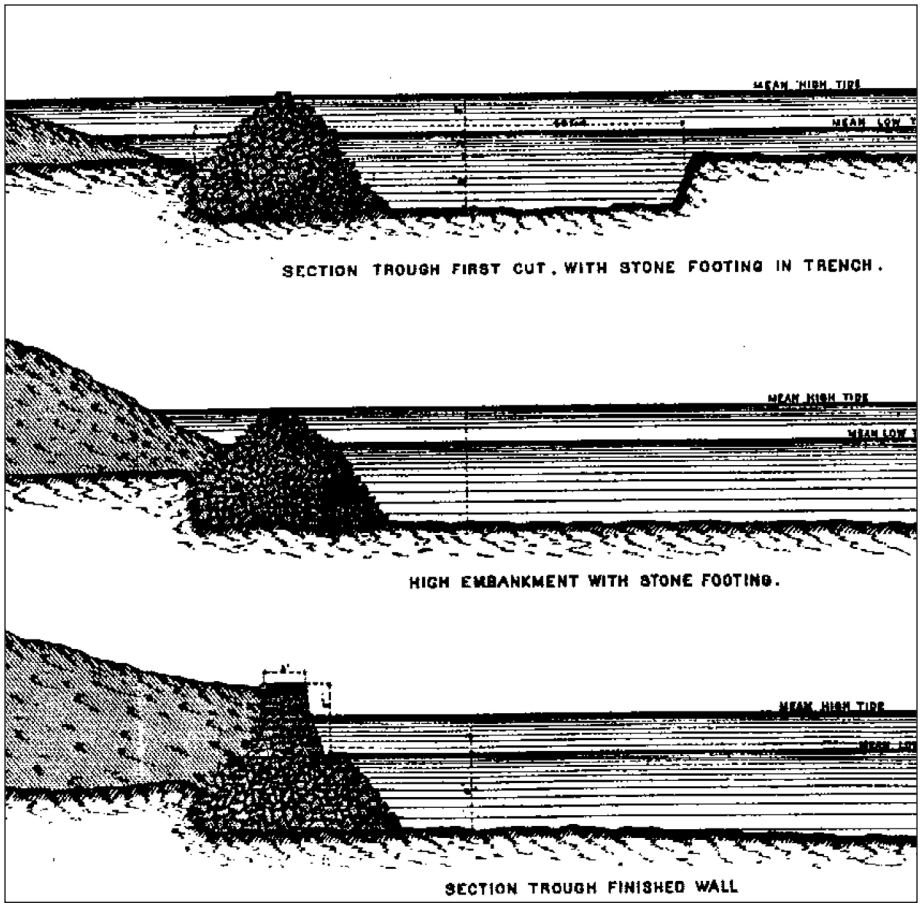


Figure 6. Detail from Hains' diagram of the construction of the sea wall, c. 1885.

The sections depict the first cut with the stone footing, the embankment, and finally the finished wall. (Source: National Park Service, Historic Structures Report: Tidal Basin Inlet Bridge (Washington, DC, 1986) p.8; American Society of Engineers, Transactions. Vol. XXXI, January 1894. Plate VI)

In 1885, the dredging contractor removed approximately 200,000 cubic yards of soil from the Tidal Basin area and deposited the spoils through an engineering process that was similar to levee construction (National Park Service 2001) (Figure 7). The need for an engineered outlet from the basin to the channel became apparent when the dredging resulted in large volumes of water and sediment flowing uncontrolled between the two water bodies. To address this problem, the US Army Corps of Engineers constructed one of the earliest features of the Tidal Basin—the Outlet Bridge and gate—between 1888 and 1889. Initially constructed as a 135-feet by 80-feet coffer dam in 1887, the gate helped control the flow of water in and out of the Tidal Basin.

The sea wall construction followed the reclamation efforts between 1890 and 1896. This work proceeded from west to east in the direction of the river flow, which prevented the loss of the newly reclaimed land via erosion (National Park Service 2018a). Contractors created the basin sea wall foundation from riprap, laid on a "continuous mattress of brush" placed six feet below the surface of mean low tide (National Park Service 2018a). The wall itself was battered, with a four- to five-feet wide base and three-feet wide top. Contractors initially constructed the wall with large dry laid Potomac River stones, but later strengthened the wall joints with mortar to prevent stones from washing away. Two feet of gravel or oyster shells behind the wall created a barrier between the soil fill and the stone masonry. By 1896, laborers had completed the construction of six miles of sea wall along the riverfront and around the new Tidal Basin (National Park Service 2018a). The sea wall forming the approximately 118-acre Tidal Basin curved around four distinct lobes pointing roughly in the four cardinal directions. The reclaimed land, created from more than 12 million cubic yards of material, totaled more than 600 acres of new land situated several feet above high tide and flood levels.

Recreational development of the landscape developed concurrently with the basin construction. The US Congress authorized the establishment of a bathing beach along the eastern side of the Tidal Basin in 1890. This popular swimming location attracted thousands of visitors for more than a decade and was the first of several recreational bathing beaches developed in the Tidal Basin.

Major E. L. B. Davis declared in 1893 that "the improvement has now reached a stage where some attention needs to be given to the maintenance and preservation of the reservation" (National Park Service 1996a). By an Act of Congress on March 3, 1897, the 621 acres of reclaimed land and 118 acres of the Tidal Basin were designated Potomac Park: "the entire area formerly known as the Potomac Flats, and now being reclaimed, together with the tidal reservoirs, be, and the same are hereby, made the declared a public park, under the name Potomac Park,

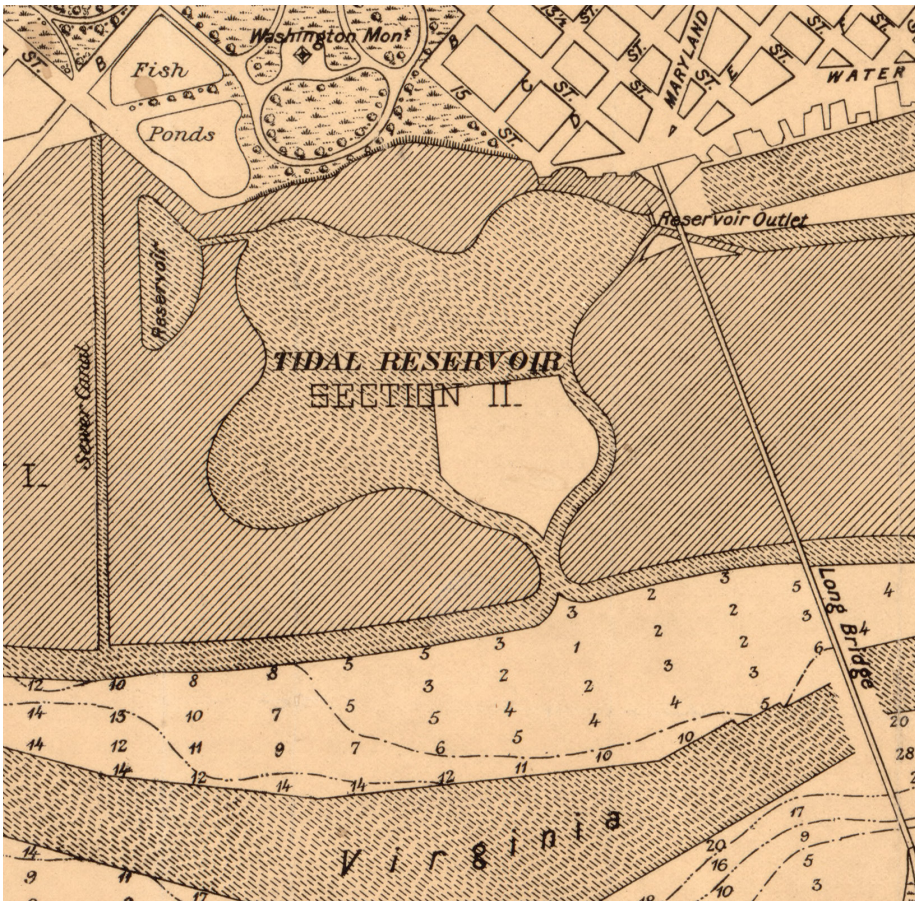


Figure 7. Detail from map illustrating the progress of dredging and reclamation of the Potomac Flats, June 30, 1890.

(Source: Peter Conover Hains, Library of Congress, Geography and Map Division of Washington, DC)

and be forever held and used as a park for the recreation and pleasure of the people" (National Park Service 2018a; National Park Service 2001). Soon after, the US Congress transferred control of all District of Columbia parks to the newly formed Office of Public Buildings and Grounds. The US Army Corps of Engineers transferred the land to the Office of Public Buildings and Grounds in parcels over the next ten years (KressCox Associates 1986).

The Office of Public Buildings and Grounds developed West Potomac Park with recreational facilities in a picturesque style popular at the time (Figure 8). Early park enhancements provided boating facilities, with the 1903 addition of two floats and construction of a Landing Basin in 1907 at the northern tip of the Tidal Basin. Between 1902 and 1908, new park development provided curving drives and bridle paths. This construction began with grading and paving the roadways, which were serviced by brick gutters, drains, and catch-basins, and lined with more than 300 trees, mostly elms (National Park Service 2018a). Cinder footpaths followed these "speedways." Polo fields were established just to the west of the Tidal Basin in 1908, followed by construction of a wooden bandstand near the tip of the basin's southern lobe in 1909 (Histories of the National Mall 2019n).

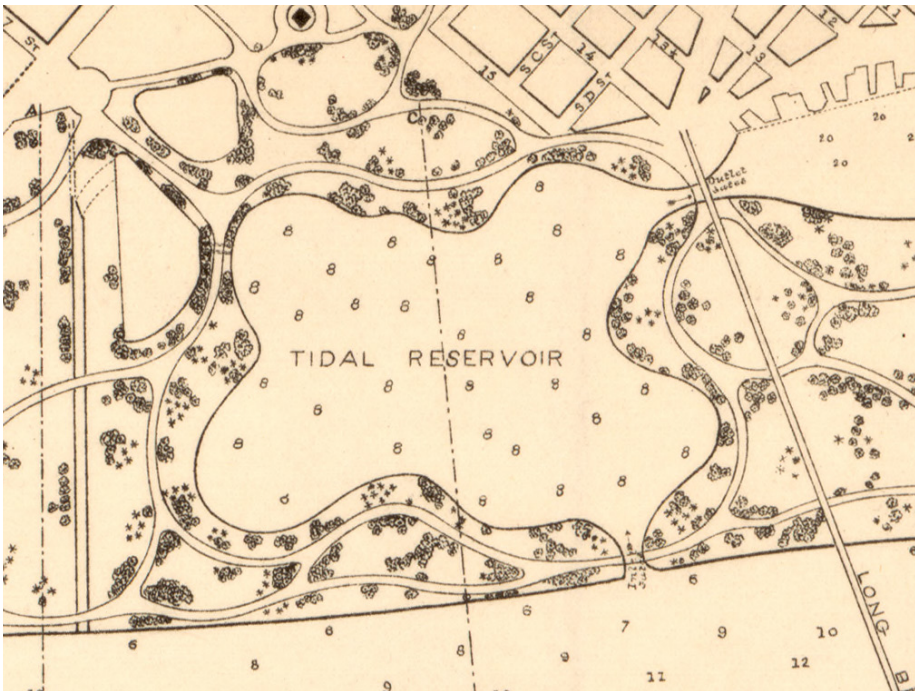


Figure 8. Detail from Proposed Roads and Plantings of the Reclaimed Potomac River Flats, 1894.

(Source: Library of Congress, Geography and Maps Division.)

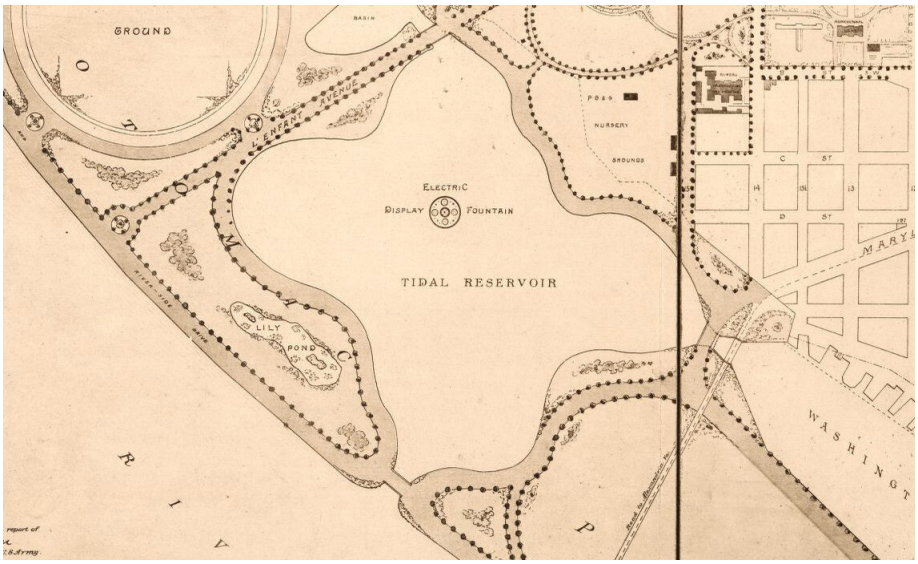


Figure 9. Detail from The Historic Mall Designed by L'Enfant and Approved by Washington, Study for its Realization and Embellishment in Connection with Potomac Park and Memorial Bridge, 1901

(Source: Library of Congress, Geography and Map Division)

Beautification efforts expanded together with the park's recreational developments. Using the nursery grounds buildings and work shops south of the Washington Monument and west of 15th Street as a base (Figure 9), the Office of Public Buildings and Grounds then prepared designs for a new nursery with fountains near the southern lobe of the basin between 1905 and 1910, propagating ornamental vegetation such as shrubs, trees, perennials, and roses for park use (National Park Service 2015a). The nursery was laid out in a formal axial pattern, with the fountains anchoring the center and ends of the axis.

Other major modifications to the basin structure took place during the same period. Laborers rebuilt sections of the sea walls to raise the height of the wall and accommodate new development along the basin. In 1902, Colonel Theodore Bingham, First Officer in Charge of Public Buildings and Grounds, requested bids to raise the height of 2,300 linear feet of wall by three feet. By 1907, sections of the area had been filled to a grade of 12 or 13 feet above sea level. Eventually the sea walls reached a height of 14 to 16 feet (National Park Service 2001).

The basin's water flow overwhelmed the capabilities of the primary tidal outlet gate, resulting in the need for further dredging in 1907 and construction of the Inlet Bridge and a second multi-gate system in 1908-1909. The bridge, design by Nathan C. Wyeth, featured ornate fountain medallions and low archways. The bridge spanned the inlet to the Tidal Basin at the southern tip of the south lobe, controlling and regulating the flow of water entering the basin from the Potomac River through automatic gates. A secondary tier of manually-operated lock and curtain gates provided additional water control and facilitated the passage of boats. The construction of the Inlet Bridge also enabled complete vehicular and pedestrian circulation around the Tidal Basin (National Park Service 2001).

BEAUTIFICATION AND COMMEMORATION, 1912-1969

The influence of the City Beautiful movement permeated the Tidal Basin's continued development in the following decades. The McMillan Plan had reinforced the commemorative framework of the park by identifying places for new memorials at key points around the basin. At the same time, new recreation features and a cohesive planting palette unified the landscape, providing beauty and enjoyment for visitors.

One of the most important beautification efforts at the Tidal Basin—the cherry tree planting—was originally spearheaded by geographer and writer Eliza Ruhamah Scidmore after her trip to Japan in 1885. For 24 years, her requests to plant cherry trees in the capital city fell on deaf ears at the Office of Public Buildings and Grounds. Two key people ultimately joined Scidmore's campaign: David Fairchild, who led the Office of Foreign Seed and Plant Introduction, and First Lady Helen Taft, whose involvement initiated a long relationship between First Ladies, the cherry tree collection, and *hanami* (a Japanese term for flower watching) (National Park Service, NDc).

Eventually, the cherry trees were declared to be ideal for ornamental planting along the city's avenues after experimentation by the US Department of Agriculture to assess their hardiness (National Park Service, NDd). Taft directed

the Office of Public Buildings and Grounds to purchase cherry trees to line the road north of the basin. Meanwhile, Japanese officials offered to donate 2,000 cherry trees in a sign of good will. Taft accepted the offer, but inspectors determined that the first 1910 shipment of cherry trees from Japan was infected with pests and diseases, and they destroyed most of the saplings. (Some of the original cherry trees were planted at the East Potomac Park golf course, where they remain today.) The city of Tokyo then donated 3,000 flowering cherry trees as a sign of friendship between Japan and the United States. First Lady Taft and Viscountess Chinda Iwa, wife of the Japanese ambassador, planted the first of these new trees along the north shore of the Tidal Basin during a ceremony in 1912 (Histories of the National Mall 2019j; National Park Service 2001).

The first memorial was added to the landscape during the same year. The idea for a memorial to John Paul Jones—father of the US Navy and captain of the *Bonhomme Richard*—first emerged in 1906 after the discovery of his remains in Paris. The memorial was part of a collection of statuary placed throughout the city to honor American Revolutionary War heroes. The US Congress designated funding for the John Paul Jones Memorial, although another three years passed before the selection of the memorial site in West Potomac Park (Evening Star 1910). The placement of the memorial at the terminus of 17th Street SW near the northern point of the basin followed the overall planning concepts presented in the McMillan Plan. The John Paul Jones Memorial—supported by posts driven into the marshy soil—was a neoclassical marble pylon and pedestal with semi-circular pools and a bronze statue of Jones sculpted by Charles Niehaus. The dedication of the statue occurred in 1912 with a ceremony consisting of "elaborate civilian and military displays." President William Howard Taft and Secretary of the Navy George Meyer presided over the ceremony, which would set a precedent for future US Navy Day observances at the memorial (Evening Star 1912). The year after the formal dedication, the Office of Public Buildings and Grounds planted 24 linden trees in the reservation around the memorial, completing the intended design. In 1919, the Secretary of the Navy approved a petition by the Sons of American Revolution to place a tablet at the base of the statue to honor John Paul Jones's service to the United States. The following year, members of the organization mounted the tablet to the base of the statue as a part of the 145th Anniversary of the founding of the United States Navy on US Navy Day.

Recreational use of the park continued throughout this period as well. Water-based recreation activities in the basin included swimming and boating. A new bathing beach opened to white swimmers on the southern lobe of the basin in August 1918 (Figure 10) with a water carnival featuring diving and swimming competitions and canoe tilting contests (Goff 2015). The beach remained open for

Figure 10. Aerial photograph of the Tidal Basin landscape, August 17, 1918.

The photograph depicts the open basin, tree-lined speedways, Inlet and Outlet Bridges, polo field, Fountain No. 4 and nursery, bandstand, gardens, the John Paul Jones Memorial, beach, and the landing basin.
(Source: School of Aerial Photographic Reconnaissance, Langley Field, Hampton, VA.)

seven years until Congress repealed the act establishing the beach due its lack of racial integration (Histories of the National Mall 2019l; Histories of the National Mall 2019d; Histories of the National Mall 2019a). Within a few years, paddle boating became a popular activity at the Tidal Basin.

City residents and tourists alike enjoyed ornamental plantings throughout the park during both informal visits and formal commemorative events. They celebrated the cherry trees during the flowering season in late March and early April and commemorated the first cherry tree planting with a pageant in 1927. In 1931, the Office of Public Buildings and Public Parks of the National Capitol adopted a planting strategy that concentrated the park's display gardens in fewer locations. In 1932, the park nursery was dedicated to roses and one of the park nursery fountains, Fountain No. 4, became the locus of an elaborate pansy collection.

Figure 11. Young cherry trees along the Tidal Basin, 1919.

(Source: Library of Congress, Detroit Publishing Company Photograph Collection)

Plantings in and around Fountain No. 4 eventually became more diverse, with water lilies, hedges, and specimen trees in addition to the pansies. When the Department of the Interior assumed control of the Tidal Basin in 1933, it planted stands of American hollies to add winter interest to the Tidal Basin (National Park Service 2018a).The park's trees were planted in rows and naturalistic clusters to enhance the picturesque qualities and character of the park landscape (Figure 11). A 1934 commemorative ceremony led by First Lady Roosevelt and a delegation from the Japanese embassy celebrated the cherry trees as a symbol of friendship between the United States and Japan. A parade, formal ball, fireworks, and a performance of The Mikado followed the ceremony (Histories of the National Mall 2019e). The first official National Cherry Blossom Festival was held in 1935, and it continues today as the most popular seasonal attraction at the Tidal Basin.

Plans in 1936 for the addition of the Thomas Jefferson Memorial firmly established the Tidal Basin as a place for monumental commemoration of the nation's most significant figures (National Park Service 2001). The 1902 McMillan Plan and the Thomas Jefferson Memorial Commission reaffirmed L'Enfant's proposed north-south axis with the proposal for the new memorial at the southern point in the kite shaped plan—now the southern tip of the Tidal Basin. This location would have an important visual, spatial, and symbolic relationship with the White House. The introduction of the Thomas Jefferson Memorial thus helped formalize the Tidal Basin as an extension of the National Mall and began to shift its character from a recreational landscape to a commemorative landscape (National Park Service 2018a).

John Russell Pope was commissioned in 1937 to design the memorial building and Frederick Law Olmsted, Jr. was commissioned to create the memorial landscape

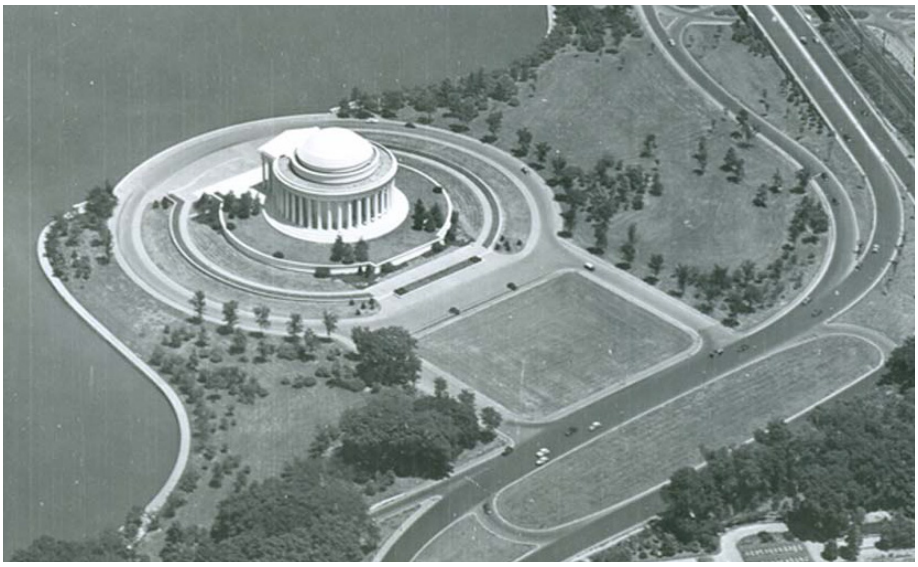


Figure 12. Aerial view of the Thomas Jefferson Memorial landscape, 1947.

(Source: Jefferson Memorial Vehicular Barrier Design Project Summary 2009-2015)

(National Park Service 2001). Pope's successors, Daniel P. Higgins and Otto R. Eggers, also contributed to the design. Pope designed the open-air structure in a monumental neoclassical style with a circular colonnade and radiating planted terraces and roadway around the perimeter (Figure 12). The placement of the memorial required the reconfiguration of the basin sea walls and adjacent roadways so that it would be perfectly aligned with the White House on the north-south axis of the monumental core. The plans called for the removal of many existing cherry trees to accommodate the addition of the memorial. The public's love for the cherry trees was so great, however, that in November 1938 a group of women led by Eleanor Patterson, owner of the *Washington Times-Herald*, successfully protested their removal. The women negotiated for the planting of replacement trees for every cherry tree removed along the Tidal Basin (Histories of the National Mall 2019c). The other plantings proposed for the memorial landscape were deciduous canopy trees, evergreen shrubs, and flowering trees arranged in both geometrically formal alignment around the memorial and in naturalistic clusters along the basin edge. Construction proceeded over several years and the memorial was dedicated on April 13, 1943, the bicentennial of Jefferson's birth.

The World War II years witnessed other substantial changes to the Tidal Basin (Figure 13). After the United States joined the war, much of Potomac Park was used temporarily to support the military effort. For example, asphalt paving and large new military buildings replaced the polo field (Histories of the National Mall 2019a); these buildings were removed in the mid 1960s. The other major change included the addition of a new structure across the basin: the Kutz Bridge, designed as part of a new roadway system for West Potomac Park (National Park Service 2016). The War Department's 1941 proposal to construct the bridge

Figure 13. Aerial photograph of the Tidal Basin landscape, 1946.

The Kutz Bridge, Thomas Jefferson Memorial, and 15th Street Bridge are major additions to the landscape. Military buildings now occupy the polo field and new roads separate the nursery from the basin landscape. (Source: Photomap of central Washington, DC and adjacent part of Arlington US Coast and Geodetic Survey)

across the basin reshaped its northern lobe into a new lagoon formed by rebuilt sea walls with four overlooks facing south (National Park Service 2001). The bridge supported the new access between the city of Washington, DC and the Pentagon via a split highway system at Independence Avenue, created as part of the Independence Avenue extension project (National Park Service 2001). Kutz Bridge crossed the Tidal Basin to carry eastbound traffic and a separate roadway was built immediately north of the bridge and lagoon to carry westbound traffic (National Park Service 2001; National Park Service 2018a). Paul Phillipe Cret designed the bridge and road system, and Modjeski & Masters served as structural engineers for the bridge (National Park Service 2001). Cret designed the bridge in a simplified Beaux Arts style of granite and limestone, with ornate light fixtures. The bridge opened to traffic in 1943 and was later named for Brigadier General Charles W. Kutz.

The ashlar stone-faced, three arch 15th Street Bridge, carrying what is now Ohio Drive SW, appears to have been constructed west of the Outlet Bridge during the early 1940s as well. This bridge was designed with a stone coping, metal railing, and stone abutments. The adjacent sea wall south of the bridge was likely adjusted to accommodate the new bridge and the construction of the Thomas Jefferson Memorial.

Other commemorative features were added to the landscape in the following decade. In 1950, the National Capital Sesquicentennial Commission placed a plaque to mark the location of the first two cherry trees (National Park Service 2001). In 1954, the Governor of Tokyo gave a seventeenth century granite lantern to mark the 100th anniversary of the opening of trade between the United States and Japan. The lantern was installed near the original 1912 cherry trees, and is lit annually during the National Cherry Blossom Festival (Histories of the National Mall 2019i; National Park Service 2001). In 1958, the Mayor of Yokohama presented a stone pagoda in commemoration of the Treaty of Kangawa, which marked the end of Japan's period of seclusion and opening of trade with the Western world. Smaller installations included a plaque placed in 1958 on the site of the first US Postal Service air mail flight, which intended to connect Washington, Philadelphia, and New York (Histories of the National Mall 2019f).

During the mid-1960s (Figure 14), First Lady Claudia "Lady Bird" Johnson followed in the footsteps of Taft through her engagement in the design of the Tidal Basin landscape. Echoing the tenets of the City Beautiful movement, Johnson espoused the idea that a beautiful environment could transform the health and well-being of society. She founded the Society for a More Beautiful National Capital in 1964, which broadly influenced the beautification of landscapes throughout the capital city. Her involvement with the cherry tree collection at the Tidal Basin included planting one of 4,000 new cherry trees in a 1965 ceremony. Johnson's signature project, the Highway Beautification Act, supported the addition of thousands of ornamental shrubs, bulbs, perennials, and trees throughout the capital city and in neighborhoods, roadsides, and parks throughout the country. (First Lady Michelle Obama continued the traditional relationship between First Ladies and the cherry trees with a ceremonial planting in 2012.) Johnson's beautification campaign also influenced the creation of the Floral, or Tulip, Library. The Library was established in 1969 near Independence Avenue SW as a display garden and testing ground for over 95 varieties of tulips, which park staff could assess for use in other floral displays and which visitors could assess for their own use at home. Designed by landscape architect, Darwina Neal, the .25-acre library is maintained by the National Park Service and has over 90 flower beds that feature tulips or annuals, depending on the planting season.

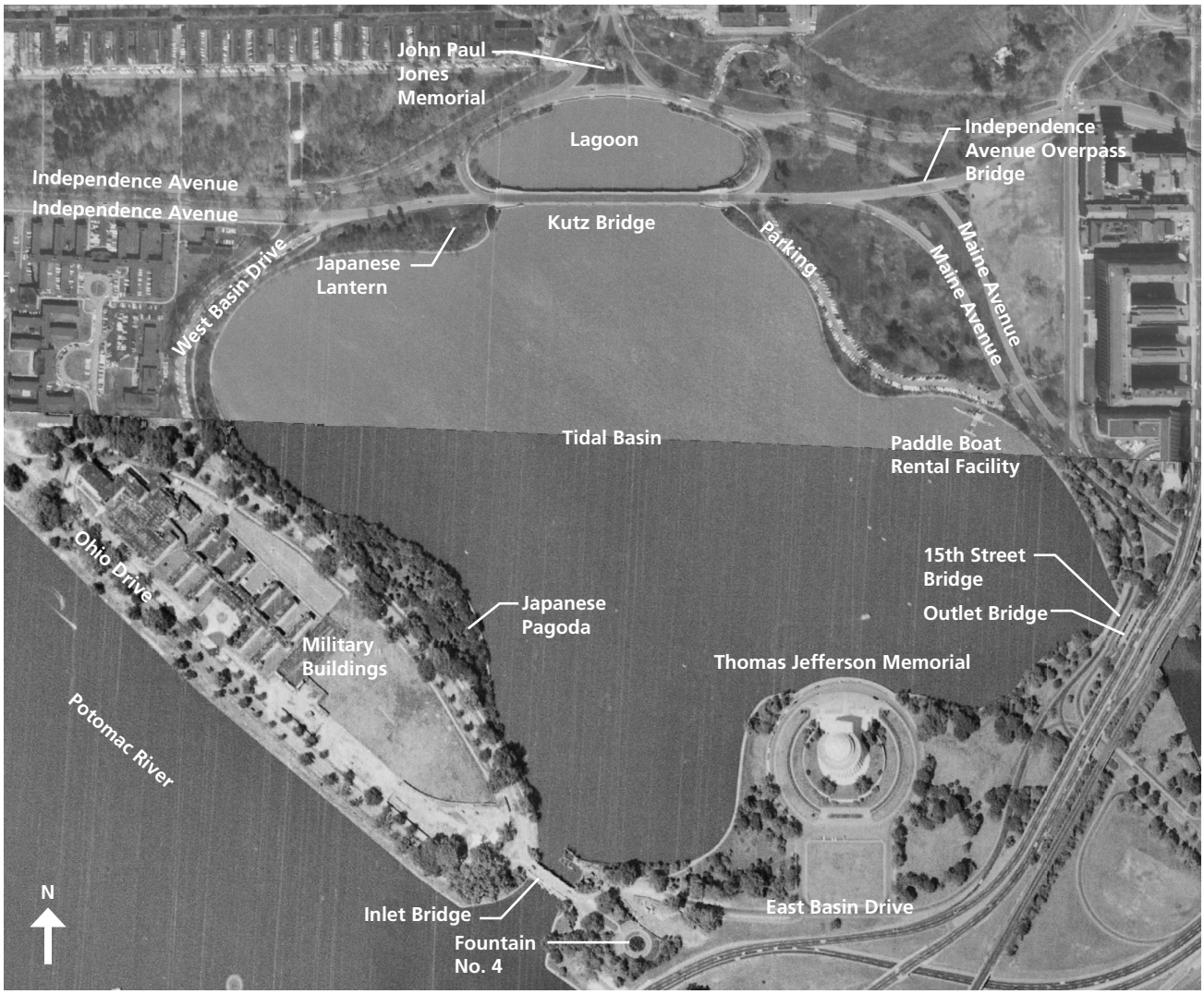


Figure 14. Aerial photograph of the Tidal Basin landscape, 1964.

The landscape closely resembles its 1940s appearance with the exception of new roads south of the Thomas Jefferson Memorial. Many of the military structures remain in the landscape. Although not visible in the photograph, the Japanese Lantern and Pagoda had been placed in their respective locations. A boat dock occupies the current location near the parking lot. (Source: Aerial Photograph, Washington, DC US Geological Survey)

Located on the northeastern side of the Tidal Basin, the Floral Library involves the planting of more than 10,000 bulbs yearly (Histories of the National Mall 2019g).

NEW MEMORIALS AND OTHER LANDSCAPE MODIFICATIONS, 1970-2011

Later decades saw several new major memorials constructed along the Tidal Basin, including the Franklin Delano Roosevelt Memorial in 1997; the George Mason Memorial in 2002; and the Martin Luther King, Jr. Memorial in 2011. These recent memorials on the National Mall diversified the representation of American history and culture (Washington Post 2015). Their design styles also expanded beyond the neoclassical and picturesque design traditions that had dominated the Tidal Basin landscape for nearly a century.

Figure 15. Aerial photograph of the Tidal Basin landscape, 1988.

The photograph reveals that the road network south of the study area has become increasingly large and complex. The military buildings had been entirely removed by this date. Additional recreational facilities, such as ball fields, were located in the open fields. The blooming cherry trees are evident in the landscape. (Source: Digital Orthophoto Quarter Quadrangle, Washington, DC US Geological Survey)

Other landscape updates took place around the basin in the 1980s (Figure 15). Both the Kutz and Inlet Bridges were repaired in 1985-1986. The current boathouse and associated floating docks replaced older facilities in the basin in 1986, followed by the supplemental planting of over 600 cherry trees between 1986 and 1988. Active recreation was supported by new ball fields at the former polo grounds.

The Franklin Delano Roosevelt Memorial (Figure 16) was the first significant commemorative addition in the Tidal Basin landscape during this period. The 7.5-acre site stretched along the western edge of the Tidal Basin in a location identified for a memorial by the McMillan Plan (Cultural Landscape Foundation ND). The land had been set aside for the memorial in 1959 through a Congressional resolution. Despite multiple unsuccessful designs between 1960 and 1970, the memorial process continued with new funding and a new design team in 1974. Influential landscape architect Lawrence Halprin led the team, with fountains

Figure 16. Franklin Delano Roosevelt Memorial, 2006.

(Source: Carol Highsmith, Carol M. Highsmith's America, Library of Congress, Prints and Photographs Division)

Figure 17. George Mason Memorial, 2018.

(Source: AECOM, 2018)

and sculpture design by Leonard Baskin, Neil Estern, Robert Graham, and George Segal (Histories of the National Mall 2019h; Histories of the National Mall 2019b). Halprin designed the memorial in a modernist idiom as a series of interlocking outdoor rooms or galleries that operate in a narrative sequence to tell the story of Franklin Delano Roosevelt's presidency. President William Clinton dedicated the memorial on May 2, 1997, and, as the result of efforts made by the National Organization on Disability, the site became the first national memorial to prominently feature someone in a wheelchair (Cultural Landscape Foundation ND; Histories of the National Mall 2019h).

The George Mason Memorial (Figure 17) was authorized by Public Law 101-358 on August 10, 1990 and designed by landscape architect Faye B. Harwell of Rhodeside & Harwell, with sculptor Wendy M. Ross. The memorial honors

Mason, who was a delegate to the Constitutional Convention and the author of Virginia's Declaration of Rights, which served as inspiration for the United States Bill of Rights. The groundbreaking was held on October 18, 2000, and the memorial was formally dedicated April 9, 2002 (ArchNewsNow 2002).The site is slightly larger than two acres near the base of the 14th Street Bridge, formally known as the George Mason Memorial Bridge, near the southernmost point of the Tidal Basin. The memorial integrates the 1905 Fountain No. 4, with a pergola, segmented stone wall, and a larger-than-life statue of Mason sitting on a stone bench. The memorial design honors the historic garden character of its location and features plants resembling those found in eighteenth-century gardens, such as those that Mason kept.

The most recent of the memorials is the Martin Luther King, Jr. Memorial, built along the western lobe of the Tidal Basin on axis with the Thomas Jefferson and Lincoln Memorials, and a five minutes' walk north along the basin's edge from the Franklin Delano Roosevelt Memorial. The four-acre Martin Luther King, Jr. Memorial was dedicated on October 16, 2011 after a decades-long planning and fund raising effort to erect a monument on the National Mall dedicated to the civil rights leader. The Alpha Phi Alpha fraternity, of which King was a member, initiated the project (National Park Service 2018a).The design of the monument—with its *Mountain of Despair* at the memorial gate and the *Stone of Hope* in the primary plaza—draws from King's celebrated "I Have a Dream" speech. The monument was the first on the Mall and its adjoining parks to honor an African American (Tavernise 2011). The 30-feet-tall granite figure of King (Figure 18) was designed by Chinese sculptor Lei Yixin (National Park Service 2018a). The ROMA Design Group designed the memorial site, which gently arcs around the tip of the basin and forms views across the water. The design includes two cascading water features and an inscription wall featuring fourteen quotes from King (ArchDaily 2012). A bookstore associated with the memorial is located across West Basin Drive SW, which was realigned as part of the project. (Figure 19)

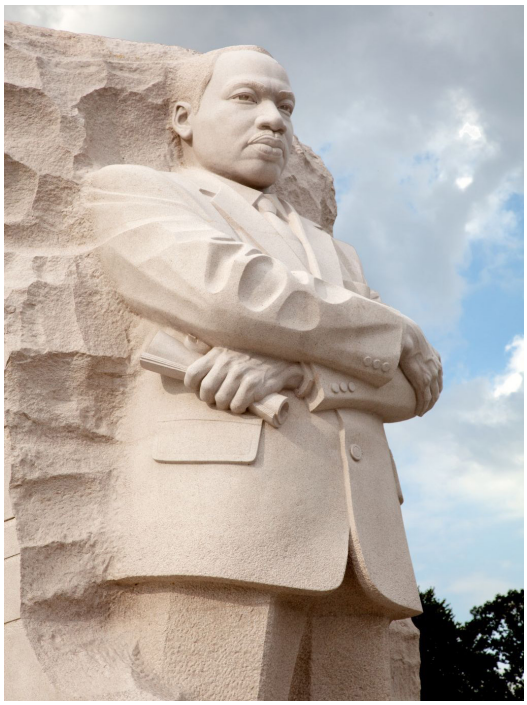


Figure 18. Stone of Hope at the Martin Luther King, Jr. Memorial, 2011.

(Source: Carol Highsmith, Carol M. Highsmith Archive, Prints and Photographs Division, Library of Congress)

Figure 19. Aerial photograph of the Tidal Basin landscape, 2012.

The photograph depicts the landscape as it exists today, with all of the memorials in place. West Basin Drive SW had been realigned to accommodate the Martin Luther King, Jr. Memorial. (Source: Aerial Photograph, Washington, DC US Department of Agriculture)

LANDSCAPE CHRONOLOGY

Table 2. Landscape chronology of the Tidal Basin 1809-2016.
Adapted from Appendix A of the Historic American Landscapes Survey, DC-59.

DATE	EVENT
1809	First Long Bridge built.
1815	Sewer canal opened.
1868	Maj. Nathaniel Michler of the Army Corps of Engineers issues report recommending a major dredging project in the main river and Washington channels and replacing the Long Bridge.
1870	First Congressional appropriation of $50,000 for dredging.
1872	Board of Survey prepares plan for the Washington and Georgetown harbors that includes constructing one deep channel from Georgetown to Gravelly Point.
1874	Rivers and Harbors Act appropriates money for the dredging of the Potomac River.
1877	Freshet undoes the [dredging] work completed under Abert's authority.
1878	Rivers and Harbors Act appropriates money for improvements to Washington and Georgetown harbors. Abert uses some funds to dredge river and Washington channels.
1879	Maj. W.J. Twining's plan submitted to Congress that includes the idea of a series of sluicing basins using the tidal patterns of the Potomac to flush the Washington Channel.
1881	Ice dam and flood in February damages Army Corps' dredging efforts. Abert submits survey recommending the coastline of the reclaimed land be formed into a curve from Easby's Point to the Long Bridge and two options for retaining the reclaimed land.
1882	Gillmore Board is convened to consider and report on plans and estimates to improve navigation of Potomac River. Congress appropriates $400,000 based on the board's recommendations on August 2. Maj. Peter Conover Hains becomes Officer in Charge of the reclamation project and proposes creation of one tidal reservoir with inlet and outlet gates.
1883	Hains begins reclamation project with area divided into three sections and work beginning in Section I (between sewer canal and Easby's Point).
1884-1887	Dredging and filling in sections II and III continues. Tidal and Inner basins are created.
1887-1890	Outlet gates built.
1889	Freshet deposits substantial amounts of sediment in newly-dredged river channel and Tidal Basin.
1890	Congress authorizes establishment of public bathing beach at the Tidal Basin next to Washington Monument grounds.
1890-1896	Rivers and Harbors Act authorizes $280,000 for construction of sea wall around Tidal Basin and reclaimed land.

DATE	EVENT
1891	Secretary of War issues a revocable permit to the Commissioners of the District of Columbia for the beach on June 17.
1897	Congress designates 621 acres of reclaimed flats and 118 acres making up the Tidal Basin as "Potomac Park".
1899	Martin F. Morris et. al. v. United States decision returned in favor of United States. The case was brought by claimants arguing they had rights to the land created during the reclamation project.
1900	Colonel Bingham prepares plans for developing Potomac Park.
1901	First bathing beach closes. The bathhouses are removed, and the beach area converted into an ellipse. 30 acres in the northeast part of Potomac Park between the Tidal Basin and the Washington Monument from Seventeenth Street and Virginia Avenue to Maryland Avenue and Fourteenth Street is formally transferred from the Army Corps of Engineers to the Office of Public Buildings and Grounds.
1902	Boathouse erected at inlet between Tidal Basin and the Inner Basin [on the north side the Tidal basin, west of 17th Street], and Congress authorizes bathing beach at Inner Basin. McMillan Plan calls for the Tidal Basin to be developed into a recreational area. Sea wall is raised at location of first bathing beach.
1903	50 acres of Potomac Park bounded by the Tidal Basin, the Potomac River, and the Long Bridge are transferred from the Army Corps of Engineers to the Office of Public Buildings and Grounds. Col. Thomas W. Symons takes command as Officer in Charge of the Office of Public Buildings and Grounds. Cast-iron pipe rail fence built on the northeastern shore of the Tidal Basin. First roadway built from Seventeenth and B streets on the northeastern shore of the Tidal Basin to Maryland Avenue and Fourteenth Street.
1904	New steel truss bridge erected for Baltimore and Potomac Railroad to replace Long Bridge. Potomac Park Speedway built along riverfront. Col. Charles S. Bromwell becomes Officer in Charge for the Office of Public Buildings and Grounds.
1905	Concrete fountains built south of Tidal Basin near Long Bridge (including Fountain No. 4).
1906	Area between Tidal Basin and former sewer canal transferred from the Army Corps of Engineers to the Office of Public Buildings and Grounds.
1906-1908	Ellipses with walking and bridle paths at the southwest and northwest quadrants of the Tidal Basin completed. Macadam roads [the Potomac Park Speedway] built on east and west sides of Tidal Basin.
1907	Land from sewer canal to Twenty-Third Street transferred from the Army Corps of Engineers to the Office of Public Buildings and Grounds. Landing Basin built at north end of Tidal Basin at foot of Seventeenth Street. Macadam drive called "Riverside Drive" built along Potomac River.

DATE	EVENT
1908	Maryland Dredging and Contracting Company dredges the Tidal Basin again, with dredged material used to fill Inner Basin. Sewer canal filled in. Trees planted to screen Highway and Long Bridges.
1909	Inlet Bridge completed. Bandstand built near west approach to Inlet Bridge. Polo field built in open area between Potomac River and Tidal Basin. All land comprising West Potomac Park has been transferred to the Office of Public Buildings and Grounds. Col. Spencer Cosby becomes Officer in Charge of Office of Public Buildings and Grounds.
1910	2,000 cherry trees arrive in Washington, DC, having been shipped across the country in refrigerated rail cars. An inspection by Department of Agriculture scientists reveals infestation, and the trees and accompanying shipping material are burned. Roadway and bridle path across Inlet Bridge opened to public.
1912	Second shipment of 3,020 cherry trees is shipped from Tokyo for planting in Washington, DC, and New York City. When the cherry trees arrive in Washington, DC, they undergo careful inspection. On March 27, First Lady Helen Taft and Viscountess Chinda Iwa (wife of the Japanese ambassador) plant the first two cherry trees at Tidal Basin. John Paul Jones Memorial is dedicated.
1913	Col. William S. Harts is Officer in Charge of the Office of Public Buildings and Grounds.
1915	26,239 linear feet of sea wall repaired and rebuilt.
1917	Col. Clarence S. Ridley becomes Officer in Charge of the Office of Public Buildings and Grounds.
1918	Boathouse destroyed by fire. Remaining structure is removed, and area is seeded. Sundry Civil Bill establishes a bathing beach at Tidal Basin, along with a public bathhouse and purification plant.
1921	Col. Clarence O. Sherrill takes command as Officer in Charge of the Office Public Buildings and Grounds.
1925	The Office of Public Buildings and Grounds and the Office of the Superintendent of the State, War and Navy Department Buildings are consolidated into an independent office known as the Director of Public Buildings and Public Parks of the National Capital with Col. Sherrill as the first director. Congress repeals act establishing a public bathing beach at the Tidal Basin rather than establishing a beach for African Americans. The bathing facilities and bathhouse are removed.
1926	69th Congress, House of Representatives introduces resolution authorizing construction of a memorial to Thomas Jefferson.
1927	First commemoration of the planting of the cherry trees by Washington, DC, school children. First Lady Taft attended the ceremony.

DATE	EVENT
1933	Office of Public Buildings and Public Parks of the National Capital reorganized under the Department of the Interior's Office of National Parks, Buildings and Reservations.
1933-1934	Hollies planted around Tidal Basin.
1934	73rd Congress, Public Resolution, No. 49 HJ Res. 317 establishes the Thomas Jefferson Memorial Commission to develop plans to design and build a memorial in Washington, DC, to Jefferson. DC Board of Commissioners sponsors a three-day celebration of the cherry trees, the first Cherry Blossom Festival. First Lady Eleanor Roosevelt and a delegation from the Japanese embassy led the ceremony. The name Office of National Parks, Buildings and Reservations is changed to National Park Service.
1936	Thomas Jefferson Memorial Commission decides on Tidal Basin as the site of the future Memorial.
1937	Thomas Jefferson Memorial Commission chooses architect John Russell Pope's Pantheon-inspired design, leading to continued controversy over the design and site. After Pope's death that year, the project is turned over to Daniel P. Higgins and Otto R. Eggers, architects in Pope's firm.
1938	Thomas Jefferson Memorial Commission approves revised Pantheon-inspired design. Second Deficiency Appropriation Bill provides funding for the memorial. A groundbreaking ceremony is held.
1939	President Franklin Delano Roosevelt lays cornerstone for Thomas Jefferson Memorial.
1941-1943	Kutz Bridge and lagoon constructed at north end of Tidal Basin. 15th Street Bridge constructed west of the Outlet Bridge.
1943	Thomas Jefferson Memorial dedicated on the bicentennial of Jefferson's birth.
1944	103 *Prunus yedoensis Akebono* planted around Tidal Basin.
1950	Plaque marking the exact location of the first two Japanese cherry trees planted at the Tidal Basin placed by the National Capitol Sesquicentennial Commission. Rochambeau Memorial Bridge completed.
1954	Governor of Tokyo donates the Japanese Lantern, which is dedicated on the 100th anniversary of Commodore Matthew Perry's arrival in Japan and the opening of trade between the two countries. 180 additional cherry trees planted at the Tidal Basin.
1955	Public Law 372 establishes the Franklin Delano Roosevelt Memorial Commission to develop a memorial to President Roosevelt.
1958	First Air Mail Flight Marker dedicated. Mayor of Yokohama presents a Japanese Pagoda as a gift to the residents of Washington, DC
1959	Joint Congressional resolution sets aside 66 acres for the Franklin Delano Roosevelt Memorial. Congress also appropriates prize money for a memorial design competition.
1960	Design competition held for the Franklin Delano Roosevelt Memorial with over 500 entries.
1962	Franklin Delano Roosevelt Memorial Commission approves the award-winning design by Pedersen & Tilney, whose design is promptly criticized widely.

DATE	EVENT
1963	Pedersen & Tilney submit revised set of plans for the Franklin Delano Roosevelt Memorial.
1966	Franklin Delano Roosevelt Memorial Commission contacts fifty-five architects and solicits memorial designs. Marcel Breuer is chosen as architect.
1967	George Mason Memorial Bridge [I-395 bridge] completed.
1969	National Capital Region's Beautification Task Force establishes the Tulip Library (now known as the Floral Library). National Park Service landscape architect Darwina Neal designs the garden.
1970	Pedestrian plaza completed on north side of the Thomas Jefferson Memorial, adjacent to the Tidal Basin, to prevent cars from driving around the memorial.
1972	Public Law 92-332 amended to require participation of the Secretary of the Interior in the development of the Franklin Delano Roosevelt Memorial.
1974	National Park Service chooses Lawrence Halprin and Associates to design the Franklin Delano Roosevelt Memorial.
1978	Franklin Delano Roosevelt Memorial Commission approves Halprin's design.
1980s	Trees added to area east of Kutz Bridge and the Tidal Basin, the median of Maine Avenue, and west of Raul Wallenberg Place, including *Prunus yedoensis*, *Sophora japonica*, *Pinus strobus, Acer rubrum, Quercus coccinea, and Quercus palustris*.
1982	Congressional legislation authorizes and directs the Department of the Interior to construct the Franklin Delano Roosevelt Memorial after the Secretary of the Interior failed to advance the project due to its high cost in 1979.
1985	Repairs made to Kutz Bridge.
1985-1986	Repairs and maintenance completed on Inlet Bridge.
1986	Current boathouse and docks completed.
1986-1988	676 new cherry trees planted.
1990	Congress passes Public Law 101-358, approving the construction of a memorial to George Mason on Federal land by the Board of Regents of Gunston Hall.
1992	Location of the George Mason Memorial at the site of the former Pansy Garden and Fountain No. 4 approved.
1994	Construction of the Franklin Delano Roosevelt Memorial begins.
1996	P.L. 104-33, Section 508 authorizes construction of the Martin Luther King, Jr. Memorial by the Alpha Phi Alpha Fraternity in accordance with the Commemorative Works Act.
1997	Franklin Delano Roosevelt Memorial dedicated.
1999	Site and design parameters of Martin Luther King Memorial agreed upon by National Park Service, memorial commission, National Capital Planning Commission, and Commission of Fine Arts.
2000	Design competition held for Martin Luther King, Jr. Memorial and ROMA Design Group entry chosen. Rehabilitation of north plaza at Thomas Jefferson Memorial.
2001	Prologue room added to Franklin Delano Roosevelt Memorial to address concerns that Roosevelt's handicap was not visibly depicted.
2002	George Mason Memorial dedicated.

DATE	EVENT
2006	Martin Luther King, Jr. Memorial groundbreaking ceremony held.
2009	Construction of Martin Luther King, Jr. Memorial begins.
2011	Martin Luther King, Jr. Memorial dedicated.
2013	Trust for the National Mall funds plaza around Japanese Lantern to protect cherry trees.
2016	150 red maples donated by Canada and planted along the Potomac River.

Existing Conditions Summary

The Tidal Basin landscape has transformed over time from a riparian landscape and natural wetland to an engineered water management system that harnesses the flow of water each day from the Potomac River to the Washington Channel. Replete with an array of important memorials, lush plantings, and circulation networks, the landscape also accommodates a varying flow of visitors who enjoy the park during visits to the capital city, major festivals, commemorative events, or simply for their recreation or daily commute.

The existing conditions summary that follows provides a general record of the current configuration, materials, qualities, and character of the landscape. These conditions are documented with a brief narrative description, accompanied by maps (Drawing 1 through Drawing 7) and representative photographs taken during field investigations that began in October 2018 and continued through April 2019 (Drawing 8). The documentation summarizes and builds upon the work completed for the Historic American Landscapes Survey of the Tidal Basin, completed in 2018, which provided highly detailed and current maps and narrative descriptions of the landscape. Additional information about the condition and integrity of the landscape's features is provided in the *Analysis & Evaluation Summary* (pages 94-179).

This CLR documents the existing conditions of the landscape using broad categories, or landscape characteristics, to organize the narrative. The National Park Service defines landscape characteristics as "the tangible evidence of the activities and habits of the people who occupied, developed, used, and shaped the land to serve human needs. The beliefs, attitudes, traditions, and values of the people and processes that have been instrumental in shaping the land, and the processes are evident as physical components on the land" (National Park Service 1998b).

The Tidal Basin's cultural landscape characteristics include:

- ***Land use***—organization, form and shape of the landscape in response to land use.
- ***Spatial organization***—arrangement of elements creating the ground, vertical, and overhead planes that define and create spaces.
- ***Constructed water features***—the built features and elements that utilize water for aesthetic or utilitarian functions.

- ***Natural systems and features***—natural aspects that often influence the development and resultant form of a landscape.
- ***Buildings and structures***—three-dimensional constructs such as houses, barns, stables, bridges, and memorials.
- ***Views and vistas***—features that create or allow a range of vision, which can be natural or designed and controlled.
- ***Vegetation***—indigenous or introduced trees, shrubs, vines, ground covers, and herbaceous materials.
- ***Circulation systems***—spaces, features, and materials that constitute systems of movement.
- ***Topography***—three-dimensional configuration of the landscape surface characterized by features and orientation.
- ***Small-scale features***—elements that provide detail and diversity combined with function and aesthetics.

The landscape documentation provides a general assessment of the physical condition of the existing landscape features and systems within the study area, using established National Park Service standards described in *A Guide to Cultural Landscape Reports*. There are four standards defining the condition of cultural landscape features and systems:

- Good: indicates the cultural landscape shows no clear evidence of major negative disturbances and deterioration by natural and/or human forces. The cultural landscape's historical and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.
- Fair: indicates the cultural landscape shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within three to five years to prevent further harm to its historical and/or natural values. The cumulative effect of the deterioration of many of the significant characteristics and features of the cultural landscape, if left to continue without the appropriate corrective action, will cause the landscape to degrade to a poor condition.
- Poor: indicates the cultural landscape shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural areas.
- Unknown: indicates that not enough information is available to make an evaluation.

In general, the condition of key landscape elements today varies from *good* to *poor*, with many resources showing substantial wear-and-tear due to high visitation and the effects of daily tidal flooding and major storms.

LAND USE

The Tidal Basin landscape has several key functions and uses: it serves as a public park through its recreational spaces (Figure 20), and its memorials and other landscape features create an important commemorative environment. Commemoration takes place year round for visitors who come to Washington, DC to see the national memorials and at designated dates for special events. Special civic events, such as political rallies and marches, are an essential purpose of the National Mall and take place throughout the entire landscape. The National Cherry Blossom Festival (Figure 21), which takes place each year from March to mid-April, attracts many visitors and offers special programming, such as performances, boat cruises, and bike tours in addition to tours of the basin and cherry trees.

The condition of land use is *fair*.

- The extents of the various sport fields overlap with one another and all fields cannot be simultaneously utilized. As a result, a single sporting event typically occupies the area at a given time.
- Both large special events and daily use create extensive wear and tear on the landscape. Large numbers of visitors trample low vegetation, turf, and tree root zones, also causing soil erosion.
- Visitor facilities are insufficient for the landscape's current use.

Figure 20. Public recreational use of the West Potomac Park field.

(Source: AECOM, 2019)

Figure 21. Visitors during the National Cherry Blossom Festival.

(Source: AECOM, 2019)

SPATIAL ORGANIZATION

The spatial organization of the landscape centers on the open basin (Figure 22) shaped by a gently curving perimeter wall and enclosed by a ring of flowering cherries and other trees such as hollies, elms, and oaks. Each memorial has its own individual spatial organization defined both by the stylistic idiom in which it was created and the commemorative narrative it was designed to convey (Figure 23). Outside the immediate basin perimeter, the ring of roads and paths, open lawn and fields, and thicker vegetation define spaces for different land uses. The irregular, asymmetrical shape of the basin helps create the picturesque spatial qualities and changing views of the open landscape at the heart of the study area. The interplay between the curving basin landscape and the strongly axial form of the entire monumental core create design complexity within the overall park. City buildings outside the study area frame the landscape to the north and east.

The condition of spatial organization is *good*.

- Key spaces are clearly defined and retained through structures, lighting, vegetation, and other design elements.

Figure 22. The open basin with surrounding trees.

(Source: AECOM, 2019)

Figure 23. Designed memorial space at the perimeter of the basin.

(Source: AECOM, 2018)

VIEWS AND VISTAS

Several important internal and contextual views and vistas define the Tidal Basin landscape. Designed vistas connect buildings and structures in the landscape around the basin and in the monumental core. These primary designed vistas are available from the perimeter of the basin and the memorials. They include the visual connections between the Thomas Jefferson Memorial and the White House, Capitol, and the Lincoln, Franklin Delano Roosevelt, and Martin Luther King, Jr. Memorials. Other important characteristics of the landscape are the informal panoramic views and reflections in the water. The Washington Monument is visible from nearly every location around the Tidal Basin landscape. The visual prominence of the Thomas Jefferson Memorial at the edge of the basin (Figure 24) also makes it a focal point for views from other perimeter features such as the Japanese Lantern and Pagoda. Finally, reflections in the water of the cherry trees in bloom are a defining visual characteristic.

The condition of views and vistas is *fair*.

- The more distant vistas to the Capitol (Figure 25) and White House (Figure 26) are not clearly identifiable or interpreted in the landscape.
- Small-scale features such as trash receptacles and incompatible lights are located within important vista corridors.
- Tree growth and maturation encroaches on some key vistas, such as the vista corridor between the Thomas Jefferson Memorial to the White House.

Figure 24. Panoramic views of the Thomas Jefferson Memorial and cherry trees.

(Source: AECOM, 2019)

Figure 25. Vista towards the Capitol.

(Source: AECOM, 2018)

Figure 26. Vista from the Thomas Jefferson Memorial to the White House.

(Source: AECOM, 2018)

CONSTRUCTED WATER FEATURES

The cultural landscape contains large and small constructed water features, including the four-lobed 107-acre Tidal Basin as the centerpiece, with other smaller fountains around its perimeter. The basin structure (Figure 27) controls water flow through two historic automatic tidal gates at the Inlet and Outlet Bridges (Figure 28). Designed water features and fountains are integrated into most of the memorials: Fountain No. 4 (Figure 29) at the George Mason Memorial (recently rehabilitated), the John Paul Jones Memorial fountains, numerous major fountains at the Franklin Delano Roosevelt Memorial, and two cascading fountains at the Martin Luther King, Jr. Memorial. The Potomac River sea wall extends along the western side of the study area, following the eastern edge of the river.

The condition of the constructed water features varies from *unknown* to *poor*.

- The sea wall is in poor condition, showing significant signs of deterioration, cracking, chipping, and settlement.
- The John Paul Jones Memorial fountain is in poor condition and not functioning, although the stonework appears to be in good condition.
- The Franklin Delano Roosevelt and Martin Luther King, Jr. Memorial fountains appear to work inconsistently (are dry or leaking).
- The structural condition of the Inlet and Outlet gates is unknown. It appears that the Inlet gates are not opening and closing as intended. The Potomac River overtops the Inlet gates at high tide.
- The Potomac River sea wall appears to be deteriorating, with debris collecting around the shifting rip rap stones.
- Fountain No. 4 was recently rehabilitated and is in good condition.

Figure 27. The northern lobe, or lagoon.

(Source: AECOM, 2018)

Figure 28. The Outlet Bridge and gate below.

(Source: AECOM, 2018)

Figure 29. Fountain No. 4 at the George Mason Memorial.

(Source: AECOM, 2018)

NATURAL SYSTEMS AND FEATURES

Although the Tidal Basin landscape is entirely constructed and does not contain remnant Mid-Atlantic ecosystems such as woodlands or wetlands, natural systems continue to play an essential role in its function. Current natural systems conditions such as climate, tides, and flooding continue to act on the basin, causing water to breach the lower sea walls at high tide daily, with more dramatic breaches during major storms and freshets. The Tidal Basin and its landscape are also a habitat for fish, reptiles, birds, and small mammals and the National Park Service monitors and manages species such as geese, ducks, fish, and other animals.

This CLR does not assess the ecological conditions of the natural features and systems on the site, such as water quality, weather, or wildlife habitat, so they are *unknown*, although their effect on other built resources is often deleterious.

- Tides cause the water to breach the sea wall west of the Thomas Jefferson Memorial daily, inundating the walkway and trees (Figure 30).
- Storms cause flooding that breaches larger sections of the sea wall (Figure 31) and adjacent planting and memorial areas.
- Settlement and large-scale geological subsidence will likely result in sinking elevations throughout the Washington, DC area over the next several decades.
- Sea level rise will likely continue.
- Landscape conditions may continue to attract undesirable wildlife or pests, such as resident Canada geese, Norway rats, and beaver.

Figure 30. Regular high tide flooding over the Tidal Basin walkway.

(Source: AECOM, 2019)

Figure 31. Storm flooding northwest of the Inlet Bridge.

(Source: AECOM, 2019)

BUILDINGS AND STRUCTURES

Memorials of different scales and designs are the most prominent buildings and structures in the landscape. The John Paul Jones, Thomas Jefferson (Figure 32), George Mason, Franklin Delano Roosevelt, and Martin Luther King, Jr. (Figure 33) Memorials extend around the perimeter of the basin and commemorate major figures in US history. United by a material palette of stone and bronze, the memorials incorporate artwork, written inscriptions, and different design motifs to convey their narratives and values.

The Kutz Bridge (Figure 34) spans the northern lobe of the basin, terminating on the western side near the Japanese Lantern. The Independence Avenue overpass bridge is located east of the Kutz Bridge and creates a grade-separated crossing of Maine Avenue. The 15th Street Bridge is just west of the Outlet Bridge and carries pedestrian and vehicular traffic on Ohio Drive SW.

The Japanese Lantern (Figure 35) and Pagoda, located south of the Franklin Delano Roosevelt Memorial, are related in origin, size, materials, and design. Additional contemporary structures include the two concession kiosks—one at the Thomas Jefferson Memorial and one near the boat rental facility; the paddle boat rental facility (Figure 36) on the eastern side of the basin; and athletic structures such as fenced metal backstops.

This CLR does not assess the structural condition of buildings and structures, except to note readily observable exterior damage or access issues. The condition of buildings and structures appears to be *good* to *fair*.

- Some of the stonework on the memorials and bridges is discolored and chipped.
- The Independence Avenue SW overpass bridge shows signs of vehicular impacts, with major chips, cracks, and gouges on its arch. Other discoloration on the walls indicates possible water damage or movement.
- Accessibility is limited for several of the memorials and structures, including the concession kiosks.
- Visitor facilities, such as food concessions and restrooms, are inadequate for the number of visitors.

Figure 32. Thomas Jefferson Memorial.

(Source: AECOM, 2019)

Figure 33. Martin Luther King, Jr. Memorial.

(Source: AECOM, 2018)

Figure 34. Kutz Bridge.

(Source: AECOM, 2018)

Figure 35. Japanese Lantern and plaza.

(Source: AECOM, 2019)

Figure 36. Paddle boat rental facility.

(Source: AECOM, 2018)

VEGETATION

The vegetation of the Tidal Basin is characterized by historic plantings of ornamental cherry trees (*Prunus spp.*) (Figure 37); deciduous and evergreen trees; street trees such as elms (*Ulmus americana*); other specimen trees such as amur corks (*Phellodendron amurense*) (Figure 38); understory tree and shrub plantings; an herbaceous flower garden (or Floral Library); and mown grass ground cover. The Tidal Basin's most significant vegetation is the collection of cherry trees, and their pink and white bloom is the focus of the National Cherry Blossom Festival each spring. Elms line nearby streets, and hollies (*Ilex opaca*) (Figure 39) provide a dense evergreen screen between the basin and roadways. Each memorial contains a special palette of vegetation, including trees, shrubs, and other herbaceous plantings. The vegetation defines vistas and views, spatial organization, and supports different land uses. The age and condition of the vegetation varies substantially throughout the basin.

The condition of the vegetation varies from *good* to *poor*.

- Low branches of evergreen trees tend to accumulate debris and create a barrier to sunlight that makes it difficult to maintain adjacent groundcover.

- Heavy, zero-turn mowers used to mow groundcover around the cherry trees are contributing to soil compaction and damage to surface tree roots. Repeated, tight-radius turning with wide, rear tires creates a binding, twisting effect that is detrimental to sensitive, heavily shaded turf. This sensitive turf is especially vulnerable in early spring and late autumn.
- Overly dense, low-branched vegetation limits eye-level visibility.
- Soil compaction is evident throughout the cherry tree planting and is caused by heavy foot traffic from visitors leaving the paved walkways (Figure 40). Bicycles and scooters also cross tree root zones. Compaction is particularly evident in planted zones immediately adjacent to the basin walkway.
- Soil erosion under cherry tree stands, caused by rainwater sheet flow across bare soil, acts to expose root systems by forcing a migration of soil towards lower elevations.
- Low cherry tree branches extend over walkways, impeding visitor head clearance.
- Tree root uplifting and differential settlement causes pavement heaving.
- Visitors climb or pull tree branches, which results in broken tree limbs, damaged bark, and the related introduction of fungus and disease to the tree.
- Beavers periodically threaten tree health and survival.
- Flooding threatens trees around the perimeter of the basin.
- The predominance of Yoshino cherries creates a risk for disease and pest damage.
- Mature trees are growing into vista corridors.

Figure 37. The cherry trees in bloom.

(Source: AECOM, 2019)

Figure 38. Amur cork specimen tree.

(Source: AECOM, 2018)

Figure 39. Holly trees.

(Source: AECOM, 2018)

Figure 40. Cherry tree roots exposed and compacted by pedestrians.

(Source: AECOM, 2018)

CIRCULATION

An interconnected system of walkways and roadways accommodate pedestrian, bicycle and vehicular circulation through the Tidal Basin landscape. Visitor access to the Tidal Basin landscape takes place by tour bus, personal vehicle, taxi and ride sharing services, bicycle, and on foot from adjacent sidewalks. These various modes of transportation provide different entries to the landscape and the memorials. Paddle boats are another popular circulation mode at the basin.

The Tidal Basin landscape is most widely accessible by pedestrians, particularly around the basin perimeter walkway (Figure 41). The system also accommodates bicycles (Figure 42) and, increasingly, motorized personal vehicles such as Segways and electric scooters through bike trails and parking stations. Vehicular traffic is primarily limited to the periphery of the Tidal Basin landscape, although a parking area (Figure 43) borders the northeastern side of the basin. Roads include Maine Avenue SW, Raoul Wallenberg Place SW, Ohio Drive SW, East Basin Drive SW, West Basin Drive SW, Independence Avenue SW, and 17th Street SW. Granite curbs line most roads.

The condition of circulation features varies from *good* to *poor*.

- Most pedestrian walkways are not compliant with current accessibility standards.
- Soil migration from rainwater runoff across the bare soil collects on the basin's walkways.
- Silt and debris from flood events collect on the walkways.
- Pavement heaving created by tree root uplifting and differential settlement has developed uneven concrete panel elevations that can become tripping hazards. Heaving and differential settlement also creates cross slopes that exceed design standards.
- The basin walkway is typically narrow in width, with frequent pavement trip hazards, low hanging tree limbs and a reduced lighting environment that present dangerous obstacles to visitor safety.
- Social trails (Figure 44) result in compacted soil, which is damaging to tree root system and destroys groundcover, exacerbating soil erosion.
- Connecting asphalt paved paths are incompatible with the character of the historic landscape.
- Selected areas of the basin walkway are closed due to tidal flooding.
- The volume of bus traffic is very high in peak travel seasons and during the National Cherry Blossom Festival.

Figure 41. Basin walkway and Maine Avenue SW.

(Source: AECOM, 2018)

Figure 42. Cyclists on an asphalt path.

(Source: AECOM, 2018)

Figure 43. Vehicular parking between the basin and Maine Avenue SW.

(Source: AECOM, 2018)

Figure 44. Social trails near the bus drop-off on West Basin Drive SW.

(Source: AECOM, 2019)

TOPOGRAPHY

The topography of the Tidal Basin landscape is entirely engineered by cut and fill with no natural contours. It is slightly bowl-shaped: higher along the perimeter of the study area and lowest at the basin edge (Figure 45), which is subject to further settlement due to its marshy foundation. The topography undulates slightly to form planting areas and is shaped with retaining walls, raised planting beds, and sloped walkways at the memorials. Flooding, erosion, and compaction threaten the form and condition of the study area's topography.

The condition of the topography varies from *good* to *poor*.

- Sections of the study area that are less subject to high visitor use are in good condition, with few signs of erosion or soil compaction.
- Slopes in high visitation areas are critically compacted and eroded.
- Many planting areas near existing walkways are trampled, compacted, and eroding.
- Planting areas in deep shade cannot retain an adequate vegetation understory or ground cover layer, resulting in soil erosion (Figure 46).
- Incompatible wooden beams are used to retain eroding soil in selected locations.
- Terracing and raised planting beds associated with the memorials appear to be in good condition.

Figure 45. Engineered topography around the basin perimeter.

(Source: AECOM, 2018)

Figure 46. Bare slope beneath holly trees.

(Source: AECOM, 2018)

SMALL-SCALE FEATURES

The Tidal Basin landscape contains a range of small-scale features; most of the features meet National Park Service standard designs. Several types of wood and metal benches, trash receptacles, wayside exhibits, lights, fences (Figure 47) and signs (Figure 48) are located throughout the landscape, with the heaviest concentration of site furnishings at the memorials. The memorials and the Kutz Bridge include custom-designed small-scale features such as lights and benches.

The condition of the small-scale features varies from *good* to *poor*.

- Bicycle racks appeared to be significantly under-utilized. Although many non-commuting bicyclists and bicycle tour groups were observed traveling through the Tidal Basin landscape, they rarely parked their bikes to further explore the memorials on foot.
- Mesh fence is installed in some locations without any anchoring and as a result is often loosely encircling the area it is intended to protect.
- Wayfinding sign panels mounted on pylons are missing or coming loose.
- The wayfinding system of maps and signs is not used consistently.
- The basin walkway railings do not meet design standards for guardrails.
- Temporary barriers blocking walkways are easy to shift.
- Jersey barriers, chain link, and plastic mesh fences are incompatible with the historic landscape (Figure 49).
- Small-scale features such as benches and trash receptacles (Figure 50) are distributed throughout the landscape in patterns that may not maximize their use or compatibility with the character of the landscape. Very few benches are located on the eastern side of the basin and trash receptacles are located in important view corridors.

Figure 47. Multiple types of fencing and railing.

(Source: AECOM, 2018)

Figure 48. Sign at the Floral Library.

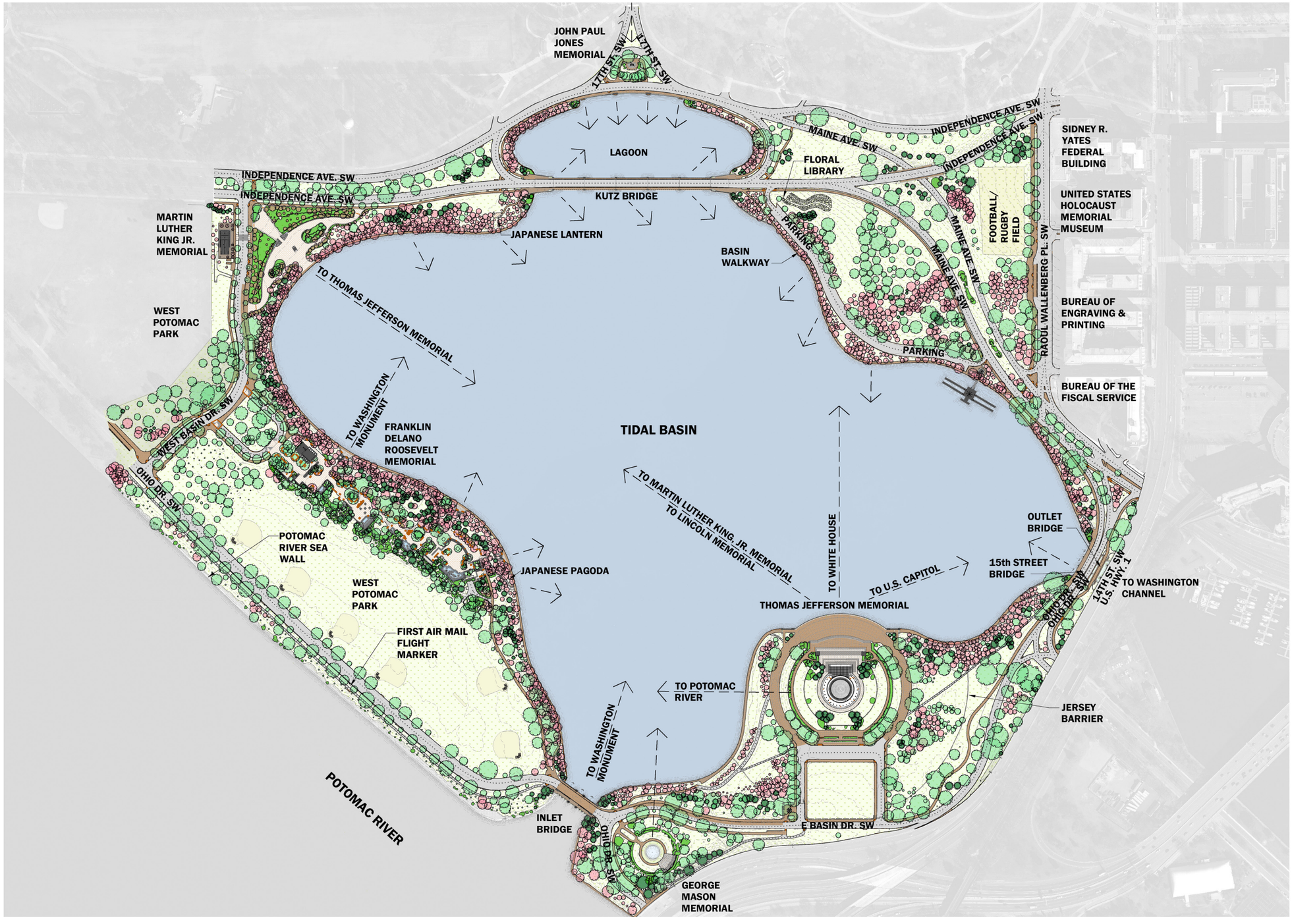
(Source: AECOM, 2018)

Figure 49. Jersey barriers and National Park Service standard wayfinding sign, trash and recycling receptacles, bike racks, and post-and-chain fencing at the Thomas Jefferson Memorial.

(Source: AECOM, 2018)

Figure 50. National Park Service benches and wayfinding signs, Washington globe lights, and trash receptacles

(Source: AECOM, 2018)



NATIONAL PARK SERVICE
TIDAL BASIN
CULTURAL LANDSCAPE REPORT

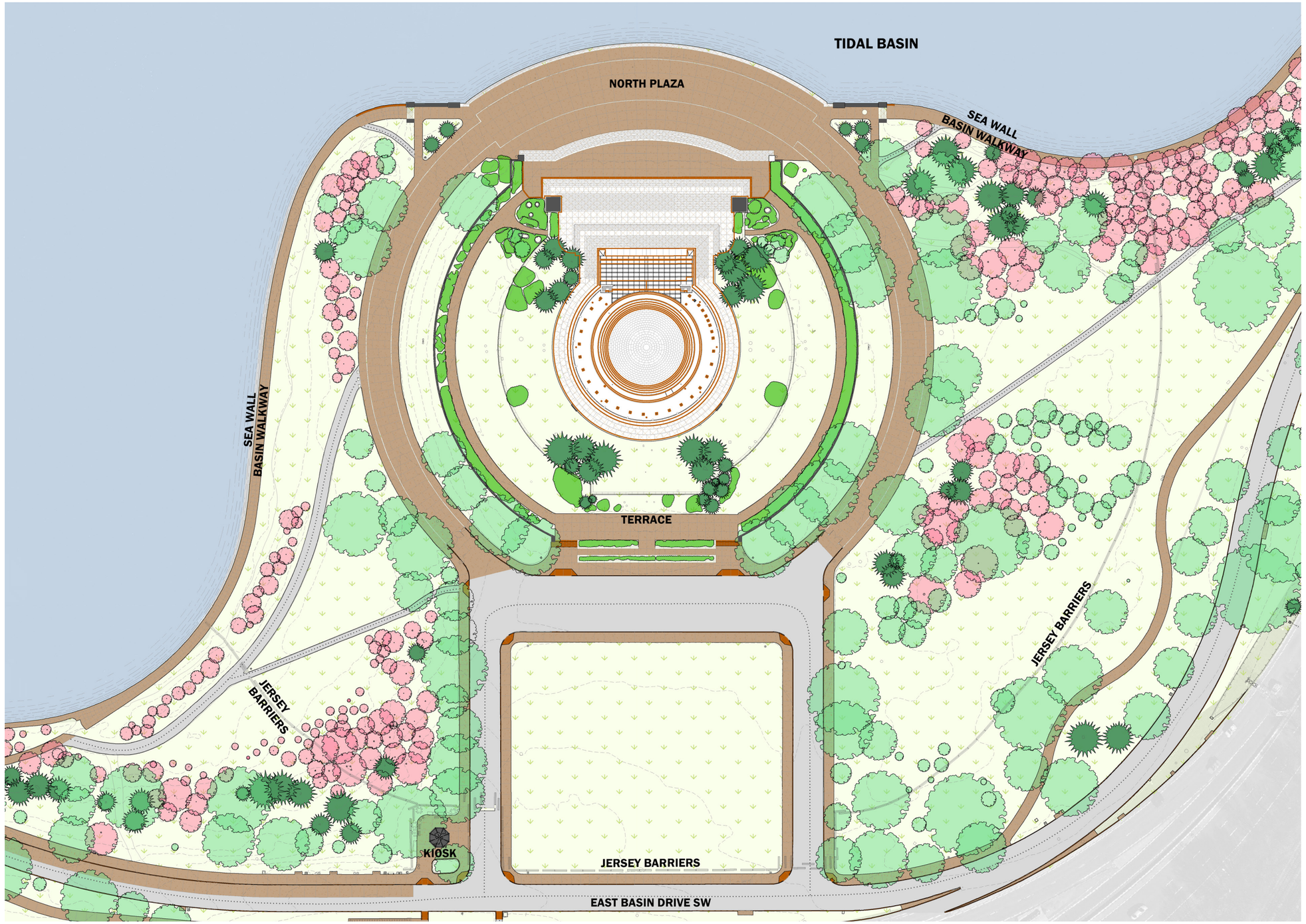
EXISTING CONDITIONS BASE MAP

KEY

- ASPHALT PAVING
- CONCRETE PAVING
- STONE PAVING
- RIP RAP
- WATER
- KUTZ BRIDGE LIGHT
- GOOSENECK LIGHT
- WASHINGTON GLOBE
- TWIN-TWENTY LIGHT
- CONCRETE & WOOD BENCH
- NPS BENCH
- NPS BENCH (SLATS)
- GRANITE SLAB BENCH
- TRASH/RECYCLING
- POST & CHAIN FENCE
- FIRE HYDRANT
- DRINKING FOUNTAIN
- DECIDUOUS TREE
- CHERRY TREE
- EVERGREEN TREE
- SHRUBS
- GARDEN BED
- LAWN
- VIEWS AND VISTAS

0 400 N
1"=400'

Drawing 1. Existing conditions base map.



NATIONAL PARK SERVICE
TIDAL BASIN
CULTURAL LANDSCAPE REPORT

PLAN ENLARGEMENTS: THOMAS JEFFERSON MEMORIAL

KEY

- ASPHALT PAVING
- CONCRETE PAVING
- STONE PAVING
- RIP RAP
- WATER
- KUTZ BRIDGE LIGHT
- GOOSENECK LIGHT
- WASHINGTON GLOBE
- TWIN-TWENTY LIGHT
- CONCRETE & WOOD BENCH
- NPS BENCH
- NPS BENCH (SLATS)
- GRANITE SLAB BENCH
- TRASH/RECYCLING
- POST & CHAIN FENCE
- FIRE HYDRANT
- DRINKING FOUNTAIN
- DECIDUOUS TREE
- CHERRY TREE
- EVERGREEN TREE
- SHRUBS
- GARDEN BED
- LAWN
- VIEWS AND VISTAS

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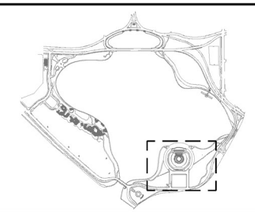
1"=100'



Drawing 2. Plan enlargement, Thomas Jefferson Memorial.

NATIONAL PARK SERVICE
TIDAL BASIN
CULTURAL LANDSCAPE REPORT

PLAN ENLARGEMENTS: GEORGE MASON MEMORIAL AND INLET BRIDGE

KEY

- ASPHALT PAVING
- CONCRETE PAVING
- STONE PAVING
- RIP RAP
- WATER
- KUTZ BRIDGE LIGHT
- GOOSENECK LIGHT
- WASHINGTON GLOBE
- TWIN-TWENTY LIGHT
- CONCRETE & WOOD BENCH
- NPS BENCH
- NPS BENCH (SLATS)
- GRANITE SLAB BENCH
- TRASH/RECYCLING
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- DECIDUOUS TREE
- CHERRY TREE
- EVERGREEN TREE
- SHRUBS
- GARDEN BED
- LAWN
- VIEWS AND VISTAS

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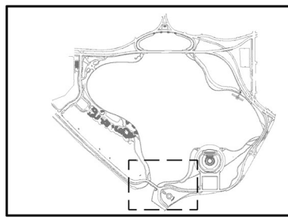
1"=100'



Drawing 3. Plan enlargement, George Mason Memorial.

NATIONAL PARK SERVICE
TIDAL BASIN
CULTURAL LANDSCAPE REPORT

PLAN ENLARGEMENTS: FRANKLIN DELANO ROOSEVELT MEMORIAL AND JAPANESE PAGODA

KEY

- ASPHALT PAVING
- CONCRETE PAVING
- STONE PAVING
- RIP RAP
- WATER
- KUTZ BRIDGE LIGHT
- GOOSENECK LIGHT
- WASHINGTON GLOBE
- TWIN-TWENTY LIGHT
- CONCRETE & WOOD BENCH
- NPS BENCH
- NPS BENCH (SLATS)
- GRANITE SLAB BENCH
- TRASH/RECYCLING
- POST & CHAIN FENCE
- FIRE HYDRANT
- DRINKING FOUNTAIN
- DECIDUOUS TREE
- CHERRY TREE
- EVERGREEN TREE
- SHRUBS
- GARDEN BED
- LAWN
- VIEWS AND VISTAS

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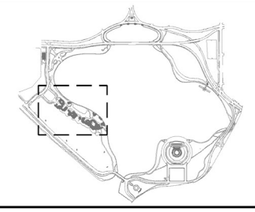
1"=100'



Drawing 4. Plan enlargement, Franklin Delano Roosevelt Memorial.

NATIONAL PARK SERVICE TIDAL BASIN CULTURAL LANDSCAPE REPORT

PLAN ENLARGEMENTS: MARTIN LUTHER KING, JR. MEMORIAL AND JAPANESE LANTERN

KEY

- ASPHALT PAVING
- CONCRETE PAVING
- STONE PAVING
- RIP RAP
- WATER
- KUTZ BRIDGE LIGHT
- GOOSENECK LIGHT
- WASHINGTON GLOBE
- TWIN-TWENTY LIGHT
- CONCRETE & WOOD BENCH
- NPS BENCH
- NPS BENCH (SLATS)
- GRANITE SLAB BENCH
- TRASH/RECYCLING
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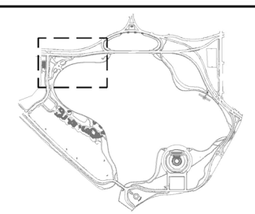
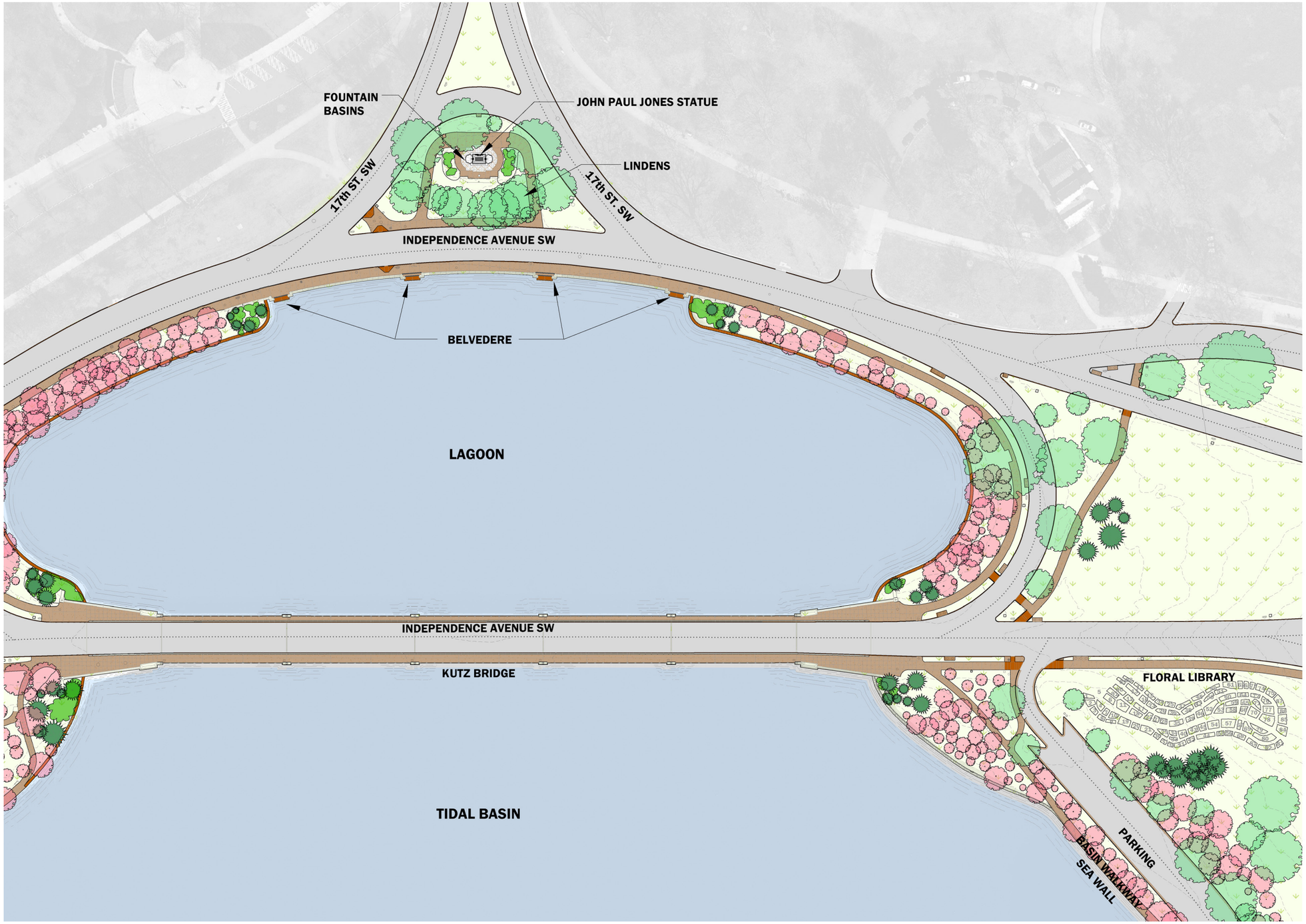
- DECIDUOUS TREE
- CHERRY TREE
- EVERGREEN TREE
- SHRUBS
- GARDEN BED
- LAWN
- VIEWS AND VISTAS

0 100 N

1"=100'



Drawing 5. Plan enlargement, Martin Luther King, Jr. Memorial.



NATIONAL PARK SERVICE
TIDAL BASIN
CULTURAL LANDSCAPE REPORT

PLAN ENLARGEMENTS: JOHN PAUL JONES MEMORIAL, KUTZ BRIDGE, AND FLORAL LIBRARY

KEY

- ASPHALT PAVING
- CONCRETE PAVING
- STONE PAVING
- RIP RAP
- WATER
- KUTZ BRIDGE LIGHT
- GOOSENECK LIGHT
- WASHINGTON GLOBE
- TWIN-TWENTY LIGHT
- CONCRETE & WOOD BENCH
- NPS BENCH
- NPS BENCH (SLATS)
- GRANITE SLAB BENCH
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- CHERRY TREE
- EVERGREEN TREE
- SHRUBS
- GARDEN BED
- LAWN
- VIEWS AND VISTAS

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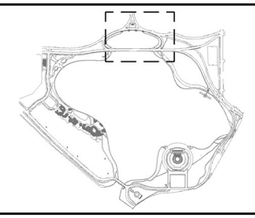
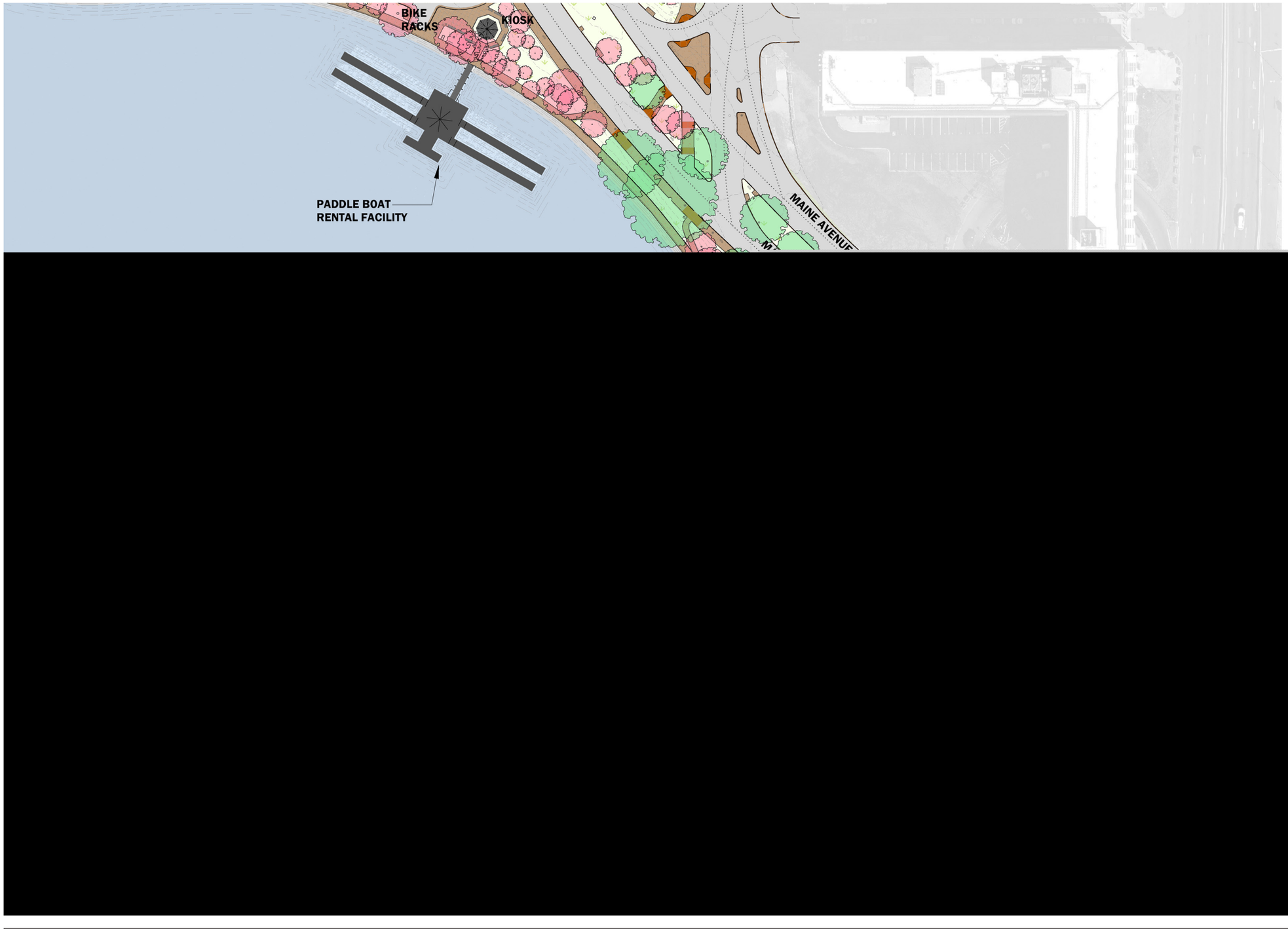
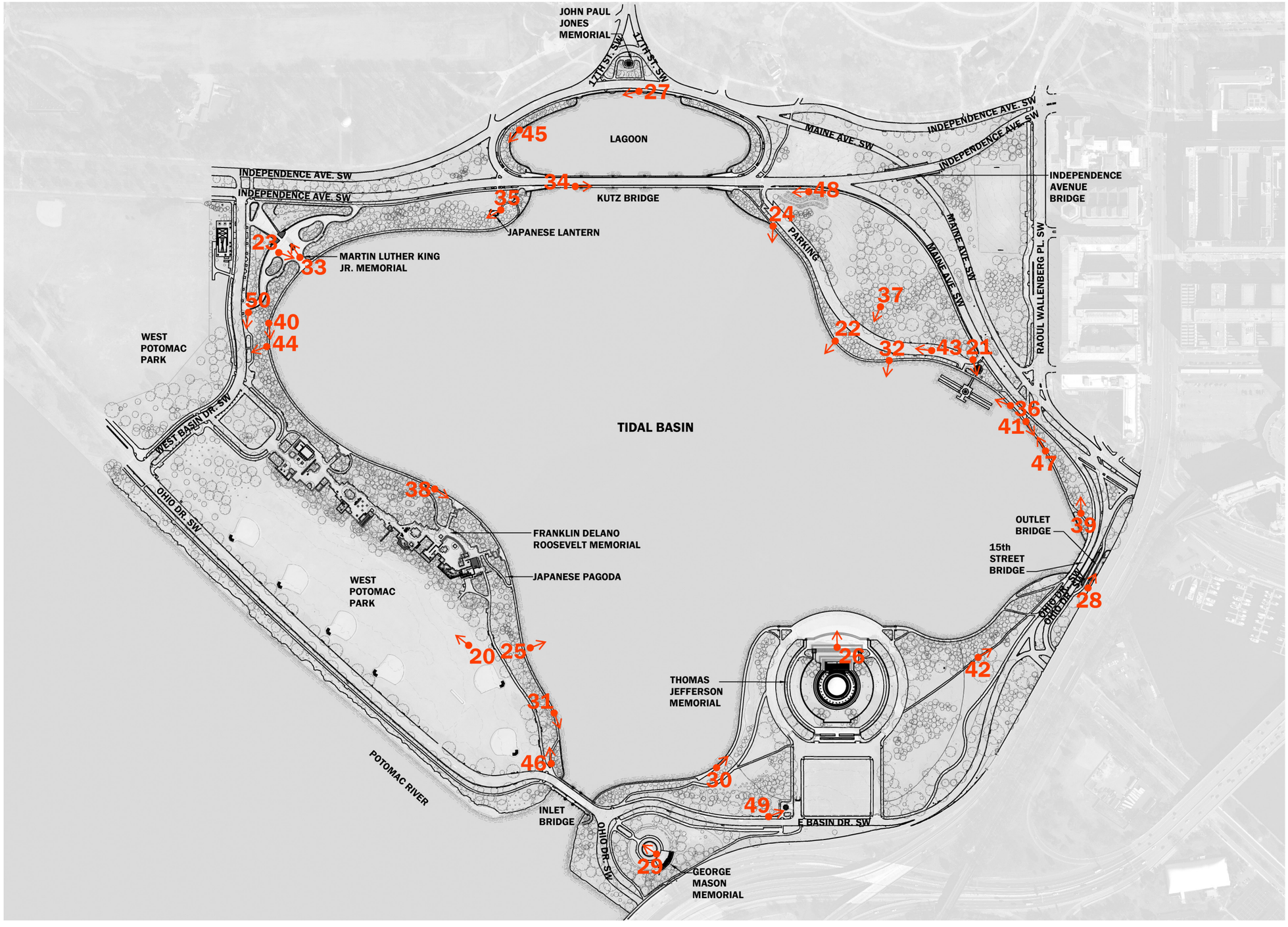
1"=100'



Drawing 6. Plan enlargement, John Paul Jones Memorial.



Drawing 7. Plan enlargement, boat rental and bridges.



NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

PHOTOGRAPHIC STATION POINTS

KEY

24 **PHOTO STATION POINT**

STATION POINTS ARE KEYED TO FIGURE NUMBERS IN THE EXISTING CONDITIONS SUMMARY.

0 400 N

1"=400'

Drawing 8. Photographic station points map.

Analysis & Evaluation Summary

The National Park Service states in its *Cultural Resource Management Guideline* that "cultural resources may be cherished for their beauty or utility or a host of other reasons. But it is the ability to connect one generation to another that gives them their most valued attribute: an inherent capacity to mold and reinforce our identities as social creatures… Cultural resources constitute a unique medium through which all people, regardless of background, can see themselves and the rest of the world from a new point of view." Cultural resources may be linked to noteworthy people or events, may embody artistic accomplishments, or may be important in the cultural system of a group of people. As a type of cultural resource, a cultural landscape has particular physical characteristics and also consists of ideas, events, and relationships. The social and physical dimensions of a cultural landscape such as the Tidal Basin are inseparably interwoven (National Park Service 1998a).

The Tidal Basin is both a collection of significant individual resources and an integrated network of historic natural and built systems. The Tidal Basin's interrelationship between natural and cultural components illuminates the passage of time in the city in many ways—from the daily ebb and flow of the tides through the constructed basin, to the annual blossoming of the cherry trees around its perimeter, to the commemorative works that portray the long arc of history in the United States through the commemoration of iconic people and events in our nation's progress.

The following narrative documents the significance of the Tidal Basin landscape according to the national standards described in the National Register of Historic Places and other National Park Service guidance. As a landscape with multiple layers of significance and multiple historic property designations, the Tidal Basin presents a complex challenge for both analysis and evaluation. The discussion that follows provides a summary of the landscape's historic context and description of features as identified in previous nominations. New documentation undertaken for the Historic American Landscapes Survey and Cultural Landscape Inventory programs is included to provide a holistic landscape-oriented focus to the analysis.

NATIONAL PARK SERVICE EVALUATIONS

The National Register of Historic Places has recognized the historic significance of the Tidal Basin and the important relationship between its individual components and the urban form of its surrounding context. Although the Tidal Basin is not an individually-listed National Register of Historic Places property, many of the Tidal Basin landscape resources are individually-listed or are identified as contributing sites or structures for other larger historic properties, or both. The Tidal Basin appears to be eligible for individual-listing on the National Register of Historic Places. This CLR summarizes the information presented in National Register of Historic Places nominations and related documents to describe the historic contexts and periods of significance, integrity, and contributing resources of the landscape.

A cultural landscape must possess significance at the local, state, or national level under one or more of the following four National Register of Historic Places criteria:

- Criterion A. It is associated with events that have made a significant contribution to the broad patterns of our history.
- Criterion B. It is associated with the lives of persons significant in our past.
- Criterion C. It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D. It has yielded, or may be likely to yield, information important in prehistory or history.

A cultural landscape that meets one or more of the criteria must also retain the essential features and characteristics that enable it to convey its historic identity, meaning it retains integrity of location, design, setting, materials, workmanship, feeling, and association. The overall integrity of the Tidal Basin is assessed as a part of this CLR.

Some types of properties are normally excluded from listing on the National Register of Historic Places: religious properties, relocated properties, birthplaces and graves, cemeteries, reconstructed properties, commemorative properties, and properties achieving significance within the past fifty years. However, if these types of properties meet the standard requirements for significance and integrity and also meet special requirements called criteria considerations, then they may be eligible for listing. The criteria considerations A-G provide a set of standards for National Register of Historic Places eligibility under the following conditions:

a. A religious property deriving primary significance from architectural or artistic distinction or historical importance.

b. A building or structure removed from its original location, but which is significant primarily for architectural value or which is the surviving structure most importantly associated with a historic person or event.

c. A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his or her productive life.

d. A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, from association with historical events.

e. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a Restoration master plan, and when no other building or structure with the same association has survived.

f. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance.

g. A property achieving significance within the past fifty years if it is of exceptional importance.

HISTORIC PROPERTIES

L'ENFANT AND MCMILLAN PLANS

The L'Enfant Plan of the City of Washington, District of Columbia, defines the monumental core of the nation's capital. Designed in 1791 by Pierre L'Enfant, with a design response in 1901-1902 by the McMillan Commission, the plan established ceremonial parks and greenswards, a grid of streets overlaid by radiating avenues, and designed corridors and vistas in one baroque masterpiece. The L'Enfant Plan National Register of Historic Places nomination (1994) states that the property is significant under criteria A, B, and C for the themes of community planning and design, landscape architecture, politics and government, and transportation, with a period of significance of 1790-1942. West Potomac Park (Reservation no. 332) contributes to the L'Enfant Plan and is closely associated with the design of the later McMillan Plan. Features within West Potomac Park referenced in the L'Enfant Plan National Register of Historic Places nomination include the Tidal Basin, Inlet Bridge, Thomas Jefferson Memorial, Japanese Cherry Trees, Japanese Lantern and Pagoda, Kutz Bridge, John Paul Jones statue, and other landscape features such as paths, lights, and elaborate plantings.

NATIONAL MALL

The National Mall design reflects the "two seminal historic plans for the federal city": the L'Enfant Plan and the McMillan Plan, which expressed the democratic vision of the constitution through the arrangement of the country's iconic public spaces. The "great cross axis of the National Mall" spatially and symbolically linked the Capitol, Lincoln Memorial, Potomac River, White House and Thomas Jefferson Memorial, identified with the seats of political power and statesmen of the republic. The nomination, originally written in 1981 and updated in 2016, identifies four primary component landscapes within the overall district of nearly 700 acres: the Mall, President's Park South, Washington Monument Grounds, and West Potomac Park, of which the Tidal Basin is a part. The historic district is nationally significant under criterion A for the years 1791-present in the areas of politics and government, ethnic heritage, social history, education, and entertainment and recreation and locally significant as a recreational space for the citizens of the city. The National Mall is also nationally significant under criterion C for the years 1791-1965 in the areas of art, architecture, community planning and development, engineering, and landscape architecture, and has local significance under criterion D. The nomination lists the stone sea walls, Tidal Basin, Outlet Bridge, Inlet Bridge, Fountain No. 4, Kutz Bridge, Independence Avenue, John Paul Jones statue, Thomas Jefferson Memorial and grounds, First Cherry Tree Planting Plaque, First Airmail Flight Marker, Japanese Lantern, Japanese Pagoda, Franklin Delano Roosevelt Memorial, George Mason Memorial, Martin Luther King Jr. Memorial, Ohio Drive, and Raoul Wallenberg Plaza as contributing resources.

EAST AND WEST POTOMAC PARKS

East and West Potomac Parks comprise a 730 acre historic district first listed on the National Register of Historic Places in 1973. A revised nomination for the property was completed in 2001. Significant as a set of urban parks with recreational and commemorative uses, the landscape's contributing resources include the John Paul Jones statue, the Japanese cherry trees, the Japanese Pagoda, the Japanese Lantern, Kutz Memorial Bridge, the Thomas Jefferson Memorial, the Tulip Gardens (now known as the Floral Library), open park land, parkways and walkways, and other features outside the CLR study area. Nearly a quarter of the West Potomac Park area is taken up by the Tidal Basin. In addition to the many important historic resources throughout the parks, the property is also significant for its special events, including the annual National Cherry Blossom Festival held every year since 1935. The design of the parks evolved over more than a century, capturing the talents of numerous architects, engineers, and landscape architects. The updated period of significance extends from 1882 to 1997. The property is significant under criteria A and C and criteria considerations B, F, and G. Its

multiple areas of significance include architecture, art, landscape architecture, engineering, transportation, and other categories of historical importance. Significant characteristics and resources of West Potomac Park include an irregular spatial organization, iconic views and vistas, the open and curving Tidal Basin, naturalistic plantings, lawn areas, and the Thomas Jefferson Memorial. The placement of the memorial satisfied a major goal of the L'Enfant and McMillan Plans, which stipulated the addition of a monument terminating the National Mall cross axis opposite the White House. Other contributing features are listed below.

AMERICAN REVOLUTIONARY STATUARY

The American Revolutionary Statuary nomination was completed in 1978. It documents a dispersed set of 14 statues depicting important figures of the Revolutionary War period, with significance relating to politics/government, military, and sculpture. The statues are located throughout the city of Washington, DC in squares, circles, and adjacent lands. The thematic group consists of standing pedestrian or equestrian figures, usually cast bronze or marble in a realistic style and placed on stone pedestals. Dedicated between 1860 and 1938, most are owned by the National Park Service. The National Register of Historic Places nomination for the statuary states that they "are part of an outstanding collection of nineteenth and twentieth century sculpture by some of the most noted sculptors in the country. Thus, apart from their historic and commemorative association, they constitute part of the artistic treasures of the nation" (National Park Service 1978).

The sculpture collection includes an equestrian statue of George Washington; a marble portrait statue of Benjamin Franklin; a bronze equestrian memorial to Nathanael Greene; a bronze figure of Nathan Hale; a standing bronze statue of John Barry; a bronze statue of John Witherspoon; a bronze figure of Edmund Burke; an equestrian monument to Casimir Pulaski; a standing portrait statue of Gilbert de Lafayette; a bronze figure of Thaddeus Kosciusko; a bronze portrait statue of Frederick Wilhelm von Steuben; a bronze portrait statue of Jean de Rochambeau; a memorial to Artemas Ward; and a bronze portrait statue of John Paul Jones sculpted by Charles Neihaus in 1912, which is located within the CLR study area at the terminus of 17th Street SW.

THOMAS JEFFERSON MEMORIAL

The Thomas Jefferson Memorial is situated on 19.2 acres of land at the southern end of the Tidal Basin. The memorial is a neoclassical limestone and marble edifice originally designed by John Russell Pope with a bronze statue by Rudolf Evans and multiple inscriptions on the walls of the monument. It contributes to the 1902 McMillan Plan's overall monumental framework for the city. Its

encircling roadway, artwork, terrace walls, sidewalks, plantings, sea wall, and other features are important contributing resources. The property has significance under criteria A and C and criteria consideration F, due its commemorative purpose. Its areas of significance include architecture, community planning and development, landscape architecture, painting and sculpture. The National Register of Historic Places nomination, completed in 1981, identifies 1937-1943 as key dates. The 2004 Cultural Landscape Inventory for the memorial listed its period of significance as 1934-1943, which includes the creation of the memorial commission, the design, construction, and dedication dates for the property. The landscape—used continuously as a memorial since its construction—retains a high level of integrity (National Park Service 2004b). The memorial is also a contributing feature for East and West Potomac Parks and the National Mall. Adjacent lands within West Potomac Park also contribute to the significance and integrity of the Thomas Jefferson Memorial and grounds.

WASHINGTON MONUMENT GROUNDS

The Washington Monument Grounds make up a 106-acre cultural landscape that is part of the National Mall and Memorial Parks system. It is bounded on the south by the Tidal Basin. The Washington Monument Grounds were first listed on the National Register of Historic Places through the National Historic Preservation Act in 1966, and through a nomination in 1980. A 2009 Cultural Landscape Inventory provided additional detail about the landscape's historic context and features. These documents listed the areas of significance as architecture, archaeology, community planning and development, engineering, and landscape architecture under criteria A, C, and D, with a period of significance for the property as 1791-1943. Vistas between the Washington Monument and Thomas Jefferson Memorial; circulation features such as Independence Avenue SW, the Independence Avenue overpass bridge, and the Tidal Basin parking lot corridor and its related street trees; the Tidal Basin sea walls and walkway; 17th Street SW; and other landscape features contribute to the landscape. Features that do not contribute to the landscape were identified as the boat dock, kiosks, and the Tulip Library, among others.

HERITAGE DOCUMENTATION OF THE TIDAL BASIN

The National Park Service's Heritage Documentation Programs administer the Historic American Building Survey and its companion programs, the Historic American Engineering Record and Historic American Landscapes Survey. The Tidal Basin and its resources have been the subject of two heritage documentation studies that provided important information for this study.

HISTORIC AMERICAN ENGINEERING RECORD

The Tidal Basin was documented as part of the Tidal Basin Reservoir and Bridges Recording Project for the Historic American Engineering Record, DC-09. The project culminated in 2000 with photography, historical and descriptive data, and drawings. The Historic American Engineering Record documentation provides an illustrative and written overview of the basin and detailed information about the flow of water through the automatic gates during rising and falling tides, and through the lock and curtain gates to allow the passage of vessels or control of water during floods.

HISTORIC AMERICAN LANDSCAPES SURVEY

The Tidal Basin was documented for the Historic American Landscapes Survey program as Historic American Landscapes Survey DC-59 in 2017-18. In addition to the historical data and drawings, the Historic American Landscapes Survey identifies the character-defining features of the landscape, organized by zone and by landscape characteristic. The survey represents the most up-to-date landscape assessment for the Tidal Basin and provided critical information for this CLR.

SIGNIFICANCE

The significance of the Tidal Basin landscape has been well documented in multiple National Register of Historic Places nominations, described above. Its national and local level significance clusters around themes associated with two criteria (A and C). These themes include: transportation, politics/government, commemoration, city planning, entertainment/recreation, architecture, landscape architecture, sculpture, art, engineering. Criteria considerations (F and G, described below) provide additional context for the cultural landscape.

The Tidal Basin is an important component of the monumental core of the nation's capital city. First engineered in the 1880s, the basin is a major structure within the national capital's park system and urban plan. The initial ambitious reclamation effort transformed the muddy seam between the Potomac River and city into a vital and dynamic public space. The creation of the basin landscape helped fulfill the design intent of the L'Enfant and McMillan Plans by combining commemorative, civic, and recreational uses in one complex park. Managed by multiple government agencies over its history, the landscape's spaces and activities help revitalize shared civic values for millions of people, including local residents and visitors.

Initially an ambitious work of civil engineering by the US Army Corps of Engineers, the reclamation project ultimately created approximately 2.5 miles of

new sea wall, over a hundred acres of new parkland, and the 107-acre basin within what is now the Tidal Basin cultural landscape. The landscape's centerpiece is the gently curving, four-lobed, gated, water management basin: a marriage of form and function that provided a structure for the designed park and memorial elements that would follow. Features such as the basin walkway and open fields enabled both active and passive recreation for people living in the capital city; strolling, fishing, boating, and ball games have been some of the many historic recreational activities around the basin. The basin's use diversified with the addition of many new commemorative structures and features: major memorials to important figures in American history, plaques, and plantings that are the focus of commemorative activities and events.

The War Department, Office of Public Buildings and Grounds, and the National Park Service are federal agencies that have managed this landscape throughout its history. These stewardship agencies (and other groups such as the McMillan Commission, the Commission of Fine Arts, and the National Capital Planning Commission) have led the design evolution of the Tidal Basin landscape over more than a century. The Tidal Basin landscape represents the design and planning efforts of many notable architects, landscape architects, engineers, and artists bridging design eras from the City Beautiful movement to Modernism. Notable designers and artists whose work is evident in the landscape include Frederick Law Olmsted Jr., Lawrence Halprin, Paul Phillipe Cret, John Russell Pope, Charles Niehaus, and others (Table 3). The Tidal Basin's iconic landscape spaces and features such as the Thomas Jefferson, Franklin Delano Roosevelt and Martin Luther King, Jr. Memorials and the collection of cherry trees "have become symbols of the city of Washington, DC" (National Park Service 2001).

CRITERIA CONSIDERATION F

The Tidal Basin landscape contains many important commemorative spaces, structures, and functions. According to National Register Bulletin 15, commemorative properties are designed or constructed after the occurrence of an important historic event or after the life of an important person. They "serve as evidence of a later generation's assessment of the past. Their significance comes from their value as cultural expressions at the date of their creation." The landscape satisfies criteria consideration F because the commemorative works are "signifiers of broader cultural attitudes" and have design significance in their own right (National Park Service 2016).

CRITERIA CONSIDERATION G

Criteria consideration G provides eligibility for properties less than 50 years old of exceptional importance. Sufficient historical perspective, such as a related

historic context study, is required to determine the importance of the resource. This CLR does not evaluate two of the memorials recently added to the Tidal Basin landscape: the Franklin Delano Roosevelt Memorial, dedicated in 1997, and the Martin Luther King, Jr. Memorial, opened in 2011. The George Mason Memorial, dedicated in 2002, incorporated the historic Fountain No. 4 in a design that was characterized as the "essence of historic preservation," suggesting that a key portion of the memorial retained significance to an earlier date (National Park Service 2018a). The *National Mall Plan* identifies the broader landscape and its collection of memorials and monuments as uniquely symbolic and significant spaces and resources, confirming the exceptional national significance of the Tidal Basin's more recent memorials and fulfilling the requirements of criteria consideration G for properties less than 50 years old.

Table 3. The Tidal Basin's key designers, artists, and engineers

Name	Group	Discipline	Key Dates	Influence
Major Nathaniel Michler	Army Corps of Engineers	Engineer	1867-1870	Proposed major dredging and reclamation to maintain the required depth at the Potomac River channel
Sylvanus Thayer Abert	Army Corps of Engineers	Engineer	1874-1882	Recommended the flats curve to the Long Bridge causeway
Major W.J. Twining	Army Corps of Engineers	Engineer	1878-1879	Proposed sluicing basins with gates to flush the Washington Channel
Major Peter Conover Hains	Army Corps of Engineers	Engineer	c. 1883-1897	Oversaw construction of the Tidal Basin and sea wall, designed the Outlet Bridge
Colonel Theodore A. Bingham	Office of Public Buildings and Grounds	Engineer	1897-1903	Developed plans for Potomac Park, oversaw construction of roads and the raising of the sea wall
Colonel Thomas Symons	Office of Public Buildings and Grounds	Engineer	1903-1904	Oversaw road construction and elm planting
Colonel Charles S. Bromwell	Office of Public Buildings and Grounds	Engineer	1904-1909	Oversaw construction of roads in West Potomac Park
Colonel Spencer Cosby	Office of Public Buildings and Grounds	Engineer	1909-1913	Oversaw numerous the addition of recreational spaces and uses at the Tidal Basin, including promenades, horse track, bandstand, and golf course; oversaw the planting of the first cherry trees
Colonel William Harts	Office of Public Buildings and Grounds	Engineer	1913-1917	Oversaw the construction of the bathing beach on the southern side of the basin

NAME	GROUP	DISCIPLINE	KEY DATES	INFLUENCE
George Burnap	Office of Public Buildings and Grounds	Landscape architect	1913	Created the cherry tree planting plans
John Russell Pope	John Russell Pope, Architects	Architect	1937	Principal designer for the Thomas Jefferson Memorial
Rudolf Evans		Sculptor	1943	Designed the statue of Thomas Jefferson
Frederick Law Olmsted, Jr.	Olmsted Brothers	Landscape Architect	1943	Designed the landscape at the Thomas Jefferson Memorial
Paul Philippe Cret	Paul Philippe Cret	Architect	1943	Designed the Kutz Bridge in collaboration with Modjeski & Masters
Ralph Modjeski	Modjeski & Masters	Engineers	1943	Designed the Kutz Bridge in collaboration with Paul Philippe Cret
Frank Masters	Modjeski & Masters	Engineers	1943	Designed the Kutz Bridge in collaboration with Paul Philippe Cret
Darwina Neal	National Park Service	Landscape Architect	1969	Designed the Floral Library
Lawrence Halprin	Halprin Associates	Landscape Architect	1982-1997	Designed the Franklin Delano Roosevelt Memorial
Leonard Baskin		Sculptor	1982-1997	Created sculpture for the Franklin Delano Roosevelt Memorial
Neil Estern		Sculptor	1982-1997	Created sculpture for the Franklin Delano Roosevelt Memorial
Robert Graham		Sculptor	1982-1997	Created sculpture for the Franklin Delano Roosevelt Memorial
George Segal		Sculptor	1982-1997	Created sculpture for the Franklin Delano Roosevelt Memorial
Faye Harwell	Rhodeside and Harwell	Landscape Architect	2002	Principal designer for the George Mason Memorial
Wendy Ross		Sculptor	2002	Created the George Mason statue
Bonnie Fisher Boris Dramov	ROMA Design Group	Architects, landscape architects	2000-2011	Principal designers for the Martin Luther King, Jr. Memorial
Lei Yixin		Sculptor	2000-2011	Created the Martin Luther King, Jr. sculpture
Ed Jackson, Jr.	ArchD Consulting Ltd	Executive Architect	2000-2011	Oversaw the design of the Martin Luther King, Jr. Memorial
Sheila Brady	Oehme, van Sweden and Associates	Landscape Architect	2000-2011	Designed the landscape, Martin Luther King, Jr. Memorial

PERIOD OF SIGNIFICANCE

The recommended period of significance for the cultural landscape, 1882-2011, has distinct sub-periods associated with different historic contexts:

- Construction and Engineering of the Tidal Basin, 1882-1943;
- Park Development and Beautification, 1897-1969; and
- Commemoration, 1912-2011.

Several National Register of Historic Places nominations and other National Park Service documents provide justification for this period of significance. The original National Register of Historic Places nomination for East and West Potomac Parks (1973) identified the period of significance for the property as 1897 to the present. The East and West Potomac Parks nomination update (2001) adjusted the period of significance to 1882-1997. This period recognizes the significance of the original 1882 land reclamation project of channel clearing and related fill that created the park landscape. The end date of 1997 incorporated the addition of the Franklin Delano Roosevelt Memorial to the landscape. The newest memorials to George Mason and Martin Luther King, Jr. suggests a further extension of the end date to 2011.

INTEGRITY

A cultural landscape has integrity if its current features and character convey the significance of the property. An assessment of historic integrity synthesizes the analysis findings to determine if the characteristics and features that distinguished the landscape during the historic periods remain today. The integrity assessment also accounts for the presence of features that do not contribute to the significance and historic character of the landscape; and features from the periods of significance that are missing today. This process quantifies the degree of change between the historic periods and the present. The assessment of integrity for a historic landscape is often complicated by the conditions in which landscapes evolve: plants grow or die over the years, views change over time, or landscape redevelopment may add new resources with additional thematic associations.

The Tidal Basin landscape retains its overall integrity to the period of significance, 1882-2011. Its major resources and features, which have accumulated and evolved over time, are present and continue to evoke the landscape's historic themes and values.

The National Register of Historic Places program defines the seven aspects of historic integrity as location, setting, feeling, association, design, workmanship,

and materials. A historic landscape does not need to retain all seven aspects of integrity but will usually retain most to convey its significance. Landscapes that have multiple periods of significance may retain more integrity for one period, and less for another.

The assessment of integrity for the overall cultural landscape based on the seven aspects of location, setting, feeling, association, design, workmanship, and materials follows below:

Location is the place where the historic property was constructed or where the historic event occurred. The Tidal Basin and most of its features ***retain integrity of location***. Nearly all features remain in the location where they were originally constructed. The Japanese Lantern and Pagoda are the most important features to have been relocated since their first construction, although for the purposes of the park landscape, they gained their true commemorative significance upon their arrival in Washington, DC and their placement at the edge of the basin.

Setting is the physical environment of a historic property or landscape. According to the National Register of Historic Places guidance, "whereas location refers to the specific place where a property was built or an event occurred, setting refers to the character of the place in which the property played its historical role. It involves how, not just where, the property is situated and its relationship to surrounding features and open space." The Tidal Basin landscape ***retains integrity of setting*** in general, although this aspect is somewhat compromised. Its systemic and spatial connections to the Potomac River, the National Mall, and overall capital city have remained quite consistent since its initial construction. While roads and buildings have been constructed around the outer edges of the landscape, the overarching spatial and visual relationships established by the L'Enfant and McMillan Plans between the Tidal Basin and its urban setting represent the intent of the late eighteenth and early twentieth century designs. The landscape south of the Thomas Jefferson Memorial has been more affected by highway encroachment than other sections of the study area.

Association is the direct link between an important historic event or person and a historic property or landscape. The landscape ***retains integrity of association***. The National Mall and Memorial Parks landscape symbolizes the entire nation and its democratic values. The specific commemorative resources within the Tidal Basin landscape connect visitors to key individuals in American history, while the open landscape spaces provide a canvas for civic events that renew our commitment to democratic values year after year. The landscape is associated with the extensive engineering work of the early federal agencies such as the US Army

Corps of Engineers and Office of Public Buildings and Grounds; the tenets of the late nineteenth and early twentieth century City Beautiful movement promoting urban design and public recreation; and the mid-twentieth century Beautification movement. Finally, the Tidal Basin landscape—and particularly the cherry tree collection—has a close association with First Ladies, particularly First Ladies Taft and Johnson, whose design visions influenced the extensive plantings around the basin.

Feeling is a landscape's expression of the aesthetic or historic sense of a particular period of time. The landscape ***retains integrity of feeling***. The Tidal Basin landscape provides a multifaceted experience for visitors: people can explore the multiple memorials within their urban park and recreational context. The memorials represent a stylistic "snapshot" of their respective eras, while the iconic park backdrop—and especially the water, paths, and cherry trees—provide a consistency in landscape character and feeling over the years. This range of experience is a key component of the historic intent for the Tidal Basin and it continues to the present.

Design is the combination of elements that create the form, plan, space, structure, and style of a property or landscape. The overall landscape ***retains integrity of design***, although this aspect is somewhat compromised. The design of the Tidal Basin landscape has evolved according to the original intent of the West Potomac Park plans and McMillan Plan, incorporating iconic memorial and governmental nodes within a park background connected by a network of roads and views. The constructed but still naturalistic water system of which the basin is a part provides a designed foil to the baroque qualities of the urban plan. The essential design of the basin, with its four-lobed shape and tree-lined perimeter, has evolved over the years with the introduction of the Thomas Jefferson Memorial and Kutz Bridge. The flushing system that provided the original rationale for the engineered water feature, however, no longer functions as it was intended due to the river water overtopping the automatic tidal gates and possible over-siltation in the basin. The individual memorials around the basin illustrate a variety of design styles that represent the eras in which they were created. Ranging from neoclassical monuments to human-scaled and modern experiential landscape "rooms," the memorials each retain a high degree of integrity of design. The surrounding park landscape retains a relatively consistent pattern of open lawn space and tree lined walks and roads. Informal ad hoc features, such as social trails or asphalt paths, detract from the character of the landscape.

Materials are the physical elements that were combined during a particular period and in a particular configuration to form a historic property or landscape.

The overall landscape ***retains integrity of materials***, although this aspect is somewhat compromised. The characteristic materials associated with the Tidal Basin landscape are the cherry trees, water, and the stone and bronze structures, including the sea walls, memorials, and sculpture. Most of the changes to these materials have occurred through regular replacement in kind. Lawn, evergreen and deciduous trees, and ornamental vegetation are materials that evoke the historic beautification context of the landscape, although they have been added or replaced over time. For example, the collection of cherry trees undergoes regular replacement due to the short lifespan of the cherry; however, the individual tree specimens are arguably less critical to the integrity of the landscape than the overall assemblage, which has been retained. Like the cherry collection, the vegetation within the Floral Library is also replaced regularly, which is a designed characteristic of the plant collection. Growth and over-maturation of historic vegetation encroaches on designed vistas and walkways, which compromises the integrity of those features. In addition to the larger stone and bronze structures, small-scale features such as granite curbs and metal lights also impart a consistent material character throughout the landscape. Other newer small-scale features and structures, such as concrete jersey barriers and temporary metal fencing, detract from the historic material character of the landscape. Flooding and high visitor use damage both vegetation and site structures and represent the most important threats to the landscape's integrity of materials.

Workmanship refers to the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. The landscape ***retains integrity of workmanship***. This aspect is most relevant for the artwork, stonework, and other hard materials in the landscape. The honed or natural cleft stone and fine detail in the carved and engraved stone and cast bronze are characteristic of their sophisticated urban park environment. In contrast, poured-in-place concrete walkways, metal bollards, and pipe railings impart a more industrialized urban character to the landscape. These two types of material expression have always coexisted within the Tidal Basin landscape.

ANALYSIS OF LANDSCAPE CHARACTERISTICS

Comparative analysis is a tool for unraveling the meaning and values embedded in a cultural landscape. It is both quantitative and qualitative, comparing known historical conditions to existing conditions to determine which key landscape features remain from the periods of significance and identifying how the landscape's characteristics convey the historic context for which the property is significant.

Summary information collected and presented in the history and the existing conditions documentation provides a basis for understanding the evolving relationship between the current character of the landscape and its appearance during the period of significance. This report catalogs features as they have been identified in previous nominations, surveys, and studies and provides additional or updated summary analysis for features as necessary. Historic aerial photography for the study area provides a graphic context for the description of landscape change below.

The three main goals of the comparative analysis are to:

- Document which features and qualities contribute to the significance and historic character of the landscape;
- Support the overall assessment of integrity; and
- Provide the foundation for a well-grounded treatment plan.

The narrative and Table 4 below identify the status of key individual features in the landscape using the following classifications:

- A contributing feature adds to the historic associations, historical architectural qualities, or other values for which the cultural landscape is significant. Generally, the feature was present during the period of significance; relates to the documented significance of the landscape; possesses historic integrity or can reveal information about the period; or independently meets National Register of Historic Places criteria.
- A noncontributing feature does not convey or illustrate the significance of the cultural landscape. Noncontributing features include those that were added to the landscape after the periods of significance, do not convey the property's significance, or have been altered beyond recognition.
- Compatible features are noncontributing but do not detract substantially from the character of the historic landscape.

The major resources listed in the analysis and related table of landscape features have been identified through previous National Register of Historic Places nominations and National Park Service documentation. These major resources are associated with a specific period (or periods) of significance and historic context. The analysis undertaken for the Tidal Basin Historic American Landscapes Survey has identified numerous additional character-defining landscape features, such as noteworthy plantings, that are not described in detail below but are listed in the table of landscape features. Analysis for the Franklin Delano Roosevelt and Martin Luther King, Jr. Memorials is not provided in detail for this CLR; analysis for these memorials will be documented in future studies.

LAND USE

The Tidal Basin landscape has several key functions and uses: it serves as a recreational public park; a special event venue for festivals, concerts, rallies, marches, and other civic events; and its memorials and other landscape features create an important commemorative environment (Drawing 9).

Recreation

Historic condition: After the transformation of the Tidal Basin area through land reclamation, an Act of Congress in 1897 stipulated the use of the landscape as a public park "for the recreation and pleasure of the people" (National Park Service 2001). Springing in part from the progressive ideals of the City Beautiful Movement, the demand for natural and recreational areas within cities resulted in the development of parks and other accessible outdoor areas for urban dwellers. The McMillan Plan called for recreational development in city parks and recommended water based recreation for the basin (Figure 51), including swimming, boating, and skating in winter. The Office of Public Buildings and Grounds established new playing fields, picnic grounds, boating and swimming facilities, and prepared for new memorials in the Tidal Basin landscape. The construction of parkways—prioritized to "accommodate recreational driving"—followed (National Park Service 2018a). These initial land uses created a pattern of use that remains to the present. Recreational uses have historically included a variety of activities, such as boating, strolling, baseball, cricket, and football/rugby, beauty pageants, fishing, winter skating, tennis, hockey, and track and field, with high jumps and pole vaulting. The extensive plantings, including the famous cherry trees, walkways, benches, and open lawn areas enhanced visitors' passive enjoyment of the park landscape. The swimming beaches and polo grounds, used by "well-known gentleman riders," were removed in 1925 and 1942, respectively (National Park Service 2018a). A bandstand, constructed in 1909 and demolished in 1931, supported concerts attended by thousands of people.

Existing condition: Currently, the landscape includes several active recreational fields, a paddle boat rental facility and a network of walkways that support strolling, jogging, bicycling and other forms of passive recreation. The open lawn southwest of the Tidal Basin currently supports six softball fields, one cricket field, and four multi-use fields. Recreational league organizations frequently use the fields in the spring and summer but not during the late fall and winter seasons. An additional lawn recreational field, known as the Raoul Wallenberg Place rugby/football field, is located to the northeast of the Tidal Basin bordered by Raoul Wallenberg Place SW, Maine Avenue and Independence Avenue SW.

Analysis: Recreation contributes to the cultural landscape.

Figure 51. Swimmers and boaters in the Tidal Basin, c. 1920

(Source: Harris and Ewing, Photographers. Library of Congress Prints and Photographs Division Washington, DC)

Special Events

Historic condition: Generations of Americans have visited the National Mall for rallies, marches, speeches, and other events. Known as "America's front yard," the landscapes of the monumental core were the site of impromptu and organized citizen gatherings, such as the 1938 "cherry tree rebellion" protesting the removal of cherry trees for the Thomas Jefferson Memorial, and the National Cherry Blossom Festival, which has taken place since 1935 (National Park Service 2010b; National Park Service 2010a).

Existing condition: The entire National Mall area hosts thousands of special events annually. Major special events around the Tidal Basin include the National Cherry Blossom Festival, which takes place each year from March to mid April. This event attracts visitors from around the world and offers special programming, such as performances, boat cruises, bike tours, self guided tours of the basin and cherry trees, ranger-led tours, performance art, and other visitor services providing food, souvenirs, and reading material. In 2007, a National Park Service assessment of the festival led to the relocation of temporary festival facilities. As a result of the study, the Tidal Basin Welcome Area now hosts visitors at the paddle boat parking lot. Numerous musical performances, speeches, vigils, and other events take place through a standard permitting and reservation process.

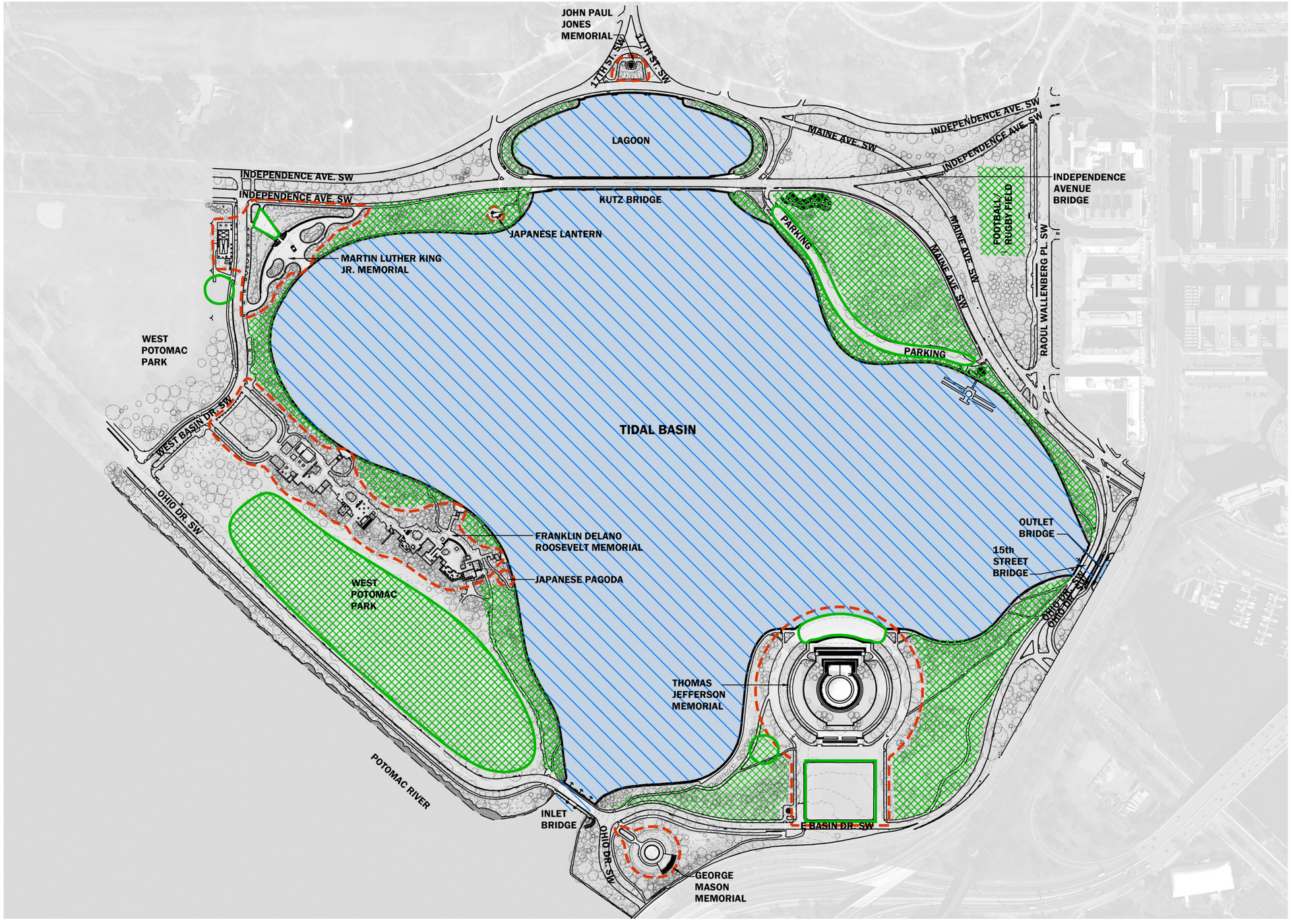
Analysis: Special events contribute to the cultural landscape.

Commemoration

Historic condition: A substantial portion of the landscape at the Tidal Basin has been devoted to commemoration. Memorials include the John Paul Jones (1912), Thomas Jefferson (1943), Franklin Delano Roosevelt (1997), George Mason (2002), and Martin Luther King, Jr. (2011) Memorials. Other smaller memorial features include the First Air Flight Marker and plaque marking the First Cherry Tree Planting. Commemorative events included the observance of Thomas Jefferson's birthday and the dedication of his memorial on April 13 each year at the Thomas Jefferson Memorial, with music by military bands and a wreath-laying ceremony. Other events held at sites around the basin were the US Navy Day ceremony at the John Paul Jones Memorial. Dignitaries and members of the US Navy laid wreaths at the base of the memorial, gave speeches, and presented flags (Evening Star 1923). US Navy Day ceremonies would continue in this manner uninterrupted at the memorial until 1941 when security risks associated with World War II required modifying the event to a private ceremony (Evening Star 1940).

Existing condition: Visitors continue to honor the Americans commemorated through their individual memorials around the basin. The memorials interpret the legacy of each historical figure through design, artwork, inscriptions and other interpretive material. The Tidal Basin also hosts many commemorative events throughout the year. In addition to its recreational activities, the National Cherry Blossom Festival, described above, commemorates the 1912 gift of the cherry trees. Other commemorative celebrations, festivals and concerts take place in different memorial locations around the basin, such as ceremonies marking the birthday of Thomas Jefferson and Martin Luther King Day, which is a national holiday.

Analysis: Commemoration contributes to the cultural landscape.



NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

LAND USE

KEY

- COMMEMORATION
- RECREATION/WATER
- RECREATION/LAND
- PERMIT/EVENT AREAS

0 400 N

1"=400'

Drawing 9. Land use.

SPATIAL ORGANIZATION

The Tidal Basin cultural landscape originally provided a spatial connection between the city, West Potomac Park, and the Potomac River. The irregular, asymmetrical shape of the basin at the heart of the study area helped create the picturesque spatial qualities and changing views of the open landscape (Figure 52 and Drawing 10). Changes to the landscape have altered its spatial qualities over time and strengthened spatial and symbolic connections to the National Mall. The interplay between the curving basin landscape and the strongly axial form of the monumental core create design complexity within the overall park.

Tidal Basin

Historic condition: The four-lobed water body formed a naturalistic, asymmetrical, and picturesque open space. Cherry trees have enhanced the edge of this space since their original planting in 1912. Changes within this open body of water include the removal of structures such as the Landing Basin and the addition of others, such as the Kutz Bridge, in the early 1940s. The Kutz Bridge's formation of the lagoon on the northern end of the basin created a new sub-area within the overall basin. The addition of the Thomas Jefferson Memorial also altered the southern end of the basin space.

Existing condition: The primary spatial organization within the study area is defined by the large open basin and lagoon with a gently curving edge and perimeter of sea wall, vegetation, and memorial structures. The basin is enclosed by the ring of flowering cherry trees and other vegetation such as hollies, elms,

Figure 52. Open expanse of water in the four-lobed basin, 1919.

(Source: NPS Historic American Landscapes Survey DC-59, page 149; Harris & Ewing, photographer, reproduction number: LC-DIG-hec-12463, Library of Congress, Prints & Photographs Reading Room)

and oaks. The basin forms a border between the urban grid of the city and the Potomac River.

Analysis: The open Tidal Basin space contributes to the cultural landscape.

Memorials

Historic condition: The spatial quality of the basin's perimeter changed between 1943 and 2011 with the addition of new memorial structures, including the Thomas Jefferson, Franklin Delano Roosevelt, and Martin Luther King, Jr. Memorials. On a broader urban scale, the construction of the Thomas Jefferson Memorial at the formerly open southern edge of the basin fulfilled the McMillan Plan's designed spatial axis to the White House.

Existing condition: Each of the key memorial landscapes within the broader Tidal Basin study area has its own internal spatial structure and relationship to external features. The neoclassical Thomas Jefferson Memorial (Figure 53) is dominated by a single monumental structure with radial terraces and screening vegetation, a northern plaza, and an open rectangular lawn area to the south. The smaller John Paul Jones Memorial expresses a strong neoclassical design defined by single central "object" in the surrounding landscape. The modern design of the Franklin Delano Roosevelt and Martin Luther King, Jr. Memorials creates a more dispersed spatial quality and design focus; in each case multiple art objects and visual foci form a complex landscape space designed for movement. The modernist Franklin Delano Roosevelt Memorial is structured as a series of inwardly-focused interrelated outdoor rooms defined primarily by walls and other structures, plazas, and vegetation. The Martin Luther King, Jr. Memorial is

Figure 53. Lighting highlights the designed memorial space, 2019.

(Source: AECOM, 2019)

oriented towards the basin with a broad arcing walkway and central monumental gateway and sculpture. The spatial quality of the George Mason Memorial is more garden-like and human-scaled, defined by the central fountain, pergola, and artwork on the perimeter of the memorial landscape, with radial walkways aligned with the Inlet Bridge, low trees and hedges defining the edges of the space. As each memorial was added to the Tidal Basin, the overall landscape gathered spatial complexity and density. The memorials around the basin perimeter also have visual relationships that are described below under *Views and Vistas*.

Analysis: The memorial spaces contribute to the cultural landscape.

Axis between the Thomas Jefferson Memorial and White House

Historic condition: The introduction of the Thomas Jefferson Memorial to the basin landscape fulfilled the L'Enfant and McMillan Plans' designed monumental core cross axis with the White House. The cross-axial space between the White House and memorial is over a mile long and intended to be approximately 150 feet wide (National Park Service NDe).

Existing condition: The cross axial space is a narrow corridor with one end anchored by the Thomas Jefferson Memorial. Within the study area, it crosses the basin, parking, lawn areas, and Independence Avenue SW.

Analysis: The axial space contributes to the cultural landscape and is a contributing resource for the National Mall and East and West Potomac Parks historic districts.

Open Recreational Fields

Historic condition: The largest open field on the western perimeter of the study area served as the polo grounds and bandstand location in the early twentieth century. During and immediately after World War II, the northern half of the field contained multiple military buildings. The football field on the opposite side of the study area near Raoul Wallenberg Place also was covered in buildings through the early 1960s. The lawn areas closer to the basin have been consistently vegetated with trees surrounding swathes of grass.

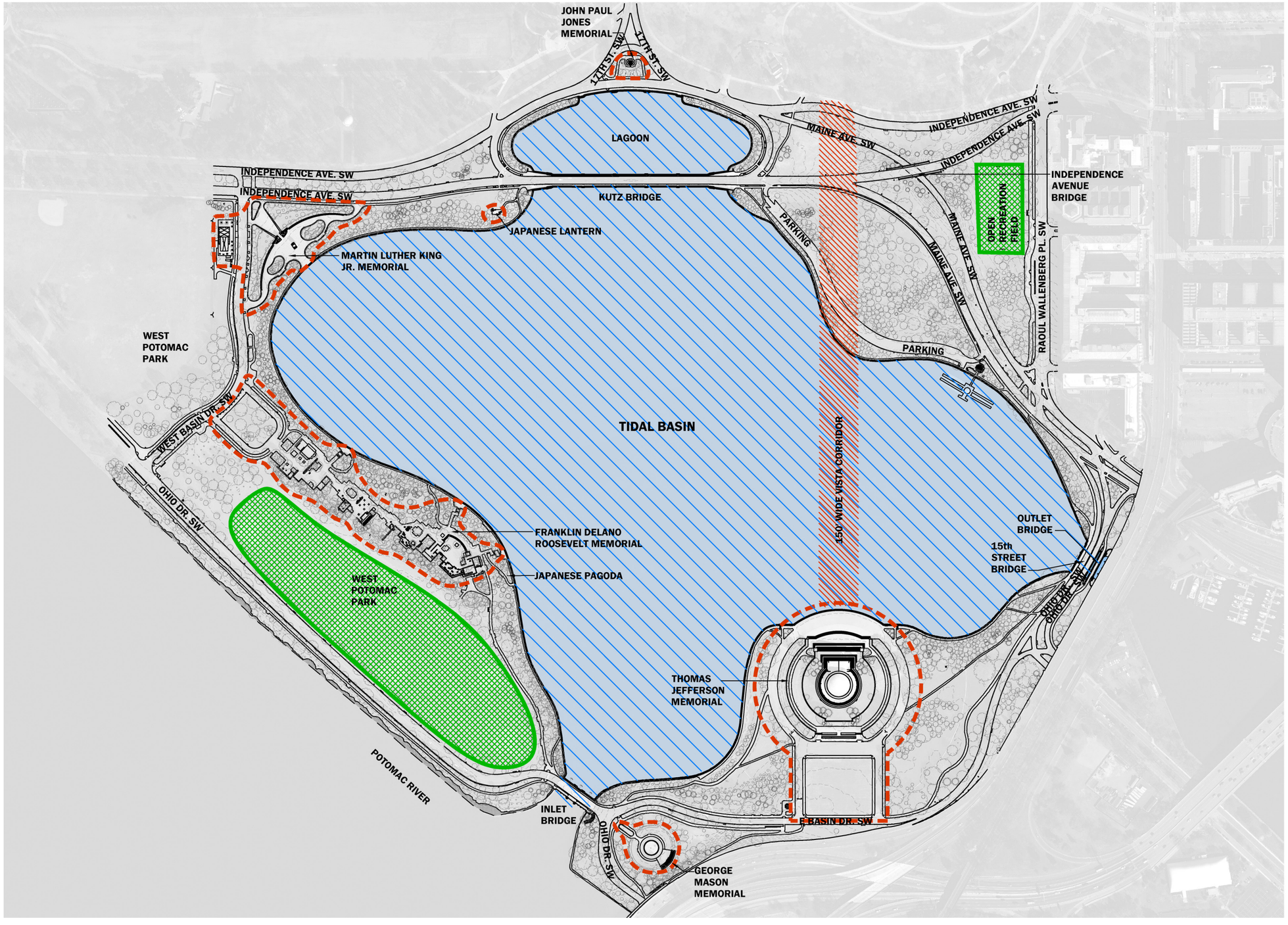
Existing condition: Open lawn-covered multi-purpose fields form defined spaces in the outer band of the study area landscape (Figure 54). The largest forms the West Potomac Park ballfields on the southwest peninsula between the basin and Potomac River. Separated from the Franklin Delano Roosevelt Memorial by a vegetated berm, the former polo grounds area is now a large flat lawn covered field with an orderly series of six baseball diamonds and a cricket pitch. The tree-

Figure 54. Open lawn-covered field in West Potomac Park, between the Franklin Delano Roosevelt Memorial and Ohio Drive SW, 2018.

(Source: AECOM, 2018)

lined Ohio Drive SW defines the field's southwestern boundary. On the opposite side of the basin lie areas of open lawn, including the rectangular football field. Today, these tree- and street-edged spaces create a rhythm of open and enclosed landscape areas along the major perimeter roads and provide a location for active and passive recreational activities.

Analysis: Open fields and lawns contribute to the cultural landscape.



NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

SPATIAL ORGANIZATION

KEY

- MEMORIAL SPACES
- OPEN RECREATION FIELDS
- OPEN BASIN AREA
- AXIS BETWEEN WHITE HOUSE AND THOMAS JEFFERSON MEMORIAL

0 400 N

1"=400'

Drawing 10. Spatial organization

CONSTRUCTED WATER FEATURES

Constructed water features in the study area include a wide range of structures—from the engineered Tidal Basin, to delicate fountains, to modernist waterfalls (Drawing 11). The treatment of water at different scales throughout the landscape is essential to the engineering function of the landscape, the urban park character, and the commemorative intent of the memorials.

Tidal Basin

Historic condition: One of the most important resources—and the largest constructed water feature of the study area—is the Tidal Basin. Initially the result of a substantial, multi-year land engineering effort with subsequent design changes, the four-lobed sluicing basin was the centerpiece of the new park and helped control the flow of water from the Potomac River through the Washington Channel, flushing out sediment and thus maintaining its navigability. The size, shape, and organization of the basin were engineered to provide a managed flow for the tidal waters. This engineered water control system, originally covering 118 acres, required several major components: the sea walls, and Inlet and Outlet Bridges and gates, described below. The basin represented a state-of-the-art approach to civil engineering at the time of its construction.

In 1890, Congress authorized the construction of a swimming basin, with a beach at the Tidal Basin. The beach remained in its original location near the Washington Monument side of the basin until 1901-1902. It was then moved to the northern Inner Basin. Concerns about pollution in the water led to plans for the preparation of a water purification system. A new sand beach was then created for white citizens only, but because of the resistance to the installation of a second beach for African American citizens, Congress repealed the act establishing the beach and it closed in 1925 (National Park Service 2018a) (Figure 55).

The Landing Basin was another historic constructed water feature within the basin. This structure was located on the northern side of the Tidal Basin at the end of 17th Street SW by 1908. A polygonal breakwater projection into the basin, the Landing Basin enclosed an area of approximately .7 acres and provided space for floating platforms to which boats could be docked (National Park Service 2018a).

The addition of the Thomas Jefferson Memorial on the southern side of the basin and the construction of the 15th Street Bridge and Kutz Bridge adjusted the basin's shape. The Landing Basin was demolished when the Kutz Bridge construction and Independence Avenue extension project required general changes to the northern lobe of the basin, creating the lagoon.

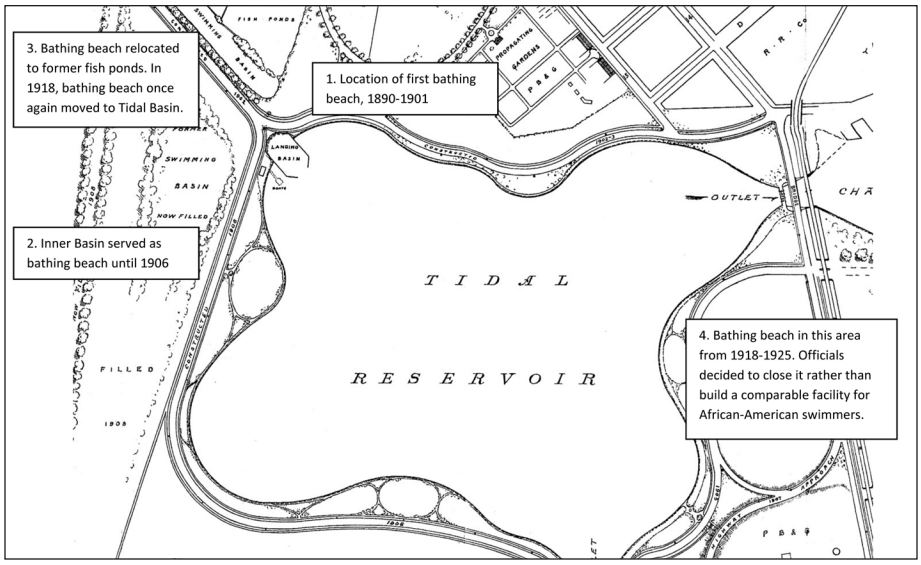


Figure 55. Locations of the bathing beaches over time.

(Source: National Park Service, Historic American Landscapes Survey, DC-59, page 146; "Map of West Potomac Park, Showing North B Street Extended and the Inlet Bridge, Washington," 1909, in Report of the Chief of Engineers, US Army, 1909, Appendix EEE, Improvement and Care of Public Buildings and Grounds in the District of Columbia, Report for the Fiscal Year Ending June 30, 1909.)

Existing condition: Today, the Tidal Basin retains its curving irregular shape and connection to the two other major water bodies—the Potomac River and Washington Channel—outside the study area. The basin still consists of its key components: four lobes including the lagoon, sea walls and tidal (inlet and outlet) gates. The basin today covers 107 acres, averages ten feet in depth, and flushes millions of gallons of water through the gates twice a day with the rising and falling of the tides. The water level at high tide exceeds the capacity of the basin, causing overflow in the southern lobe twice a day. A paddle boat rental facility, described in *Buildings and Structures*, floats on the basin surface and a pipe connects the lagoon north to the Reflecting Pool at the Lincoln Memorial.

Analysis: The Tidal Basin and its related lagoon contribute to the cultural landscape.

Sea walls

Historic condition: The sea walls were constructed as part of the basin's formation and the hardening of the Potomac River edge. The oldest sections of basin sea walls were constructed between 1891 and 1896-1897. These walls included a deep riprap foundation and battered wall including both dry laid and mortared river stone. The sea wall in the northwest lobe of the basin is the oldest section of wall and remains from the original construction. The sea wall north of the outlet gate was constructed between 1891 and 1896, and then altered in 1902 (Figure 56) to provide three feet of additional stone coursing, with a concrete coping and pipe railing added in 1903. The Office of Public Buildings and Grounds added paving on this section of the wall in 1915 to prevent emergent vegetation from growing through the stones. The construction of the Inlet Bridge between 1907 and 1909 required the replacement of sea walls adjacent to it. This 1907 wall included the

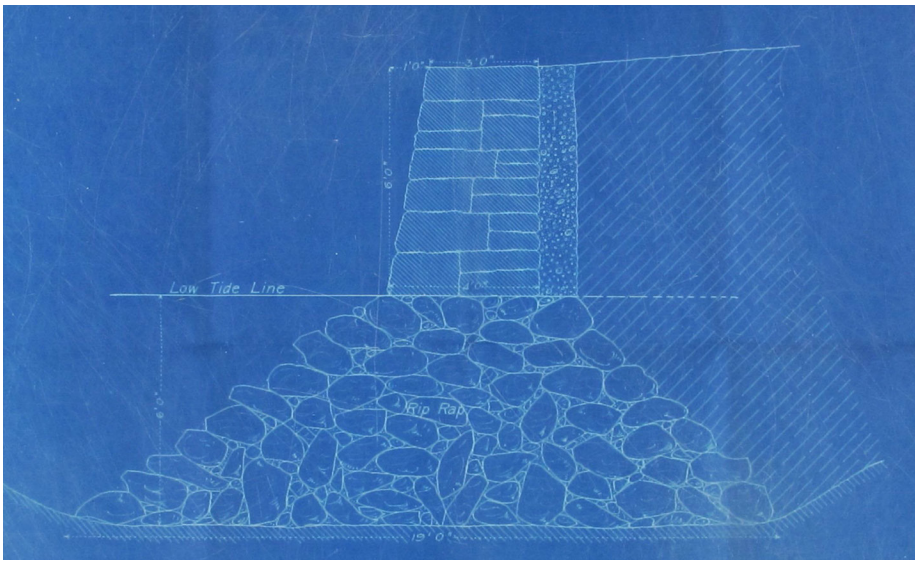


Figure 56. 1902 sea wall, with riprap foundation and gravel backing.

(Source: Historic American Landscapes Survey; Box 4, Entry 91, Record Group 42, in National Archives and Records Administration—Washington, DC)

rip rap foundation and the coursed river stone wall with a gravel backfill (National Park Service 2018a).

Major changes to the basin in 1943 resulted in new sea walls on the northern and southern sides of the basin. The wall at the Thomas Jefferson Memorial resembled the older walls, with a rip rap foundation and battered river stone structure. However, the wall also included a reinforced concrete coping and integrated walkway. This wall was updated again in 2012 as part of the memorial plaza rehabilitation, noted under *Buildings and Structures*. The walls east and west of the Kutz Bridge and around the lagoon were constructed primarily of concrete with a river stone face and flat stone coping.

Existing condition: The Tidal Basin water body is defined by a perimeter, structural sea wall. The wall is constructed of Potomac River stone, generally six feet above its riprap foundation. The stone coursing is irregular in many locations. Most sections of the wall are topped by a one foot wide concrete coping, with pipe railings along the eastern side of the basin. The sea wall encircling the lagoon is based on a concrete foundation and has a concrete core, faced with stone that matches the other sections of the wall. The sea walls both north and south of the Kutz Bridge have rubble faced coping stone and railing. Periodic flooding also breaches larger sections of the sea walls. The Potomac River wall is currently a degraded riprap.

Analysis: The sea walls contribute to the cultural landscape.

Inlet and Outlet Bridges and Gates

Historic Condition: The Inlet and Outlet Bridges and gates were the other functional components of the basin and are important works of engineering. The tidal gates consist of two heavy leaves with vertical off-center hinges that permit water flow between the Tidal Basin, Washington Channel, and Potomac River when the gates are open and create a tight seal when they are closed. In addition to their water flow management function, both the Outlet and Inlet Bridges enabled circulation around the perimeter of the basin (discussed under *Circulation*).

The Outlet Bridge was constructed in 1888-1889 of granite, with wing walls, a head wall, voussoirs and coping. The 94-feet long bridge featured six arched spans, 6 feet wide and 12 feet high. Its gates were designed to release water from the basin into the Washington Channel during falling tides. The rising tides exerted pressure on the gates, causing them to close again automatically. The Outlet Bridge was retrofitted with railings in 1906 to accommodate pedestrian foot traffic. It was hemmed in between the adjacent 14th and 15th Street Bridges by the early 1940s (National Park Service 2001; National Park Service 2000) (Figure 57). The bridge deck was reinforced with concrete within the next decade to support continued pedestrian use. In 2008 the Army Corps of Engineers replaced the tidal gates and made other improvements to the surrounding infrastructure (National Park Service 2000; National Park Service 2016).

The construction of the Inlet Bridge followed in 1909. Like the Outlet Bridge, the Inlet gate system consists of heavy automatic tidal gates and also lock gate and curtain gates. The lock gates allowed vessels to pass between the basin and Potomac River and the curtain gates close off the basin during floods; both types of gates require manual operation. The neoclassical style Inlet Bridge, designed by Nathan Wyeth, is approximately 185 feet long and integrated ornate waterspout figures and classical balustrades with the concrete structure (Figure 58). The Office of Public Buildings and Grounds widened the bridge in 1926 and the National Park Service undertook repair and restoration on the bridge and gates between 1969 and 1986 (National Park Service 2018a). The Army Corps of Engineers replaced the inlet gates in 2008 (National Park Service 2016).

Existing Condition: Each of the Outlet Bridge's rock face cut stone arches is fitted with a wooden tidal gate inset eight feet from the western stone face. Today, its stone arches and gates are hidden from view by the adjacent bridges. Most visitors likely experience the bridge as a pedestrian crossing of the channel. The inlet structure also functions both as a water gate and a bridge. Architectural features, such as waterspouts surrounded by carved medallions, no longer function. The Inlet Bridge provides a clear view of the Washington Monument.

Figure 57. Comparison view towards the Outlet Bridge in 1940, and obscured by the 15th Street Bridge in 2018.

(Source: Top, Historic American Landscapes Survey DC-59, and bottom, AECOM, 2018)

Figure 58. View of the Inlet Bridge and gates, 1920 and 1968.

(Source: Left, Theodor Horydczak, Photographer. Library of Congress Prints and Photographs Division Washington, DC Right, Historic American Engineering Record HAER DC, WASH, 574A-, Library of Congress)

The function of the tidal gates is undetermined; they may be blocked by accumulated silt or some other obstruction and may no longer regulate the flow of water within the basin or flush the Washington Channel as they were designed. The automatic outlet and inlet gates, when functioning, should be activated by the tides and prevent silt build-up in the Washington Channel by the daily capture and delayed release of tidal waters. Today, the water flow exceeds the capacity of the gates and water breaches the southern section of the sea wall on a regular basis.

Analysis: The Inlet and Outlet gates are contributing features of the constructed Tidal Basin but may no longer function as they were designed. The bridge structures remain and contribute to the cultural landscape. The Outlet Bridge is no longer visible from the basin due to the construction of the 15th Street Bridge.

Fountain No. 4

Historic condition: The Office of Public Buildings and Grounds constructed a nursery with three small pools and fountains in 1905. A fourth pool, Fountain No. 4, was located near the Inlet Bridge. Of these, only Fountain No. 4 remains.

Existing condition: The water body is a simple, circular, shallow pool 58 feet in diameter with a coping edge and central fountain. Fountain No. 4 was undergoing rehabilitation during site visits in late 2018 and early 2019. This circular pool was incorporated into the design of the George Mason Memorial in 2002 and is a contributing feature of this overall commemorative park landscape.

Analysis: Fountain No. 4 contributes to the cultural landscape.

Figure 59. Fountain spout at the John Paul Jones Memorial, 1920 and 2018.

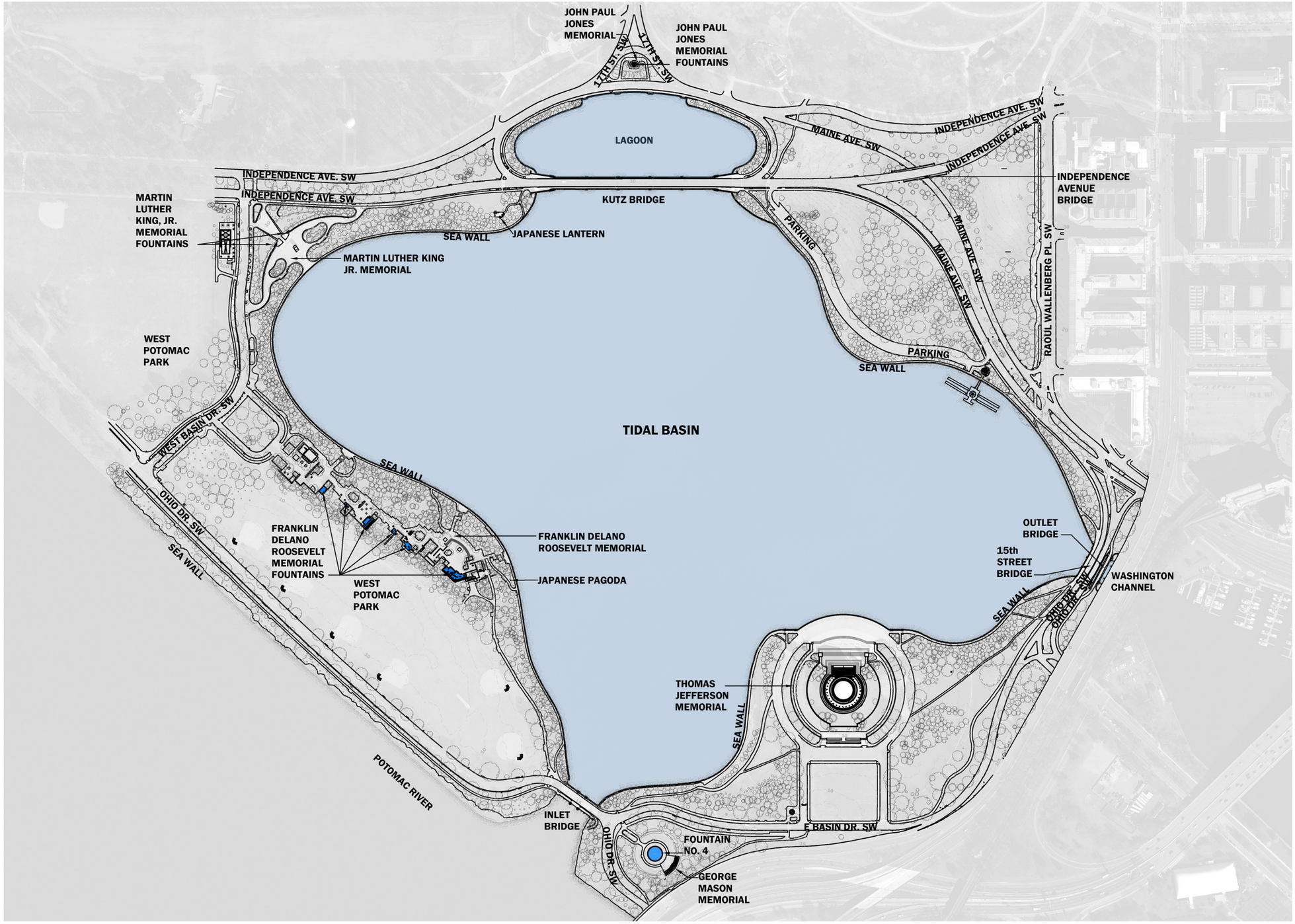
(Source: Library of Congress Prints and Photographs Division and AECOM, 2018)

Memorial Water Features

Historic condition: The smallest constructed water features in the landscape are the two delicately designed marble fountains that are part of the John Paul Jones Memorial, dedicated in 1912. The fountains are detailed dolphin head spouts (Figure 59) on the east and west sides of the memorial, with shell shaped pools. The water was an integral design element of the memorial as it recalled Jones' career in the Navy. Other water features recorded in this CLR but not documented in detail include the fountains in the Franklin Delano Roosevelt and Martin Luther King, Jr. Memorials. The stone memorial fountains in the Franklin Delano Roosevelt Memorial echo the stylized blocky and modern urban fountains for which designer Lawrence Halprin was famous. Each fountain and related pool represent a feature or event in Roosevelt's presidency. The fountains enhanced both the design and biographical themes for the memorial (National Park Service 2018a). As in the John Paul Jones Memorial, water was an "important leitmotif in the memorial, as Roosevelt was born and raised near the Hudson River, was an avid sailor, and also served as assistant secretary of the navy" (National Park Service 2001). The Martin Luther King, Jr. Memorial was originally intended to use water as a major element in the design but concerns about design and maintenance limited the fountains to two sheet flowing water features near the entrance (National Park Service 2018a).

Existing condition: The John Paul Jones Memorial fountains includes the two cast dolphin head spouts above shallow shell shaped basins built into the plinth of the memorial structure. The Franklin Delano Roosevelt Memorial contains several pools and fountains; in addition to the symbolic value of the water features, a benefit of the flowing water is mitigation of the city noise (and especially air traffic) around the memorial. The Martin Luther King Jr. Memorial includes two sheet flowing fountains at its entrance. The memorial fountains function inconsistently: the fountains at the John Paul Jones and Martin Luther King, Jr. Memorials were dry during field work in 2018 and a fountain at the Franklin Delano Roosevelt Memorial was overflowing onto the adjacent plaza during field observations in 2019.

Analysis: The designed fountains at the John Paul Jones, Franklin Delano Roosevelt, and Martin Luther King, Jr. Memorials contribute to the cultural landscape.



NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

CONSTRUCTED WATER FEATURES

KEY

WATER

MEMORIAL FOUNTAINS

0 400 N

1"=400'

Drawing 11. Constructed water features

BUILDINGS AND STRUCTURES

The study area contains numerous buildings and structures—memorials, bridges and other architectural and artistic features—that contribute to the cultural landscape (Drawing 12). The addition of buildings and structures within this section of the city's monumental core has been undertaken over many years. Each new addition has fulfilled important urban design or commemorative purposes, or, in many cases, both.

Memorials of different scales and designs are the most prominent structures in the landscape. United in a commemorative use, the memorials incorporate artwork, written inscriptions, and different design motifs. Apart from the Thomas Jefferson Memorial, all the memorials also incorporate water in their design. Each memorial structure conveys a unique commemorative story, celebrating key historic figures in American history and the ideas and values they represent. Although the memorial designers employed different stylistic approaches for the structures—from neoclassical to modern—a palette of stone and bronze unites them across the entire landscape and symbolizes the lasting values of the capital city.

John Paul Jones Memorial

Historic condition: Dedicated in 1912, the John Paul Jones Memorial (Figure 60) is the oldest of the memorial structures within the Tidal Basin landscape. The sculptor was famed artist Charles Henry Niehaus, whose work is featured throughout the city, including in the National Statuary Hall Collection. Thomas Hastings, founding member of both the architectural firm Carrère and Hastings and the US Commission of Fine Arts, was the memorial architect. Carver John Grignolai was responsible for the ornamentation on the statue's base (National Park Service 2001). At the time of its construction, the memorial was located immediately north of the Landing Basin, with a direct spatial relationship to the north lobe of the Tidal Basin. The construction of the Independence Avenue extension project effectively separated the memorial from the water body.

Existing condition: The neoclassical memorial—with the bronze statue mounted against a delicately carved articulated rectangular marble pylon—is located near the northern tip of the basin. The base rests atop a low stepped plinth. A bronze statue of John Paul Jones occupies a commanding position along the north elevation of the memorial. The east and west elevations are identical in character. A pair of stylized carved dolphins serve as fountainheads. At approximately 20 feet tall, it is one of the smaller commemorative structures in the landscape but its strong verticality and location at the end of 17th St. SW give it a visual and spatial prominence. The structure has changed little since its installation; the primary change is that its fountains no longer function.

Figure 60. John Paul Jones Memorial, 1925.

(Source: Library of Congress. Harris & Ewing photograph collection, LC-H234-A-9903 [P&P])

Analysis: The memorial is significant as part of the city's collection of American Revolutionary War-themed statuary and contributes to the Tidal Basin cultural landscape.

Thomas Jefferson Memorial

Historic condition: The Thomas Jefferson Memorial completes the cross axis of the monumental core plan by facing directly north towards the White House from the southern end of the Tidal Basin (Figure 61 and Figure 62). Designed and constructed between 1937 and 1943, the memorial is the result of work by architects John Russell Pope, Otto Eggers, and David Higgins; landscape architect Frederick Law Olmsted, Jr.; and artists Rudulph Evans and Adolph Weinman, all prominent designers and artists of their period. The memorial's neoclassical

Figure 61. Thomas Jefferson Memorial, 1941 perspective sketch.

(Source: Jefferson Memorial Vehicular Barrier Design Project Summary 2009-2015)

Figure 62. Thomas Jefferson Memorial, 2018 view from the northeast showing the north plaza, monumental steps, portico, and domed roof.

(Source: AECOM, 2018)

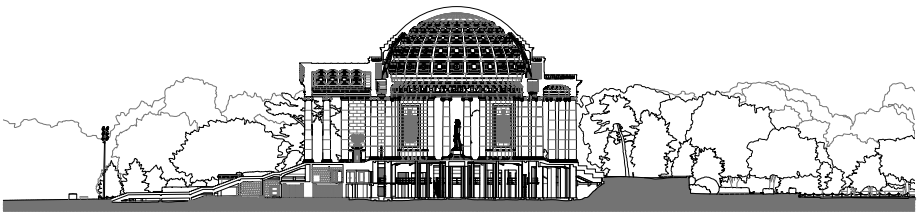


Figure 63. Thomas Jefferson Memorial, 2018 north/ south cross section through the north plaza, steps and portico, building, and south terrace and lawn.

(Source: Historic American Landscapes Survey)

design (Figure 63) modeled on the Roman Pantheon, pays homage to Jefferson and his own architectural influence on the nascent nation. The construction of the memorial required a substantial realignment of the sea wall on the south side of the basin. Changes to the memorial over time included stabilization in 1969 to address problems related to ground settlement (adding concrete reinforcing struts, regrading sidewalks and roadways, rebuilding terrace walks, and replanting); new design in 1970 (blocking traffic around the encircling road and adding a new concrete plaza); design updates in advance of the 1976 Bicentennial

(the addition of a small gift shop and access ramp); rehabilitation of the entrance steps and plaza in 2000; and sea wall stabilization in 2012 (National Park Service 1981; National Park Service NDf).

Existing condition: The Thomas Jefferson Memorial is the largest and most visually prominent structure within the study area. The domed open air monument with colonnade contains the central sculpture of Jefferson, engravings, and inscriptions. Terraces encircle the memorial, which is flanked by a major set of monumental steps and a portico on the north.

Analysis: The memorial is individually listed on the National Register of Historic Places and contributes to the East and West Potomac Parks Historic District, the National Mall and the Tidal Basin cultural landscape.

Franklin Delano Roosevelt Memorial

Historic condition: The Franklin Delano Roosevelt Memorial was constructed between 1994 and 1997. The memorial occupies the last of the major ceremonial spaces reserved in the McMillan Plan (National Park Service 2001). Extending nearly 800 feet and covering approximately seven acres on the western side of the basin, the memorial required hundreds of new pilings to stabilize the structure in the marshy soil (National Park Service 2001). Designed by famed landscape architect, Lawrence Halprin, the memorial is a modernist assemblage of flowing overlapping outdoor rooms formed by stone walls and featuring extensive fountains and sculpture (Figure 64). Each of the four rooms represents one of Roosevelt's terms as president (National Park Service 2018a). In 2000, new engravings of an additional quotation and a new sculpture enhanced the "prologue room," which was dedicated in 2001.

Existing condition: The memorial forecourt contains a small stone building with interpretive, retail, and office space; another restroom building is on the southern end of the memorial. The relatively low horizontal memorial of dark stone walls is nearly invisible from afar and creates a strong sense of enclosure, providing glimpses of the Tidal Basin beyond. It is physically connected to the banks of the Tidal Basin by three sets of stone steps and plazas, which occasionally flood. Granite and bronze are the structural materials that unite the landscape spaces. The memorial has changed little during the years since its initial installation.

Analysis: The Franklin Delano Roosevelt Memorial contributes to the Tidal Basin cultural landscape.

Figure 64. Aerial image of the Franklin Delano Roosevelt Memorial building, walls, and fountains, 1997.

(Source: Photographs in the Carol M. Highsmith Archive, Library of Congress, Prints and Photographs Division)

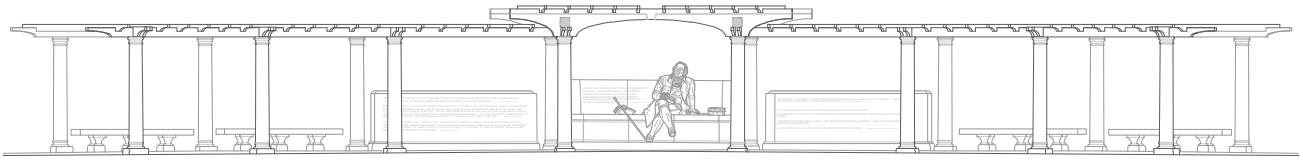


Figure 65. George Mason Memorial, pergola and sculpture elevation, 2018.

(Source: Historic American Landscapes Survey)

George Mason Memorial

Historic condition: The George Mason Memorial design integrated a new commemorative structure into the historic Pansy Garden site. Landscape architects from Rhodeside & Harwell retained Fountain No. 4 as the centerpiece of the memorial and added a semi-circular pergola at the perimeter of the site. The stone and wood pergola enhanced the historic garden character of the landscape room and sheltered the statue of George Mason (Figure 65). In contrast to the monumentally scaled Thomas Jefferson Memorial to the east, the George Mason Memorial is a modest and human-scaled memorial structure.

Existing condition: The memorial, like the others in the Tidal Basin landscape, employs stone, sculpture, walls, and water as design elements; it also contains a pergola. Low engraved stone walls on a rough stone pedestal flank the statue, which is seated on a low stone engraved bench. Another curved stone wall marks the entrance to the memorial and defines the walkways entering the site. The National Park Service rehabilitated Fountain No. 4, performed maintenance on the statue, completed cleaning and repointing of the wall, and inpainting of the

inscriptions in 2018. No other major changes to the memorial structure have taken place since its dedication in 2002.

Analysis: The George Mason Memorial contributes to the Tidal Basin cultural landscape.

Martin Luther King, Jr. Memorial

Historic condition: The Martin Luther King, Jr. Memorial was the last major structural addition to the Tidal Basin landscape. Dedicated in 2011 and designed by ROMA Design Group, the memorial's location at the edge of the basin on axis between the Thomas Jefferson and Lincoln Memorials testify to King's significant place in American history. One inscription was removed from the sculpture in 2012, but no other major changes have occurred to the building, structures, or artwork of the memorial.

Existing condition: The primary structural components of the memorial include gently sloping and curved stone walls, the monumental sculptural gate (the *Mountain of Despair*), 30-feet tall stone sculpture of King (the *Stone of Hope*) (Figure 66), and the memorial bookstore. The granite sculptural stones are placed on slightly offset axes that provide visual connections between the Martin Luther King, Jr. Memorial and the Thomas Jefferson, Lincoln, and Franklin Delano Roosevelt Memorials. The memorial's light colored stone and location at the edge of the basin enables visitors to see the structure very clearly from many points in the landscape. Although the memorial is not raised, it nevertheless acts as a visual beacon in the park. The bookstore, a single story building of stone, metal, and glass, is located across West Basin Drive SW from the primary memorial space; this building also contains a restroom and contact station. The materials, low form, and wide overhanging roof impart a modernist architectural quality to the building.

Analysis: The Martin Luther King, Jr. Memorial contributes to the Tidal Basin cultural landscape.

Kutz Bridge

Historic condition: The Tidal Basin's northern lobe was bisected by the addition of the Kutz Bridge, designed between 1941-1943 by Paul Philippe Cret, a well known Beaux Arts architect and member of the US Commission of Fine Arts. His work includes dozens of monuments, buildings, bridges, and other works throughout the Mid-Atlantic and Midwest. He collaborated on the design with the prolific bridge engineers of Modjeski and Masters. The contractor was Alexander & Repass Construction Company, led by senior partner Archie Alexander, a

Figure 66. Martin Luther King, Jr. Memorial, Stone of Hope.

(Source: AECOM, 2019)

Figure 67. The Kutz Bridge, under construction in 1943 and in 2018.

(Source: left, Roger Smith, Photographer. March 1943, Farm Security Administration/Office of War Information collection. Reproduction No.: LC-DIG-fsa-8b08286, Library of Congress, Prints & Photographs; right, AECOM, 2018)

prominent African American engineer. The introduction of the bridge structure split Independence Avenue SW in two, with eastbound lanes on the bridge and westbound lanes on the shoreline (Figure 67). With three traffic lanes and two sidewalks of different widths, the bridge design fostered multimodal travel in the city (Figure 68). The addition of Kutz Bridge also resulted in the removal of the Landing Basin and changes to the adjacent sea walls. The Kutz Bridge was repaired in 1985 and underwent additional rehabilitation in 2015 and now has a heavy new guard rail between the vehicular lanes and a widened sidewalk. The vehicular westbound lanes and sidewalk of Independence Avenue SW have been lowered in elevation along the south facing stone wall.

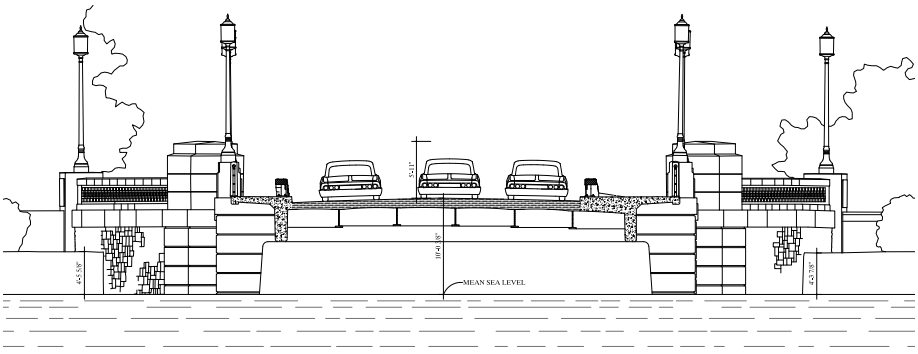


Figure 68. Kutz Bridge cross section.

(Source: Historic American Landscapes Survey)

Existing condition: The Kutz Bridge spans the northern lobe of the Tidal Basin and is over 800 feet long. The stone bridge with open railings provides views of the entire Tidal Basin perimeter, including its shoreline counterpart to the north. A concrete and metal balustrade lines both sides of the bridge. Its stone abutments are compatible in style and materials with the adjacent sea walls. The northern perimeter of the lagoon is formed by a stone sea wall that responds to the Kutz Bridge with four evenly spaced cut stone belvederes. Both the Kutz Bridge and the shoreline sea wall carrying Independence Avenue SW lanes have been updated with new safety and design features.

Analysis: The Kutz Bridge contributes to the Tidal Basin cultural landscape.

Japanese Lantern and Pagoda

Historic condition: The Japanese Lantern (Figure 69) and Pagoda (Figure 70) are related in origin, size, materials, and design. The Japanese Lantern and Pagoda are memorial structures that were presented to the city of Washington, DC in 1954 and 1958, respectively (National Park Service 2018a).The lantern, a stone architectural element originally built in 1651, is significant for its symbolic connection to Japan; its twin remains in Tokyo's Ueno Park and it commemorates the opening of trade between the two countries. It was placed near the original cherry tree plantings between the basin and the western end of the Kutz Bridge. The pagoda was presented to the city of Washington, DC by Yokohama, Japan to symbolize the friendship between the two cities. Together with the cherry trees, these structures created a unified theme of international friendship between the United States and Japan in the years following World War II.

Existing condition: The lantern has a carved hexagonal base, shaft, and two-tiered cap with a round finial. A stone-paved scored plaza and a collection of garden boulders were built around the lantern in 2013. A plaque mounted to one of the boulders marks the first cherry tree planting. The ceremonial lighting of the lantern opens the National Cherry Blossom Festival. The pagoda is a ten-feet-tall granite structure on a square pedestal, with nine graduated tiers and a cylindrical

Figure 69. Japanese Lantern, c. 1980 original setting and set in the plaza in 2018.

(Source: left, Carol M. Highsmith, Photographer. Library of Congress Prints and Photographs Division; right, AECOM, 2018)

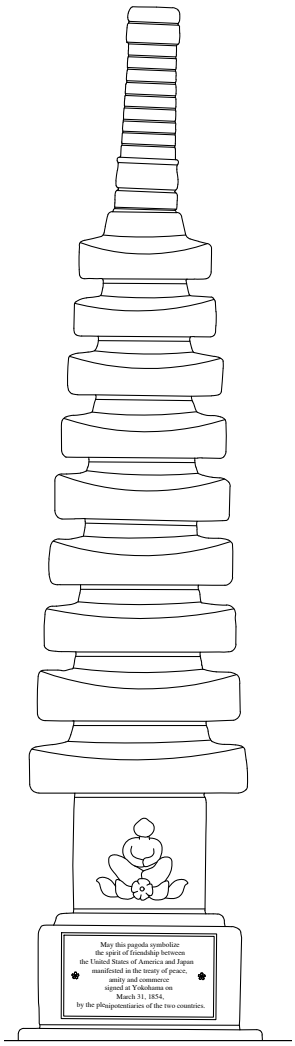


Figure 70. Japanese Pagoda, photograph 1958, and elevation, 2018.

(Source: Left, Abbie Rowe Photographer, National Park Service, in NACC ACC 863, Box 1, Museum Resource Center, National Park Service; Right: Historic American Landscapes Survey)

finial. The pagoda is surrounded by trees near the Tidal Basin walkway and southern end of the Franklin Delano Roosevelt Memorial.

Analysis: The Japanese Lantern and Pagoda contribute to the Tidal Basin cultural landscape. The lantern's plaza post-dates the period of significance but is compatible with the historic landscape.

Independence Avenue SW Overpass Bridge

Historic condition: Independence Avenue's crossing at Maine Avenue SW is elevated with a stone bridge structure constructed in 1943. The bridge was faced with tan colored mica schist in an ashlar pattern with a granite coping and shallow arch (National Park Service 2015a).

Existing condition: The bridge is approximately 70 feet long and has stone abutment walls. This low bridge has an asphalt deck and carries three lanes of traffic and narrow concrete walkways. It shows signs of damage on its lower level from tall vehicles striking the arch.

Analysis: The bridge contributes to the Tidal Basin cultural landscape.

15th Street (Ohio Drive SW) Bridge

Historic condition: The low level bridge was constructed in the early 1940s as a connection to 15th Street. The bridge was designed with an ashlar cut stone face, three arches, and a stone and metal guard rail balustrade. The bridge effectively obscured the Outlet Bridge from the basin.

Existing condition: The stone bridge has an asphalt covered deck with a concrete median, and carries two directions of traffic on Ohio Drive SW. A wide concrete pedestrian walkway faces the basin. The bridge appears to have an open gate or fence structure at the water level, likely to prevent large debris from flowing through the Outlet gates.

Analysis: The 15th Street Bridge contributes to the Tidal Basin cultural landscape.

Recreation Structures: Paddle Boat Rental Facility

Historic condition: The landscape's first boathouse was constructed at the basin's northern lobe in 1902 and enlarged to house a racing boat in 1908; fire destroyed the building in 1918. The second boathouse, built in 1928, was relocated from the northern lobe of the basin during the construction of the Kutz Bridge. A 1942 photograph depicts a floating canoe dock along the western shore of the basin.

Figure 71. Canoe dock in 1942 and paddle boat rental facility in 2018.

(Source: Library of Congress Prints and Photographs Division Washington, DC and AECOM, 2018)

By 1961, a new boat structure occupied a small dock in the basin near its eastern side, and by 1986 the paddle boat rental facility was placed on a float accessed by a small ramp (National Park Service 2018a) (Figure 71).

Existing condition: Today, the paddle boat rental facility and Kutz Bridge are the only structure within the waters of the Tidal Basin. The facility includes the plank access and flanking rental boat floating piers. The boat rental structure has an octagonal footprint with kiosk windows.

Analysis: The paddle boat rental facility is compatible.

Recreation Structures: Athletic Structures

Historic condition: Athletic fields and related features, such as backstops, have been a part of the park landscape since its creation. Ball fields occupied the former polo grounds field as early as the 1950s.

Existing condition: Tall chain link backstops at the ballfields and the goal posts at the football field are structures supporting the landscape's active recreational use.

Analysis: These structures are compatible.

Kiosks

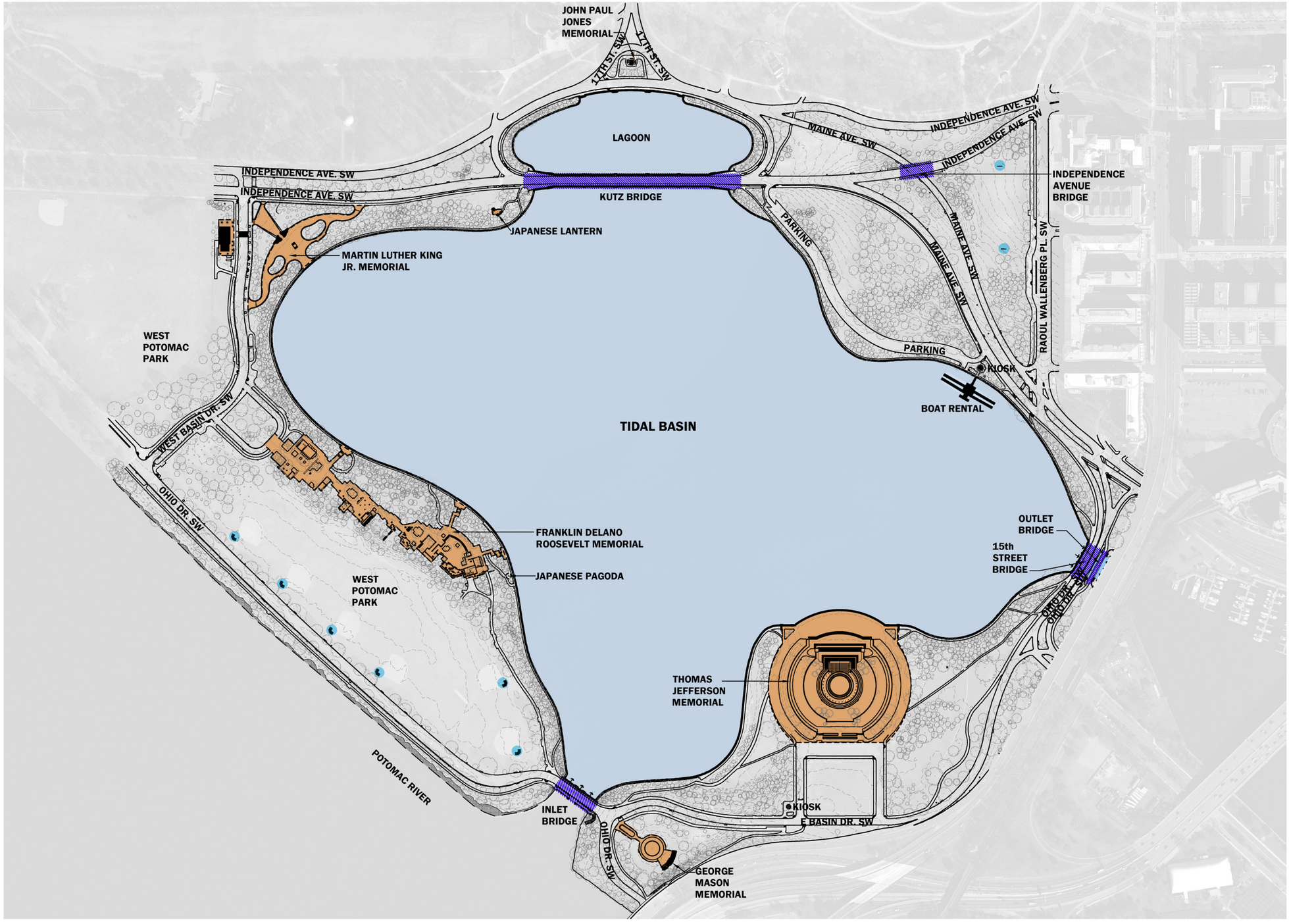
Historic condition: Two concession kiosks—one at the Thomas Jefferson Memorial and one near the paddle boat rental facility—are additional contemporary structures in the landscape. They were added to the landscape c. 1976.

Existing Condition: The kiosks are matching octagonal buildings with glass covered concession windows and tent roofs (Figure 72).

Analysis: These structures are noncontributing.

Figure 72. Kiosk.

(Source: AECOM, 2018)



NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

BUILDINGS AND STRUCTURES

KEY

- MEMORIAL PLAZA AND TERRACE STRUCTURES
- BUILDING/STRUCTURE
- BRIDGE
- KIOSK
- ATHLETIC STRUCTURE

0 400 N

1"=400'

Drawing 12. Buildings and structures

VIEWS AND VISTAS

Designed vistas and panoramic views have been primary organizing features of the Tidal Basin landscape over time (Drawing 13). The essential visual and spatial cross axes of the L'Enfant and McMillan Plans emphasized the symbolic relationships between important historical figures in American history and the seats of government within the monumental core of the city. The primary vistas are available from the perimeter of the basin and its associated memorials. These designed axial vistas include the visual connections between the Thomas Jefferson Memorial and the White House, Capitol, and the Lincoln, Franklin Delano Roosevelt, and John Paul Jones, and Martin Luther King, Jr. Memorials.

Vista between the Thomas Jefferson Memorial and White House

Historic condition: The north/south visual and spatial axis between the Thomas Jefferson Memorial and the White House links these monumental works of architecture that represent the political values uniting all Americans. This vista corridor was intended to be approximately 150 feet wide.

Existing Condition: Today, although both ends of the vista axis—the White House and memorial—are still in place, the vista corridor is approximately half of its intended width. Trees and incompatible vehicular parking have encroached on the vista corridor (Figure 73).

Analysis: The vista contributes to the cultural landscape.

Figure 73. View of the White House from the Thomas Jefferson Memorial, April 1943 and 2018.

(Source: Left, Esther Bubley, Photographer. Library of Congress. Transfer; United States. Office of War Information. Overseas Picture Division. Washington Division; 1944; Right, AECOM, 2018)

Primary Vistas

Historic condition: The design of the city's monumental core established other vistas from the Tidal Basin landscape.

- A vista towards the Lincoln Memorial (Figure 74) northwest from the Thomas Jefferson Memorial now includes the Martin Luther King Jr. Memorial, which was constructed at the edge of the basin along the symbolic "line of leadership" connecting memorials for these three pivotal people in our nation's history.
- A designed vista towards the Potomac River is available from the Thomas Jefferson Memorial.
- The north plaza of the Thomas Jefferson Memorial also provides a viewpoint looking northeast from the memorial to the Capitol along Maryland Avenue SW (Figure 75).
- Another designed vista identified in the McMillan Plan connects the Franklin Delano Roosevelt Memorial northeast to the Washington Monument.
- Direct vistas south along 17th Street SW to the John Paul Jones Memorial emphasize the structure and political values of the overall urban plan.
- A break in the street trees north of the George Mason Memorial provides a vista of the Washington Monument.
- A vista extends from the Inlet Bridge towards the Washington Monument.

Existing condition: The viewpoints and objects of the designed vistas remain in place. While the north side of the Thomas Jefferson Memorial is quite open due to its location on the water, tree growth and the construction of taller buildings has narrowed the open vista corridors near the other key vista objects. Taller flood lights at the Thomas Jefferson Memorial also interrupt vistas towards the

Figure 74. View of the Lincoln Memorial, 1920.

(Source: Theodor Horydczak, Photographer. Library of Congress Prints and Photographs Division Washington, DC)

Figure 75. View of the Thomas Jefferson Memorial and vista towards the Capitol in the distance, c. 1945 and 2018.

(Source: Left, Theodor Horydczak, Photographer. Library of Congress Prints and Photographs Division Washington, DC; Right, AECOM, 2018)

north. Tree growth and replacement along and within other view corridors, such as north of the George Mason Memorial, compromises the integrity of selected views.

Analysis: The vistas to the Thomas Jefferson, Lincoln, Franklin Delano Roosevelt, George Mason, and John Paul Jones Memorials, Washington Monument, and US Capitol contribute to the cultural landscape.

Panoramic Park Views

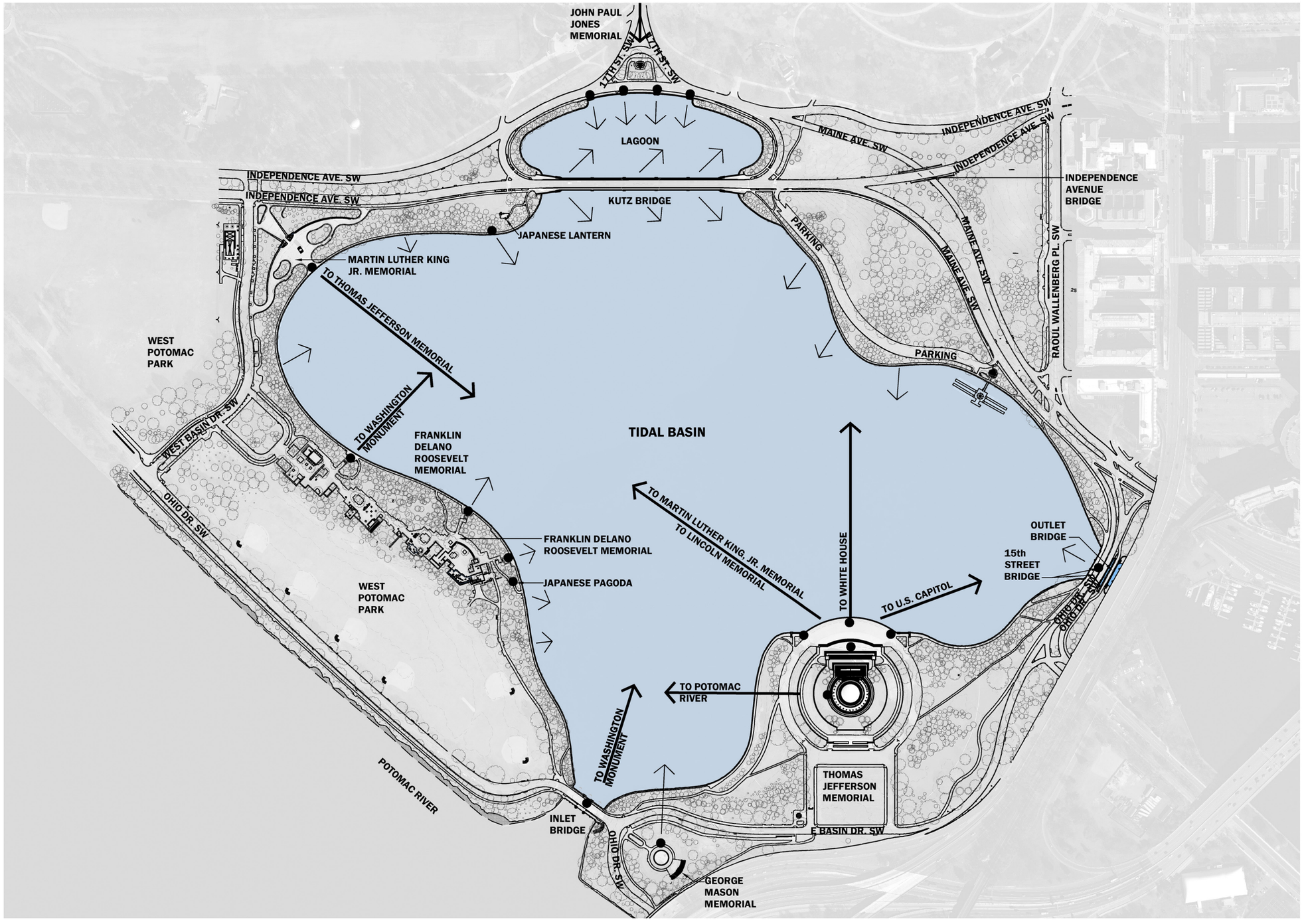
Historic condition: Other important visual characteristics of the Tidal Basin landscape have been the panoramic views of the park, established over time with the addition of new features around the basin landscape.

- The Washington Monument is visible from nearly every location around the Tidal Basin landscape.
- The east/west views along Independence Avenue SW that encompass the urban park landscapes were established in 1943 with the extension of the road across the basin.
- Views of Arlington House are available from sections of the eastern side of the basin.
- The visual prominence of the Thomas Jefferson Memorial at the edge of the basin also makes it a focal point for views from other perimeter features such as Kutz Bridge and the Japanese Lantern and Pagoda.
- Finally, the views of the blooming cherry trees and their reflections in the water are a defining visual characteristic of the landscape.

Existing condition: These informal and general panoramic views are still available around the Tidal Basin landscape. The open expanse of water in the basin provides visual connections among all features around its perimeter. Views of the

memorials, the lantern and pagoda, the cherry trees, and the reflections of these features in the water contribute to the picturesque qualities of the landscape. Important views to features outside the perimeter of the Tidal Basin landscape include views to the north of the Washington Monument from many points throughout the landscape, and views west to Arlington House from points along the eastern edge of the basin. Sightseeing and tour buses often stop on the Inlet Bridge so visitors can take photographs.

Analysis: Panoramic park views from the basin perimeter and adjacent roads and bridges are contributing characteristics of the Tidal Basin landscape.



NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

VIEWS AND VISTAS

KEY

- MAJOR VISTAS
- PANORAMIC VIEWS
- PRIMARY VIEW OR VISTA POINT

0 400 N

1"=400'

Drawing 13. Views and vistas

VEGETATION

The vegetation at the Tidal Basin landscape has helped define and shape important spaces and systems since the park's formation (Drawing 14). The Tidal Basin's park landscape features some of the most famous historic vegetation in the city: the iconic cherry trees (*Prunus spp*.) are the focus of a festival that has drawn millions of visitors. Over the decades, elms (primarily *Ulmus americana*), hollies (*Ilex opaca*), crabapples (*Malus spp.*), other shrubs and conifers, and lawn helped shape the overall park landscape, while plantings designed for the individual memorials created a unique character for each. The following vegetation analysis draws heavily from the Tidal Basin Historic American Landscapes Survey history, existing conditions description, mapping, and identification of character-defining vegetation.

Cherry Trees

Historic condition: The cherry trees that would form the first surviving collection arrived from Japan in 1912 and were planted on the north bank of the basin in clusters and linear arrangements (Figure 76). The planting ceremony involved First Lady Helen Taft and the wife of the Japanese ambassador, cementing a relationship between First Ladies and the cherry tree collection that would endure

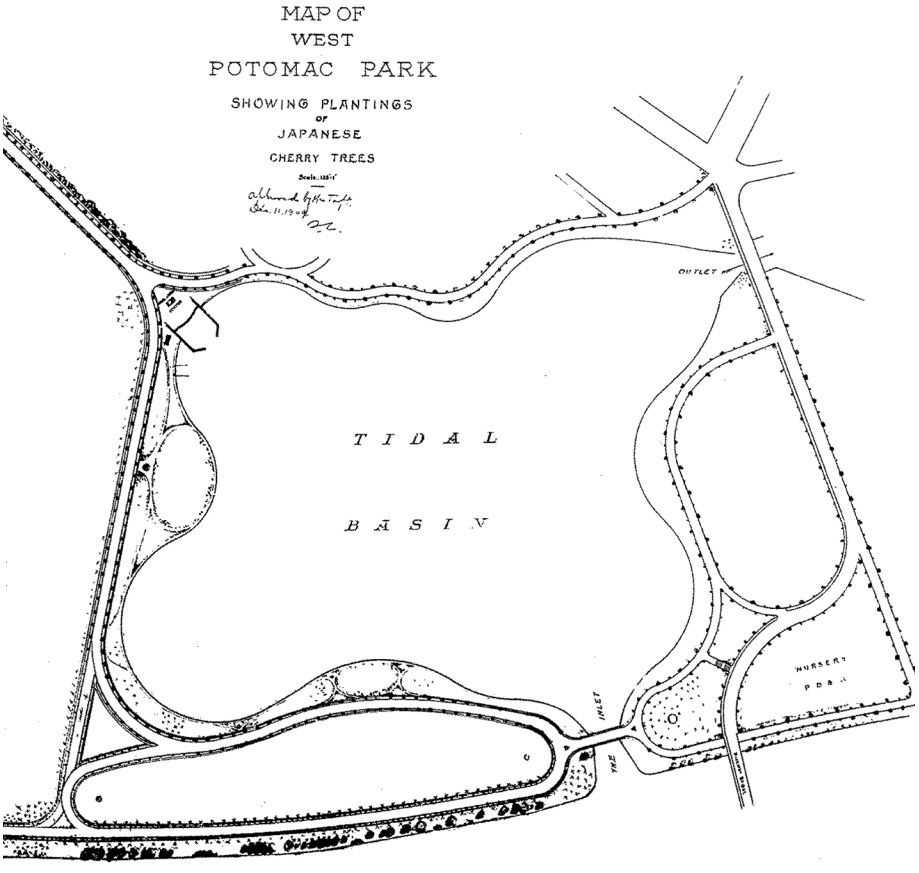


Figure 76. Map of West Potomac Park Showing Plantings of Japanese Cherry Trees, approved by Mrs. Taft, 1909.

(Source: National Park Service, Historic American Landscapes Survey DC-59)

Figure 77. Cherry trees on the Tidal Basin, c. 1920 and 2018.
(Source: Left, Theodor Horydczak, Photographer. Library of Congress Prints and Photographs Division Washington, DC; Right, AECOM, 2018)

for many decades. The initial planting included Yoshino cherry tree varieties (*Prunus x yedoensis*). Thousands of cherry trees followed over the decades, through new gifts and replenishments, and they were arranged throughout the landscape generally according to the planting plan prepared in 1909 (Figure 77). New trees were added in 1913-1920, 1944, 1954, 1965, 1986-1988, 2002-2006, and 2012. As early as 1919, the popularity of the blooming trees caused high levels of visitation, which resulted in trampling and root exposure for the trees. Other trees suffered from a lack of light or from disease. To protect the cherry trees, maintenance and planting recommendations developed by the National Park Service over time suggested that the trees be planted 20-25 feet apart and no closer than eight feet from the new walkways. Other guidelines established to enhance the unified design character of the cherry tree collection included provisions to limit the use of shrubs and other ornamental flowering trees within the cherry planting area.

Existing condition: Today, more than a thousand cherry trees, primarily Yoshino cherries, grow around the perimeter of the basin, collectively reaching peak bloom in late March or early April. Although older individual cherry specimens may have special importance, the overall cherry tree collection is the essential character-defining component of the Tidal Basin vegetation. Threats to the trees include flooding, age, soil compaction and erosion, and other urban environmental conditions. Approximately 90 trees are replaced every year.

Analysis: The cherry tree collection contributes to the cultural landscape.

Floral Library

Historic condition: Another important designed planting is the Floral Library. Designed originally in 1969 as the Tulip Library by National Park Service landscape architect Darwina Neal, the plant collection was established as part of the Lady Bird Johnson Beautification Program. Tulips and other ornamental herbaceous plantings were arranged in a curvilinear garden of 95 mulched beds, interspersed with paths and labeled so that visitors and National Park Service staff could identify successful varieties of garden plants. The beds showcased many varieties of tulips and summer annuals such as begonia, salvia, impatiens, geranium, and lantana (National Park Service 2018a).

Existing condition: The Floral Library continues to be updated with new ornamental plants and was rehabilitated in 2018 with new mulched beds and sod, retaining its original bed configuration (Figure 78).

Analysis: Previous nominations have documented the Floral Library as noncontributing. This CLR suggests that the Floral Library be considered contributing for its age (now 50 years old) and association with the mid-twentieth century Beautification Program.

Figure 78. Floral Library renovation, 2018.

Source: AECOM, 2018)

Memorials vegetation

Each memorial has had a distinctive planting strategy that evolved over time.

John Paul Jones Memorial Vegetation

Historic condition: The year after the formal dedication of the John Paul Jones Memorial, the Office of Public Buildings and Grounds planted a double row of 24 architecturally-trimmed linden trees (*Tilia spp.*) in the lawn-covered reservation around the memorial, completing the memorial design (Figure 79). However, in subsequent decades the Office of Public Buildings and Grounds and the National Park Service made modifications to the surrounding vegetation, walkways, and relationship to the Tidal Basin with the construction of the lagoon.

Existing condition: The John Paul Jones Memorial retains a ring of aging lindens and lawn around the perimeter of the site. The single row of trees, smaller in number, are no longer pruned but instead have a natural habit. New low evergreen shrubs bracket the memorial on the east and west.

Analysis: The remaining memorial lindens, hedge, and lawn contribute to the cultural landscape.

Thomas Jefferson Memorial Vegetation

Historic condition: The memorial planting design by Olmsted Brothers initially provided a wide variety of shrubs, canopy trees, and flowering trees, but was constructed with a simplified palette of deciduous and evergreen trees and shrubs to encircle the driveway; more ornamental plants such as dogwood (*Cornus florida*)and crabapple (*Malus spp.*) outside the driveway; and periwinkle (*Vinca minor*) beneath the trees. An opening between the trees on the memorial's western axis provided views of the Potomac River (Figure 80). The construction of the Thomas Jefferson Memorial resulted in the loss of a reported 88 cherry trees, which was a highly controversial aspect of the project (National Park Service 2012). Lawn eventually replaced the periwinkle as the primary groundcover. Zelkova trees (*Zelkova serrata*) were added to the landscape in the 1970s, followed by the replacement of the hedge in 1986, and removal of failing evergreen trees in 1993.

Existing condition: Today, the Thomas Jefferson Memorial features parallel rings of vegetation that further define the geometry of the landscape. The inner layer is defined by evergreen vegetation such as pines (*Pinus strobus*), holly, and yew (T*axus spp.*). The next layer includes holly, yew, and cotoneaster (*Cotoneaster spp.*). A hedge of boxwood (*Buxus spp.*) creates the next ring of vegetation, with zelkova and elms forming the outer circle of plantings. Cherries and hollies fan out

Figure 79. John Paul Jones Memorial, with double radial rows of linden trees, 1914.

(Source: Hum Images / Alamy Stock Photo, Image ID RA4BY8)

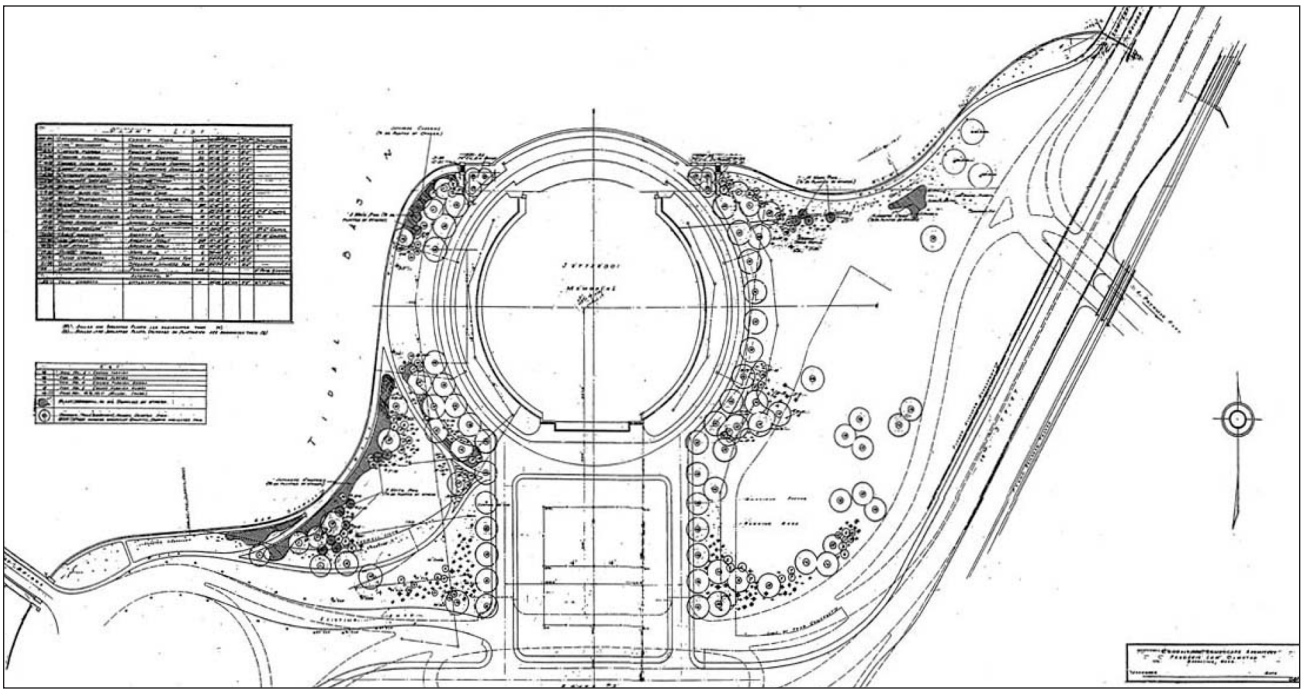


Figure 80. Thomas Jefferson Memorial Planting Plan, 1941.

(Source: NPS No. 65-52-181a)

along the basin edge from the memorial. The designed opening on the memorial's western side remains free of large trees, although several cherry trees have been planted within the vista corridor.

Analysis: The memorial vegetation contributes to the cultural landscape. Previous evaluations have determined that the zelkovas are noncontributing.

Franklin Delano Roosevelt Memorial Vegetation

Historic condition: The Franklin Delano Roosevelt Memorial took advantage of the existing structure of trees along the basin edge, using the cherries, elms and eastern hemlocks (*Tsuga canadensis*), among others, to provide a curtain of privacy for the memorial.

Existing condition: The Franklin Delano Roosevelt Memorial rooms feature zelkova, willow oak (*Quercus phellos*), honey locust (*Robinia pseudoacacia*), crabapple, and other trees and groundcovers.

Analysis: The memorial vegetation contributes to the cultural landscape.

George Mason Memorial Vegetation

Historic condition: The planting in what would become the George Mason Memorial included the ornamental vegetation around Fountain No. 4. The 1928 plan of the fountain area displayed a ring of planting beds, lawn, and a hedge. National Park Service staff planted thousands of pansies around Fountain No. 4 in 1931 (National Park Service 2018a). The fountain itself contained water lilies. This garden landscape, dubbed the Pansy Garden, held a diversified collection of ornamental plants that included flowering shrubs and trees, and annuals such as verbena and celosia. The nearby Rose Garden, with three fountains and an orthogonal arrangement of garden beds, was demolished as part of the adjacent road construction project. The ornamental vegetation encircling Fountain No. 4 was replaced during the construction of the George Mason Memorial to reduce the maintenance requirements, although it still retains seasonal floral displays highlighting plants like those grown during George Mason's lifetime in the eighteenth century (National Park Service 2018a).

Existing condition: The planting around the George Mason Memorial today features parallel rings of forsythia (*Forsythia x. intermedia*) and yew shrubs around the Fountain No. 4, with an outer layer of saucer magnolias (*Magnolia x soulangeana*), and bottlebrush buckeyes (*Aesculus parviflora*) at the main pathway threshold to the memorial. River birch (*Betulus nigra*) and eastern hemlock provide a backdrop to the pergola. Mulched beds of herbaceous plants line the fountain perimeter.

Analysis: The memorial vegetation contributes to the cultural landscape.

Martin Luther King, Jr. Memorial Vegetation

Historic condition: The Martin Luther King, Jr. Memorial also shared the thick tree buffer of cherries, elms, and hollies with the basin landscape, adding crape

myrtle (*Lagerstromia indica*), winter jasmine (*Jasminum nudiflorum*), ornamental grasses, and other vegetation throughout the raised planting beds.

Existing condition: The Martin Luther King, Jr. Memorial vegetation appears to have experienced some changes since it was installed but retains its overall designed character.

Analysis: The memorial vegetation contributes to the cultural landscape.

Lawn

Historic condition: Lawn has been a characteristic ground cover since the establishment of the park. Lawn provided a surface for athletic fields, such as the polo field, and is clearly visible in the 1918 aerial photographs of the site. Streets and street trees defined curvilinear bands of lawn around the edges of the basin. Lawn areas were replaced by military buildings and new memorial landscapes in the 1940s and overlaid by baseball diamonds and other athletic facilities throughout the 1950s and 1960s.

Existing condition: The largest expanse of lawn is still located in the former polo field, now the West Potomac Park ball fields. Smaller swathes of lawn underlie tree plantings throughout the study area and provide ground cover for the football/ rugby field near Raoul Wallenberg Place SW.

Analysis: Lawn is a contributing ground cover planting for the cultural landscape.

Park vegetation

Historic condition: Trees, particularly elms, planted in rows along the border of roadways were some of the first designed plantings (Figure 81). Other vegetation has been planted throughout the landscape to enhance ornamental characteristics, line streets, or to screen views. Unusual species, such as amur corks (*Phellodendron amurense*), have occupied the basin landscape for many years, while a palette of pines, lindens, oaks, maples (*Acer spp.*), horse chestnut (*Aesculus hippocastanum*), buckeye (*Aesculus flava)* and other trees and shrubs enhance the overall park landscape. National Park Service staff deemed hollies an appropriate companion to the cherry trees due to their ornamental characteristics in the winter. They were initially dispersed throughout the landscape in 1933-1934, particularly at the Inlet and Outlet Bridge abutments and on the southern and northern sides of the basin. Large mature elms extend along Independence Avenue SW, West Basin Drive SW, and Maine Avenue SW. Young red maples (*Acer rubrum*) given by Canada line the Potomac River.

Existing condition: Thousands of trees and shrubs provide a thick band of vegetation around the basin and along roads. The overall collection of plants represents over a hundred species of trees and shrubs: lining roads, defining open areas and vista corridors, providing seasonal interest, and enhancing the commemorative landscape. Distinctive clusters of vegetation are listed in the table of landscape features at the end of this section.

Analysis: Park vegetation, including street trees and other plantings, contributes to the cultural landscape. Specific plantings were identified in the Historic American Landscapes Survey as character-defining vegetation. These plantings are listed individually as contributing in the landscape features analysis summary table.

Figure 81. Vegetation lining the basin, c. 1930s.

(Source: Library of Congress Prints and Photographs Division Washington, DC).

NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

VEGETATION

KEY

- DECIDUOUS TREE
- CHERRY TREE
- EVERGREEN TREE
- SHRUBS
- GARDEN BED
- LAWN

0 400 N

1"=400'

Drawing 14. Vegetation

CIRCULATION

The network of circulation features has expanded substantially since the creation of the Tidal Basin. The circulation system has included roads, paths, bike trails, bridle trails, a "speedway," and sidewalks in an intertwining network. The irregular shape of the Tidal Basin and its location adjacent to the Potomac River has resulted in a circulation network that generally departs in plan from the regular grid of the city's street system. Independence Avenue SW, 17th Street SW, and Raoul Wallenberg Place SW represent the three extensions of the city grid within the study area.

Today, an interconnected system of walkways and roadways accommodates pedestrian, bicycle and vehicular circulation through the Tidal Basin landscape (Drawing 15).

Roads

Historic condition: Sections of the earliest roads around the basin were constructed between 1902 and 1906 (Figure 82 and Figure 83). The northern side of the basin received the first road, followed by the eastern and western sides. Park visitors used the Outlet Bridge to cross the southeastern lobe of the basin. However, plans for the full circumnavigation of the basin were only realized after the construction of the Inlet Bridge, which enabled a complete loop around the water body. Roads also wrapped around the athletic fields, such as the polo grounds and the field between the Inlet and Outlet Bridges. The construction of the Kutz Bridge in 1943 extended Independence Avenue SW. In the same period, the addition of wartime buildings and supporting road infrastructure at 15th Street and the completion of the Thomas Jefferson Memorial added complexity to the circulation network. The early 1970s introduced larger incompatible highways south of the Thomas Jefferson Memorial (Figure 84). The addition of the

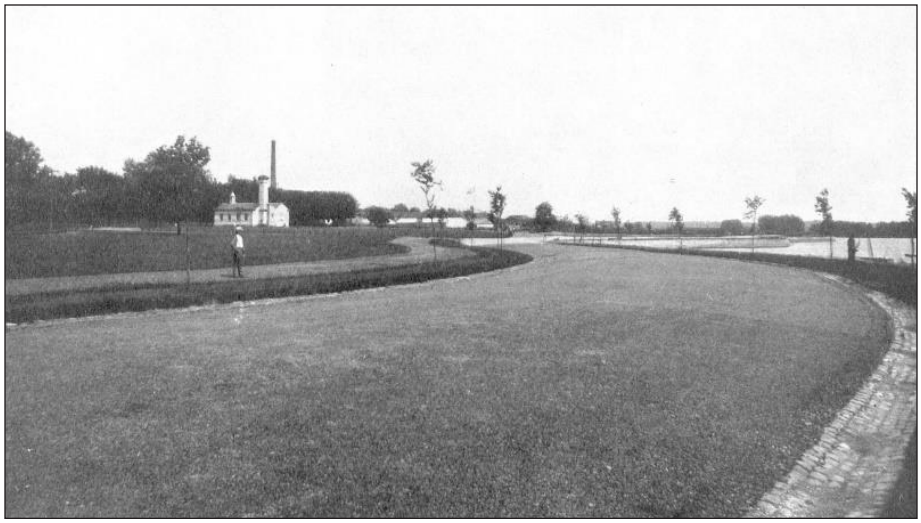


Figure 82. View of new roadway, Potomac Park, 1903.

(Source: National Park Service, Historic American Landscapes Survey DC-59, page 143; US House Executive Documents, 58th Congress, 1st Session, Vol. 2, Doc. No. 1, Part 2, Appendix EEE to the "Report of the Chief of Engineers," comprising Report of Col. Theo. A. Bingham and Col. T.W. Symons, June 30, 1903)

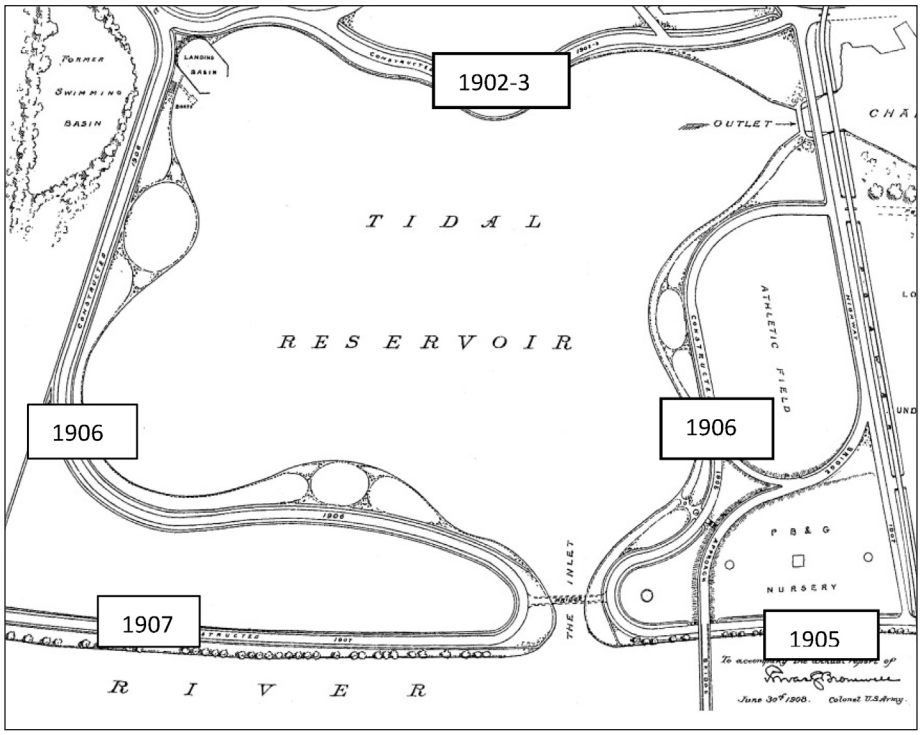


Figure 83. Annotated Map of North Potomac Park Showing Water-Side Drives, 1908.

(Source: National Park Service, Historic American Landscapes Survey DC-59, page 143; Corps of Engineers, from Report of the Chief of Engineers US Army, 1908, Part 3, Appendix GGG, Improvement and Care of Public Buildings and Grounds in the District of Columbia—Washington Monument, Report for the Fiscal Year Ending June 30, 1908.)

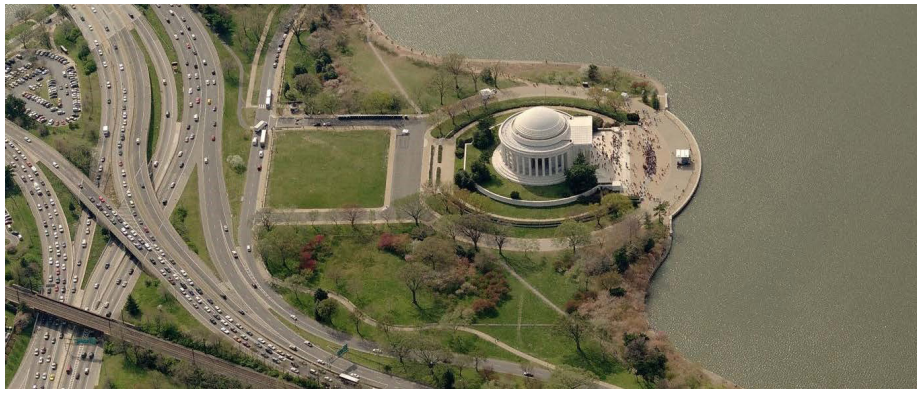


Figure 84. Photo comparison of the road system near the Thomas Jefferson Memorial, 1949 and 2009.

(Source: Jefferson Memorial Vehicular Barrier Design Project Summary 2009-2015)

Franklin Delano Roosevelt and Martin Luther King, Jr. Memorials resulted in the realignment of roads on the west side of the basin.

Existing condition: Vehicular traffic is now limited primarily to the periphery of the Tidal Basin landscape. The *National Mall Streetscape Manual* identifies a hierarchy of major park roads, park roads and drives, and service/parking access ways that connect through the landscape. The major park roads are Independence Avenue SW and Maine Avenue SW, located to the north and northeast of the Tidal Basin. These are wide, divided, multi-lane roads. Ohio Drive SW, and East and West Basin Drives SW provide more direct local access, although East Basin Drive SW also carries a large volume of traffic to the I 395 bridge nearby. Bus circulation is directed towards the lower-traffic roads to the west and south of the Tidal Basin. Private tour bus and public bus stops are concentrated along the tertiary roadways on the south and west of the Tidal Basin, providing direct access to the memorials. The volume of tour buses is very high—up to 1200 per day—during peak travel seasons and during the National Cherry Blossom Festival. Arrival and departure by tour bus is primarily designated south of the Thomas Jefferson Memorial on East Basin Drive SW, or to the northwest of the Franklin Delano Roosevelt Memorial and west of the Martin Luther King, Jr. Memorial along West Basin Drive SW. Roads have an asphalt surface with granite curbing and are striped for vehicular and bike lanes.

Analysis: Independence Avenue SW, 17th Street SW, Maine Avenue SW, Ohio Drive SW, Raoul Wallenberg Place SW, East Basin Drive SW, and West Basin Drive SW contribute to the cultural landscape.

Paths, walkway, trails, and sidewalks

Historic condition: Sidewalks hugged the tree-lined brick-guttered macadam roads, and a curvilinear path followed the contours of the basin soon after its construction. As memorials accumulated in the landscape between 1943 and 2011, designers developed a new scale and character of pedestrian pathways in each unique commemorative landscape. The materials and condition of walkways, especially those around the basin, has varied over time, from concrete or stone to "part dirt and part stone chip" (National Park Service 2018a). These two scales of character-defining circulation features—park-wide sidewalks and paths, and designed memorial pathways—have helped define pedestrian movement through the landscape over time.

Existing condition: The Tidal Basin landscape is most widely accessible by pedestrians. Sidewalks directly parallel most of the roads that encompass the basin and are often used to access the site. These sidewalks range from eight

to ten feet wide and are typically composed of cast concrete, finished with a warm colored, small, tumbled aggregate and bordered by National Park Service standard grey granite curbs and curb ramps. Many perimeter sidewalks are defined by the District Department of Transportation's 2018 Bike Map as shared-use paths. Connecting walkways link perimeter sidewalks to the interior of the basin landscape. These walkways pass through stands of cherry trees to connect with the memorial landscapes or to the walkway that outlines most of the basin's perimeter. Asphalt walkways are lined with a steel edge and have been patched to repair upheaving from tree roots and settling. The walkway around the basin brings the visitor to the immediate edge of the Tidal Basin, providing the famous scenic views of the surrounding memorials, cherry trees and their reflections in the basin water. The eight feet wide concrete walkway follows the perimeter of the Tidal Basin except for those segments that flood daily or approach the three roadway bridges, where the walkway separates from the water's edge to converge with a perimeter sidewalk that connects across the bridge. The basin walkway provides direct pedestrian access to the major memorials around the basin perimeter via designed plaza entry points. Visitors have created many narrow, compacted earthen social trails throughout lawn and planting areas throughout the landscape.

The Tidal Basin landscape accommodates bicycles through a system of bike trails and parking stations (Figure 85). Improved bicycle infrastructure and increased access to rental bikes has contributed to high demand for bicycling through the National Mall park system by leisure riders and commuters. Capital Bikeshare, which operates a majority of bike rentals in the district, indicated that 1.4 million total trips were taken from its nine National Mall bikeshare stations, three of which are located in the Tidal Basin landscape. Starting in 2014, Capital Bikeshare teamed with the National Cherry Blossom Festival to promote biking to the festival through social media and advertising on its bicycles.

The District Department of Transportation's 2018 Bike Map identifies several off-street bike trails that connect to and through the Tidal Basin landscape (District Department of Transportation 2018b). The shared-use trails typically occupy the outermost sidewalks, creating a loop that connects to the Rock Creek Trail as well as the Independence Avenue SW, Maine Avenue SW and George Mason Memorial Bridge shared-use sidewalk trails. Increasing access to dockless rental bicycles and electric bicycles and scooters has led to an increase in their use throughout the Tidal Basin trail network.

The Tidal Basin's off-street trails systems are also used by commuter bicyclists and joggers to connect to larger trail systems. The Tidal Basin landscape is

Figure 85. Bike lanes and parking on East Basin Drive SW near the Thomas Jefferson Memorial, 2019.

(Source: AECOM, 2019)

situated in between the two primary trail connections across the Potomac River connecting Washington, DC to Arlington and Alexandria, VA. The 14th Street Bridge trail connects directly to the Tidal Basin's East Basin Drive SW and to Virginia's popular Mount Vernon trail. The off-street Rock Creek Trail along Ohio Drive SW provides a direct connection to the Arlington Memorial Bridge, which serves as a popular connection between Arlington, VA and Washington, DC as well as direct access to and from Georgetown. The National Mall trail system is a popular jogging route that offers continuous pedestrian routes along wide, shaded walkways. The shaded scenic walkways of the Tidal Basin landscape that join this system are an attractive environment for joggers.

Analysis: The paved basin walkway, sidewalks, trails, and memorial walkways contribute to the cultural landscape. Packed earth social trails and other asphalt connector walkways and trails do not contribute to the character of the landscape.

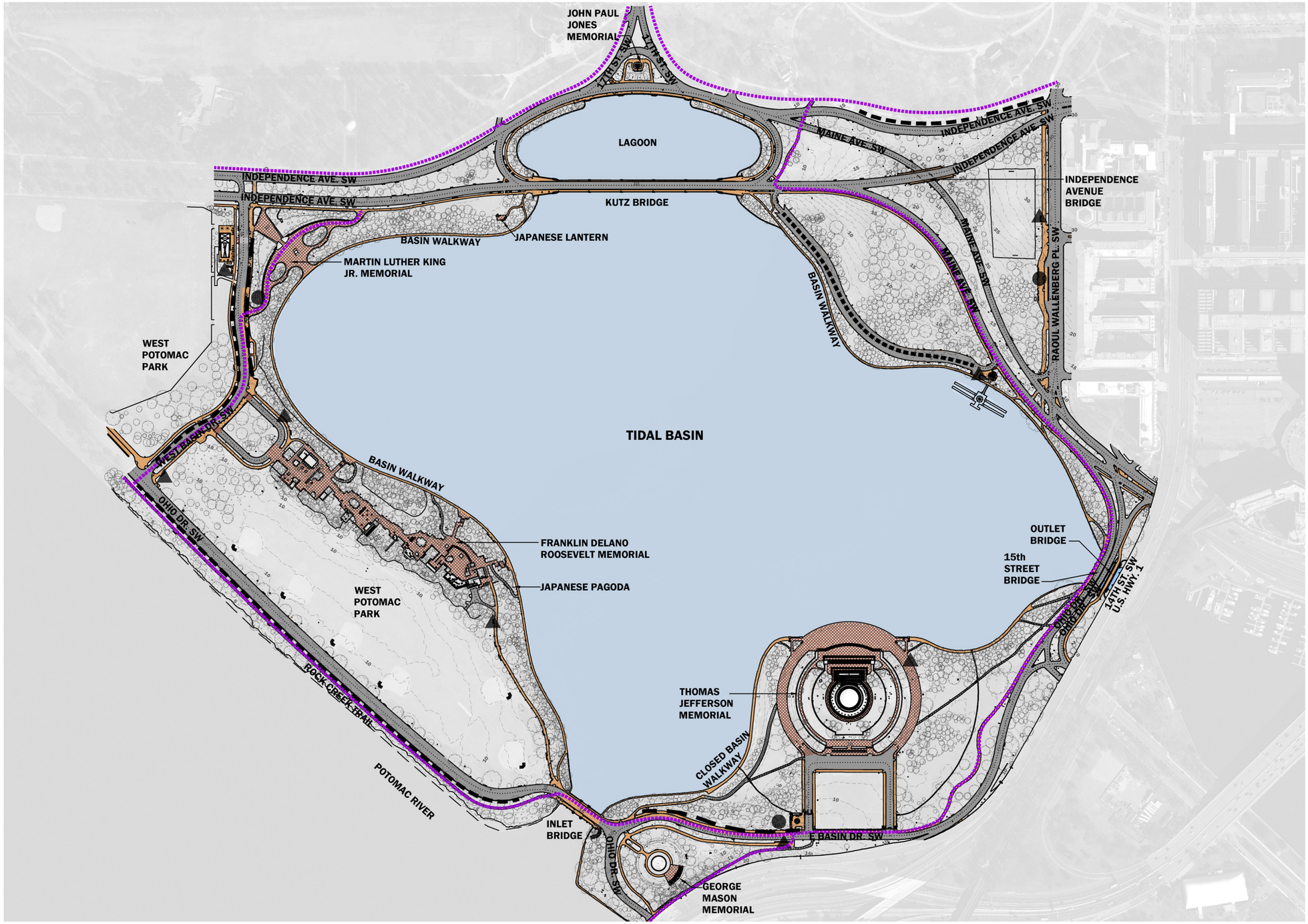
Parking

Historic condition: Parking facilities were constructed in the 1940s in the northeast section of the basin landscape, south of Maine Avenue SW. Other street parking appears to have lined the roads around the former polo grounds during the same period.

Existing condition: Today, bus parking is allowed along sections of the road system, particularly along Ohio Drive SW and West Basin Drive SW. Taxi stands are near the Thomas Jefferson and Franklin Delano Roosevelt Memorials. Private vehicle parking is limited to the parking lot along the northeastern side of the basin and parallel parking along West Basin Drive SW, Ohio Drive SW,

and westbound Independence Avenue SW. The parking lot is accessed from southbound lane of Maine Avenue SW and offers approximately 160 parking spaces immediately adjacent to the Tidal Basin. The asphalt parking lot is defined by curbs and has a one-way drive aisle with angled spaces. Designated bicycle parking areas are located at major landscape thresholds: near the Thomas Jefferson and Franklin Delano Roosevelt Memorials, the paddle boat rental facility and associated kiosk, and along Raoul Wallenberg Place SW. Dockless scooter rental parking is currently unregulated and occurs at random throughout the landscape, presenting obstacles that can impede pedestrian and bicycle circulation. As this document was being prepared, Washington, DC was developing new regulations to restrict dockless scooter parking and walkway access.

Analysis: Street vehicular parking and bicycle parking is compatible with the cultural landscape. The off-street car parking lot remains from the period of significance and is currently an essential gathering space for events. It has been evaluated as contributing; however, parking is not compatible with the designed vista to the White House.



NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

CIRCULATION SYSTEMS

KEY

- ASPHALT PAVING (ROADS)
- ASPHALT PAVING (TRAILS)
- CONCRETE PAVING (SIDEWALKS, WALKWAYS)
- MEMORIAL PAVING/PLAZAS
- CIRCULATOR STOP
- PARKING (BIKE)
- PARKING (CAR/BUS)
- PARKING (CAR ONLY)
- PARKING (BUS ONLY)
- OFF-STREET BICYCLE TRAIL*

*2018 DDOT BICYCLE MAP

0 400 N

1"=400'

Drawing 15. Circulation

NATURAL SYSTEMS AND FEATURES

The landscape of the Tidal Basin was originally part of the Potomac River channel, with its huge flow of water and naturally shifting banks. Located below the fall line, the river area that would become the Tidal Basin was wide and influenced by perennial water flow from the outer reaches of the watershed, tidal action from the Chesapeake Bay, and occasional floods (Drawing 16).

Potomac River

Historic condition: By the mid-nineteenth century, several key cultural and natural factors influenced the condition of the Potomac River near this location: the widening of the river channel below the falls, which slowed the water flow and caused sediment to drop and accumulate; the development of the river shores through the construction of wharves and bridges; and the city's sewage discharge into the river.

Extensive sedimentation and pollution increased the extent of the silted and dirty wetland, until the landscape became what was characterized as "unnavigable shoals, or useless swamp land" (National Park Service 2001). Despite the pollution, the "river's foul-smelling flats" housed an ecosystem that included marshes of reeds and grasses (National Park Service 2018a). The land reclamation project of the late-nineteenth century transformed this urbanizing wetland with hardened edges of sea walls, the constructed basin, and extensive fill, effectively solidifying large landscape areas from its previously shifting riverine condition. The landscape's construction of fill material resulted in a lack of naturally occurring features on the site (Figure 86). The river's edge, topography, and vegetation, for example, were entirely built or planted according to the plans of the US Army Core of Engineers and other designers. The Tidal Basin design

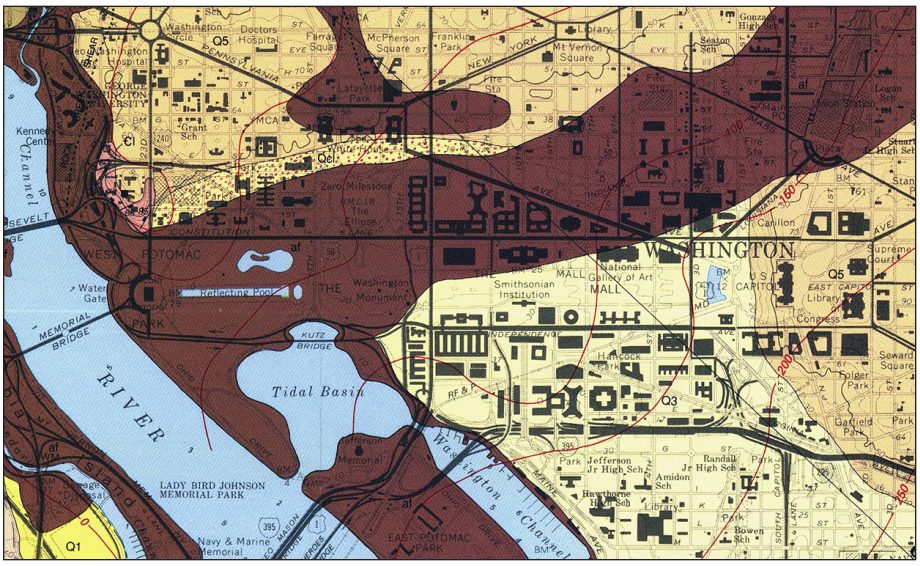


Figure 86. Detail, Geologic Map of the Washington West Quadrangle, showing lands of artificial fill in brown.

(Source: USGS, Geologic Map of the Washington West Quadrangle, District of Columbia, Montgomery and Prince George's Counties, Maryland, and Arlington and Fairfax Counties, Virginia, 1994.)

Figure 87. The Tidal Basin during the record flood of 1942.

(Source: National Oceanic and Atmospheric Administration)

harnessed the dynamic nature of the river's flow to control the sedimentation in the Washington Channel by flushing large volumes of water through the channel. Tidal action—pushing water in and out of the basin through gates—was thus an essential natural component of the constructed water feature. Managing flooding was another important benefit of the basin and overall water management system (Figure 87).

Existing condition: Although the Tidal Basin landscape is entirely constructed and does not contain remnant Mid-Atlantic ecosystems such as woodlands or wetlands, natural systems associated with the Potomac River continue to play an essential role in the function of the landscape. Current natural systems conditions such as climate, tides, and flooding continue to act on the basin, causing water to breach the lower sea walls at high tides, with more dramatic breaches during major storm events and freshets.

The Tidal Basin is engineered to take advantage of the natural tides that ebb and flow within the city's waterways twice a day. This natural cycle connects the water flowing up- and downstream in the Potomac River through the constructed water bodies at the Tidal Basin and Washington Channel. The shifting direction of the river's tidal flows creates a force against the basin's tidal gates, to move water through the channels and wash away the sediment that would naturally collect there. The high tide water level overtops the lowest sea walls. Unprotected by the city's levee system, the Tidal Basin landscape and its surrounding park are within designated special flood hazard areas and subject to periodic flooding damage. Engineering reports for the study area identify river bank erosion, loss of vegetation, inundation of trees, failure at storm drain outfalls, and damage to other park features as the ramifications of flood events (National Park Service

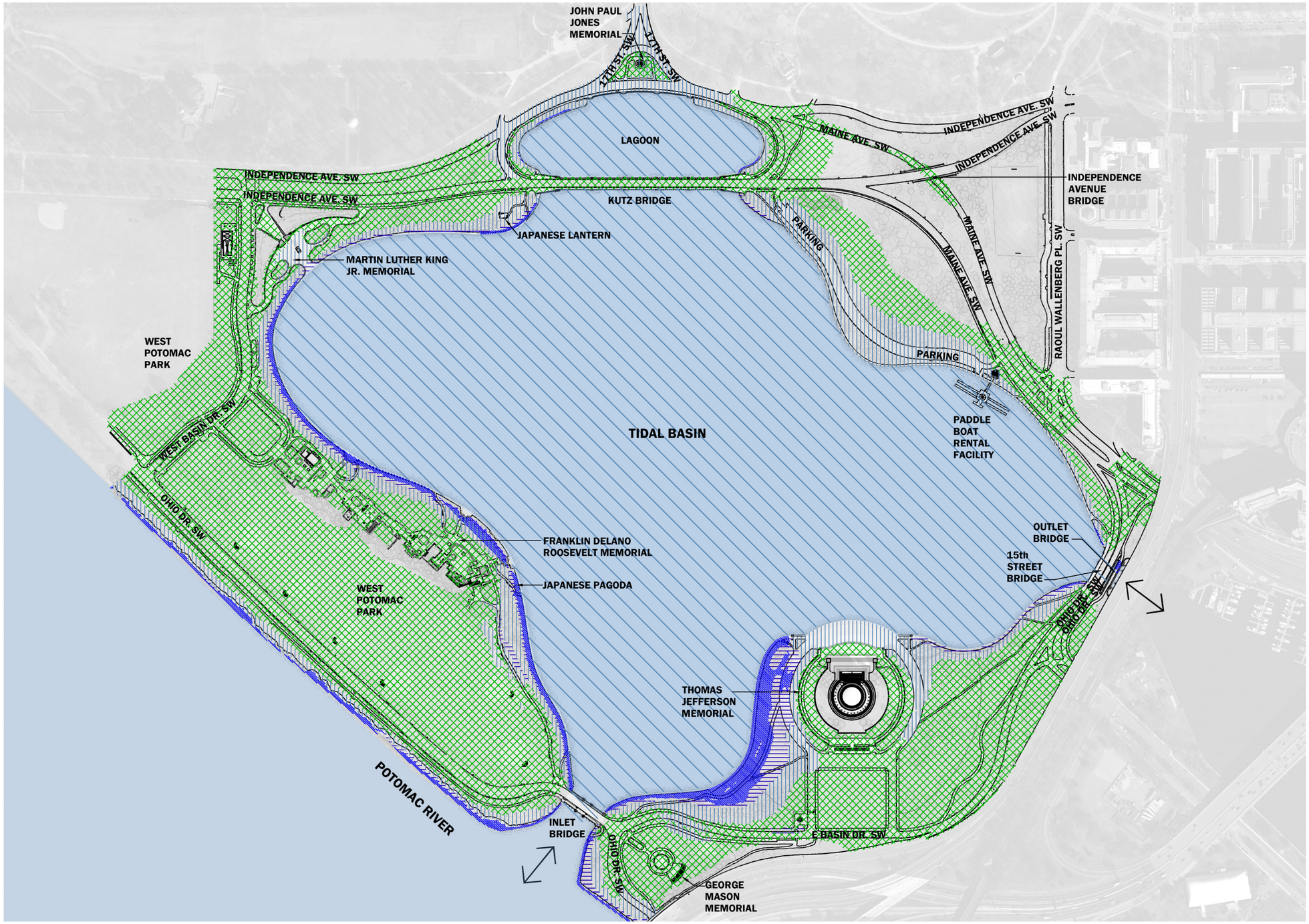
Figure 88. Resident Canada geese in the basin after a flood.

(Source: AECOM, 2018)

2011). Most of the study area lies below a base flood elevation line of 13 feet above sea level. A segment of the Tidal Basin walkway, connecting the Thomas Jefferson Memorial to the Inlet Bridge, has been closed due to daily flooding during high tide. The approximately 760-feet long segment of walkway is the lowest elevation of the Tidal Basin landscape and the accumulation of silt and easy access to shallow water encourages wildlife, primarily resident Canada geese, to frequently inhabit the area. Temporary asphalt walkways have been added to circumvent this frequently flooded zone. Longer term change is expected to include sea level rise, accompanied by a geological subsidence of the Washington, DC area of as much as six inches by 2100 (Dejong 2015).

The Tidal Basin and its landscape are also a habitat for fish, reptiles, birds, and small mammals such as resident Canada geese, ducks, fish, and other animals. (Figure 88)

Analysis: The Potomac River is a contributing feature of the cultural landscape. Flooding and sea level rise are major threats to the landscape.



NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

NATURAL SYSTEMS

KEY*

- POTOMAC RIVER
- MEAN LOW TIDE (0.15')
- MEAN HIGH TIDE (2.94')
- MINOR FLOOD STAGE (4.20')
- MAJOR FLOOD STAGE (7.00')
- 100 YEAR FLOODPLAIN (12.50')
- TIDAL FLOW AT GATES

**NOAA WASHINGTON CHANNEL STATION (8594900)*

0 400 N

1"=400'

Drawing 16. Natural systems

TOPOGRAPHY

The topography of the Tidal Basin landscape is entirely constructed (Figure 89 and Drawing 17) and even the smallest variations marked by slope, steps, ramps, and retaining walls are all the result of design and engineering.

Basin landscape

Historic condition: The Potomac Flats reclamation project significantly raised the elevation of the existing sedimentary flats to create a new eastern edge of the Potomac River. The landscape generally slopes downward towards the water bodies; this slope varies throughout the landscape. These topographic modifications have accumulated with the addition of roads and structures in the landscape.

Existing condition: The engineered topography surrounding the basin is generally flat, exceeding 12 feet above sea level only towards the northeast section of the study area where the grade rises towards its highest point of approximately 32 feet above sea level along Raoul Wallenberg Place SW. The Tidal Basin is approximately 10 feet deep and the top of its encompassing sea wall varies in height between just over half a foot above sea level at a point west of the Thomas Jefferson Memorial to just over six feet east of the paddle boat rental facility. Generally, the topography slopes gently upward from the sea wall coping to meet the raised elevation of the outer roadways. This sloped topography typically provides planting areas for the stands of cherry trees.

Analysis: The engineered topography of the basin landscape contributes to the cultural landscape.

Figure 89. Engineered topography around the basin, 1941.

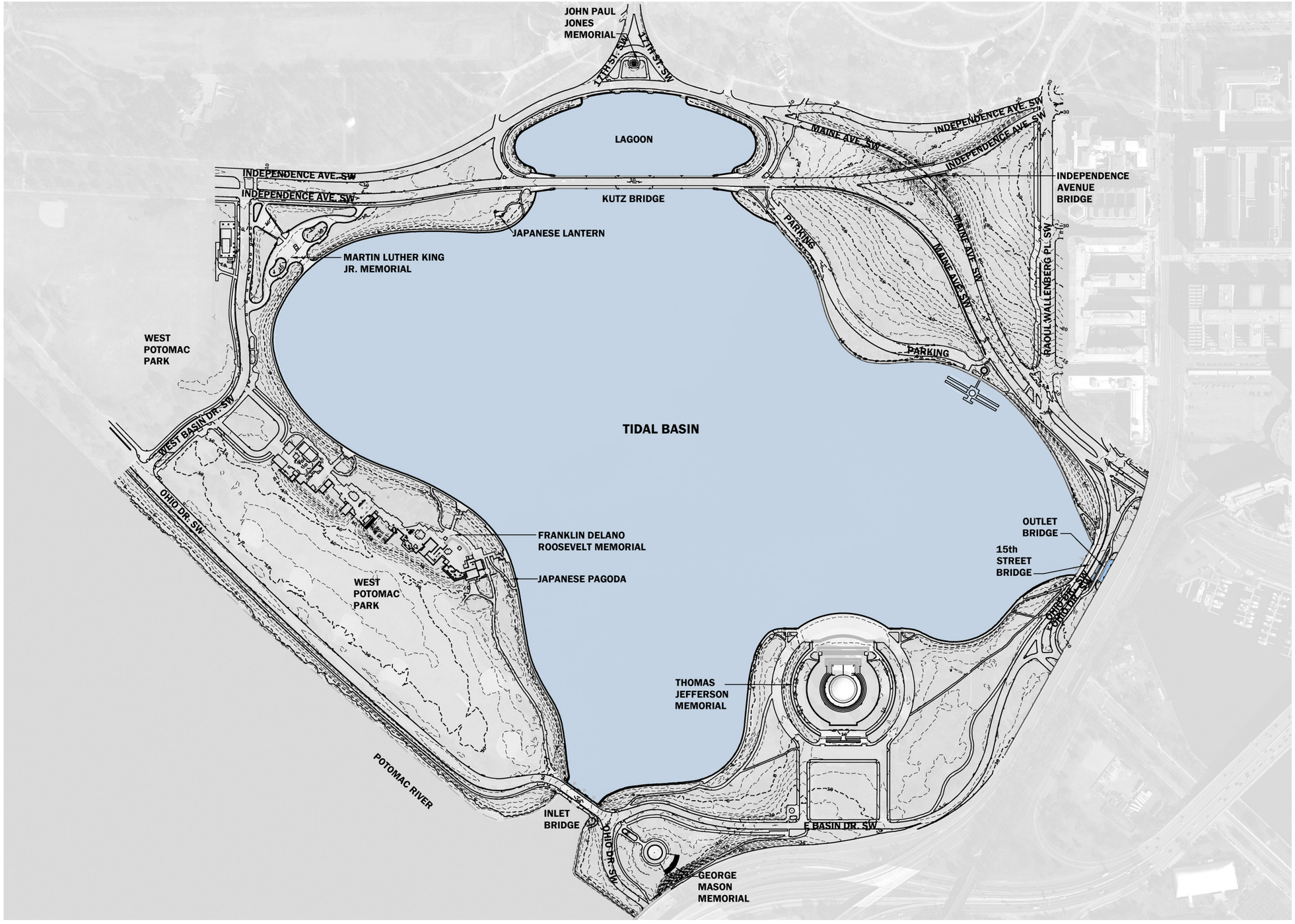
(Source: National Park Service, Historic American Landscapes Survey DC-59, page 166; Commercial Photo Co., Contract I-28P-37, NACC ACC 864, Box 4, Museum Resource Center, National Park Service.)

Memorials

Historic condition: The memorials incorporate designed topographic berms, slopes, and terraces to create walkways and commemorative spaces. The plinth supporting the Thomas Jefferson Memorial, created by retaining walls, marks a high point in the landscape. Gentle berms separate the Franklin Delano Roosevelt Memorial from the recreation field to the southwest. Other steeper slopes create topographic separation between roads and adjacent landscapes; in particular, a steep slope near 14th Street SW creates a backdrop for the George Mason Memorial. Raised planting beds enclose memorial spaces at the Martin Luther King, Jr. Memorial.

Existing condition: The designed memorial landscapes retain their essential topographic conditions. Walls, plinths, steps, flat or gently sloping plazas and walkways continue to define the shape and character of the memorials. The accessible portions of the memorial landscapes are primarily between five and ten feet in elevation, with gently sloping walkways and terraced or bermed landscape beds.

Analysis: The designed topography at the individual memorials is a contributing characteristic of the cultural landscape.



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TIDAL BASIN CULTURAL LANDSCAPE REPORT

TOPOGRAPHY

KEY

— — — 1 FOOT CONTOURS

— — — 5 FOOT CONTOURS

0 400 N

1"=400'

Drawing 17. Topography

SMALL-SCALE FEATURES

The Tidal Basin landscape has a range of small-scale features throughout the landscape (Drawing 18); most of the features follow National Park Service standard designs, which are illustrated in the Historic American Landscapes Survey drawings. Historic photographs and drawings provide the primary evidence for the evolving palette of small-scale features in the landscape. The landscape has contained a wide variety of features expected for a park environment, such as benches, lights, signs, water fountains, fences, athletic facilities, railings, bollards, and plaques.

Railings and fences

Historic conditions: The oldest small-scale features are likely the basin guard rails (Figure 90 and Figure 91). These railings around much of the basin perimeter were installed in 1903 and painted white in 1911; small sections of the railing survive today. Although sleeves for the railings were located around almost the entire perimeter of the basin in 1942, the plans for the new railing were never implemented. A row of low concrete bollards with metal chains delineates the boundary of the John Paul Jones Memorial. A basin perimeter railing was installed at the Martin Luther King, Jr. Memorial. This railing echoed the simple design

Figure 90. Basin railing, 1942.

(Source: John Ferrell, photographer. Library of Congress Prints and Photographs Division Washington, DC)

Figure 91. Railing, water fountain and bench along the basin edge, 1940.

(Source: NACC ACC 863, Box 1, Museum Resource Center, National Park Service)

of the earlier railing, with cylindrical metal posts and top rail, and the addition of multiple small intermediate railings.

Existing conditions: Several types of fencing and railings are used throughout the Tidal Basin landscape. Permanent black painted post-and-chain systems are installed along many of the heavily traveled walkways and sidewalks to discourage visitors from stepping onto the turf. The fencing is frequently located along sidewalks and around memorials to define walkway intersections where social trail shortcuts have a high likelihood to form. A black plastic hardware mesh fence has been installed at various heights around select trees to protect from beaver damage. This four-feet-high mesh fencing is also temporarily used to prevent visitor access to areas where soil is being amended or where turf is being reestablished. When used in this manner, the fencing is attached to lightweight metal posts, which have been driven into the ground at approximately eight feet intervals. A semi-permanent chainlink fence has been installed between the Franklin Delano Roosevelt Memorial and the Tidal Basin walkway to deter the formation of social trails. Safety railings are integrated in several locations throughout the Tidal Basin landscape. The historic guard railing defines the inner edge of the Tidal Basin walkway between the east end of Kutz Bridge and the Outlet Bridge. The white painted steel pipe railing is affixed to the sea wall coping and features vertical posts and two horizontal railings. A contemporary guard rail lines the edge of the basin at the perimeter of the Martin Luther King, Jr. Memorial. Concrete jersey barriers and large planters currently provide perimeter security for the Thomas Jefferson Memorial.

Analysis: The basin and bridge railings, memorial railings, and designed National Park Service standard post and chain fences are contributing. Other barrier types are noncontributing.

Lighting

Historic condition: Street lights with an ornate metal post and globe fixture lined many of the streets within the study area. Spot lights and other designed lighting systems accompanied the memorials and the Kutz Bridge. The Thomas Jefferson Memorial is illuminated by six flood lights on tall poles.

Existing condition: The streets that surround the Tidal Basin landscape are designated by the National Capital Planning Commission as Monumental Core Streets, which feature the Twin-Twenty Globe light standard on all major park roads and the Washington Globe #16 upright poles on all non-major park roads and drives. The Twin-Twenty Globe light is nearly 22 feet tall, with an ornate double light bracket and fluted post. The Washington Globe is almost 17 feet tall,

with a single light fixture and fluted post. The Kutz Bridge lights are unique in the study area and include a delicate multi-paned metal fixture mounted on an ornate pole and concrete base. Additional light standards are associated with each memorial landscape and include tall flood lights and other fixtures.

Analysis: Standard and custom-designed street lighting systems contribute to the cultural landscape. The Thomas Jefferson Memorial flood lights are noncontributing.

Site Furnishings

Historic condition: Historic photographs confirm the presence of site furnishings such as water fountains and benches along the basin perimeter. The water fountains were mounted on an octagonal concrete pedestal and the benches appear to have been wood slatted seats on a metal base. Other custom-designed site furnishings were installed with the individual memorials, such as stone benches at the Franklin Delano Roosevelt and George Mason Memorials. Simple wooden bicycle racks, trash receptacles and other small site furnishings dotted the landscape through its years as a city park.

Existing condition: Several bench types are used throughout the Tidal Basin landscape. Standard National Park Service benches are located at intervals around the Tidal Basin walkway. The short benches have black painted wooden slats that are mounted to a cast iron base, without armrests. The benches are anchored to a concrete foundation that is offset from the walkway. A similar bench with continuous slats is located along the walkway to the Franklin Delano Roosevelt Memorial rear entry and along West Basin Drive SW. A third type has wood slats but a concrete base; these are located near the concession kiosk. The National Park Service standard trash and recycle receptacles are found throughout the Tidal Basin landscape. The "Victor Stanley" powder coated steel bins are typically placed in pairs, with one black trash receptacle beside a blue recycling receptacle. The bins are either anchored directly to the sidewalk or offset on their own concrete foundation adjacent to the sidewalk. Several sets of the National Park Service standard hoop bicycle racks are provided in the landscape, typically on the perimeter of memorial sites. The black painted steel bicycle racks are anchored into a concrete foundation that is either directly on the sidewalk or immediately offset from it. There are racks near the Thomas Jefferson Memorial, Martin Luther King Jr. Memorial Bookstore, and the kiosk northeast of the basin. Capital Bikeshare stations are alongside the shared-use paths near the intersection of Ohio Drive SW and West Basin Drive SW, along Ohio Drive SW, southwest of the Thomas Jefferson Memorial, and at 17th Street SW and Independence Ave SW to the east of John Paul Jones Memorial. The docking stations are heavily used.

The National Park Service standard accessible water fountains are located periodically throughout the Tidal Basin landscape. This painted brown steel fountain is cylindrical with a horizontal appendage that provides two fountains per unit. The fountains are typically located near public service facilities at each memorial, such as at the Thomas Jefferson Memorial kiosk, the Franklin Delano Roosevelt Memorial restrooms, the Martin Luther King, Jr. Memorial Bookstore and the paddle boat rental facility kiosk. Several additional fountains are located along Ohio Drive SW, one immediately west of the Inlet Bridge and two along the Rock Creek Trail.

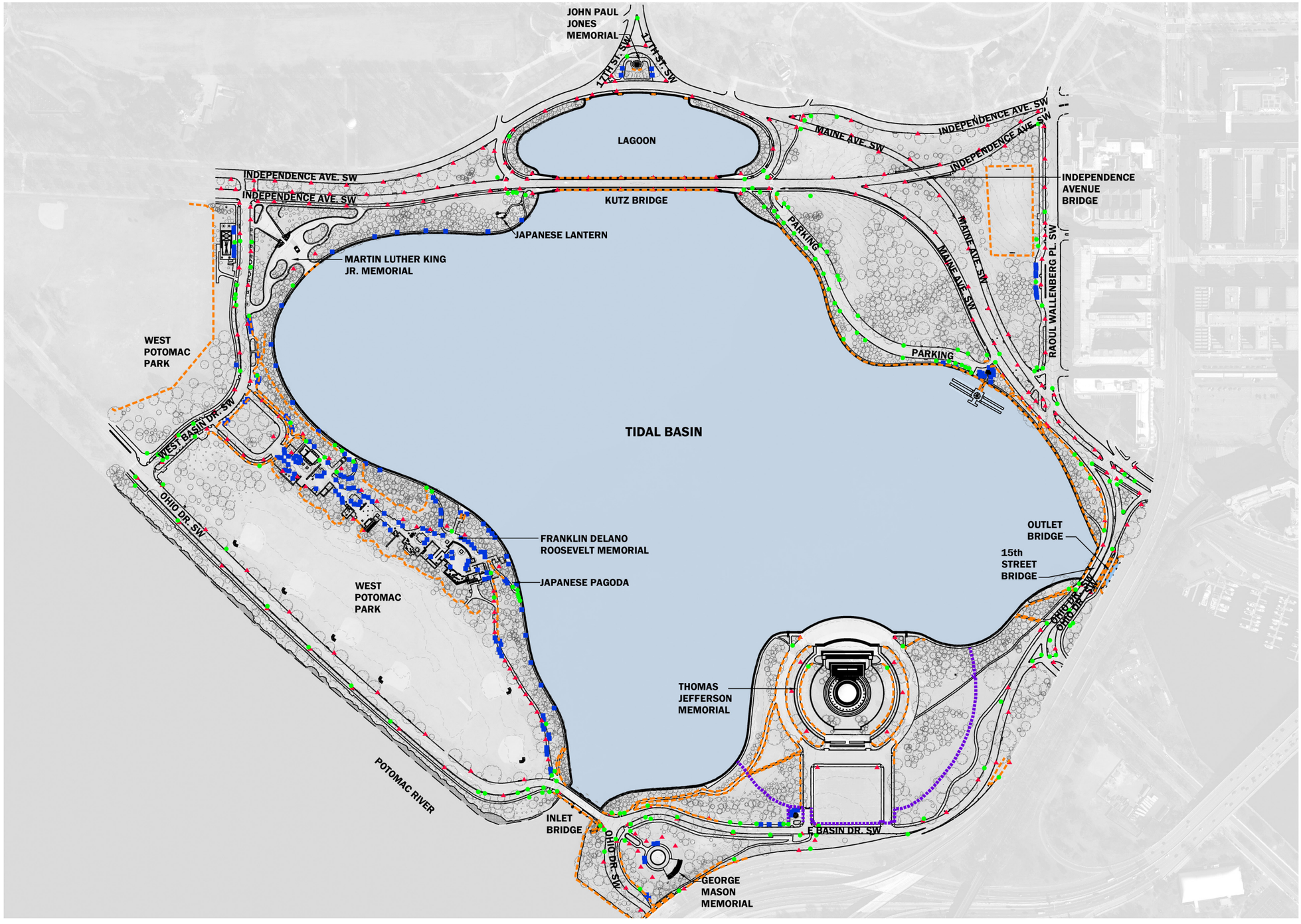
Analysis: The custom-design memorial site furnishings and National Park Service standard benches contribute to the cultural landscape. Bicycle racks, water fountains, trash receptacles, and other site furnishings are compatible.

Signs, markers, and plaques

Historic condition: A plaque commemorating the first cherry tree planting was placed on the northern side of the basin in 1950. A bronze plaque set in a boulder along the Rock Creek Trail marks the world's first airplane mail flight, which was flown from the adjacent field. A changing assemblage of other signs and markers have been placed in the landscape over time.

Existing condition: Various types of signs are present throughout the Tidal Basin landscape including standard National Park Service identity, interpretive, wayfinding, and regulatory signage. Interpretive signs are located throughout the site to provide further information on culturally significant features. The signs are immediately adjacent to a walkway near, or oriented towards, the feature they interpret, and provide visitors with contextual information and illustrations. Wayfinding information is integrated into standard four-sided paneled pylons with directional and regulatory pictograms. Regulatory signs include street signs as well as National Park Service warning markers. National Park Service identity signs, such as the marker for the Floral Library, are tall painted posts with a cross beam hanging the sign with the resource name and National Park Service badge.

Analysis: The commemorative plaques contribute to the cultural landscape and the National Park Service signs and exhibits are compatible.



NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

SMALL-SCALE FEATURES

KEY

- BENCH
- LIGHT
- SIGN
- RAILINGS AND FENCES
- JERSEY BARRIERS

0 400 N

1"=400'

Drawing 18. Small-scale features

Table 4. Landscape features analysis summary
Feature status marked with an asterisk (*) denotes a recommendation for a new or revised status.

Vegetation marked with a double asterisk (**) was identified in the Historic American Landscapes Survey for the Tidal Basin as character-defining, but is not described in detail within the analysis narrative.

Characteristic	Feature	Description	Status	Related Historic Context and Period
Land use	Recreation	Land use recommended as part of the McMillan Plan has included fishing, swimming, picnicking, strolling, races, and other active and passive recreation	Contributing	Park Development and Beautification, 1897-1969
Land use	Special events	Ceremonies, National Cherry Blossom Festival, other festivals, concerts, and rallies	Contributing	Commemoration, 1912-2011 Park Development and Beautification, 1897-1969
Land use	Commemoration	Memorials, commemorative plaques, and related commemorative events	Contributing	Commemoration, 1912-2011
Spatial organization	Tidal Basin	Irregular asymmetrical four-lobed open basin	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Spatial organization	John Paul Jones Memorial	Traffic triangle with vertical memorial structure	Contributing	Commemoration, 1912-2011
Spatial organization	Thomas Jefferson Memorial and Grounds	Memorial structure and radiating terraces with designed landscape spaces	Contributing	Commemoration, 1912-2011
Spatial organization	Franklin Delano Roosevelt Memorial	Series of outdoor memorial rooms and structures	Contributing	Commemoration, 1912-2011
Spatial organization	George Mason Memorial	Circular space enclosed with slopes, vegetation, and a pergola structure	Contributing	Commemoration, 1912-2011
Spatial organization	Martin Luther King, Jr. Memorial	Broad arcing space with monumental sculpture and views	Contributing	Commemoration, 1912-2011

CHARACTERISTIC	FEATURE	DESCRIPTION	STATUS	RELATED HISTORIC CONTEXT AND PERIOD
Spatial organization	Axis between the Thomas Jefferson Memorial and White House	Important spatial relationship defined by the L'Enfant and McMillan Plans	Contributing	Commemoration, 1912-2011
Spatial organization	Open recreation fields	Football, cricket, and baseball fields	*Contributing	Park Development and Beautification, 1897-1969
Constructed water feature	Tidal Basin	107 acre body of water, averaging 10 feet deep, irregularly shaped with four distinct lobes	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Constructed water feature	Lagoon (part of the overall Tidal Basin)	Part of the Tidal Basin, constructed in a second phase with the Kutz Bridge	*Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Constructed water feature	Sea walls	Stone retaining walls first constructed between 1882 and 1890s, with repairs and reconstructions	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Constructed water feature	Outlet Bridge and gate	Bridge and primary tidal gate for the basin, constructed 1888-1889 with substantial changes and repairs over time	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Constructed water feature	Inlet Bridge and gate	Bridge and secondary tidal gate for the basin, constructed 1908-1909 with substantial changes and repairs over time	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Constructed water feature	Fountain No. 4	First constructed 1905-1906, now part of the George Mason Memorial	Contributing	Park Development and Beautification, 1897-1969 Commemoration, 1912-2011
Constructed water feature	John Paul Jones Memorial fountain	Part of the pedestal, not functioning	Contributing	Commemoration, 1912-2011
Constructed water feature	Franklin Delano Roosevelt Memorial fountains	Different stone fountains in the major memorial rooms	Contributing	Commemoration, 1912-2011

Characteristic	Feature	Description	Status	Related Historic Context and Period
Constructed water feature	Martin Luther King, Jr. Memorial fountains	Sheet flowing across the granite wall near the entrance	Contributing	Commemoration, 1912-2011
Buildings and structures	John Paul Jones Memorial	Bronze statue on a marble pedestal, dedicated in 1912	Contributing	Commemoration, 1912-2011
Buildings and structures	Thomas Jefferson Memorial	Circular open air monumental structure with colonnade, statue, and walls that define different mall levels, dedicated in 1943	Contributing	Commemoration, 1912-2011
Buildings and structures	Franklin Delano Roosevelt Memorial	7.5 acre memorial with outdoor rooms, dedicated in 1997	Contributing	Commemoration, 1912-2011
Buildings and structures	George Mason Memorial	Fountain No. 4, statue, and pergola, dedicated in 2002	Contributing	Commemoration, 1912-2011
Buildings and structures	Martin Luther King Jr. Memorial	Visitor facility and memorial defined by inscription walls and monumental sculptural structures, dedicated in 2011	Contributing	Commemoration, 1912-2011
Buildings and structures	Kutz Bridge	Designed as a part of the Independence Avenue extension project in 1941-1943	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Buildings and structures	Japanese Lantern	Antique stone lantern given by the nation of Japan, dedicated in 1954	Contributing	Commemoration, 1912-2011 Park Development and Beautification, 1897-1969
Buildings and structures	Plaza at the Japanese Lantern	Stone paved plaza with garden boulders, constructed in 2013	Compatible	
Buildings and structures	Japanese Pagoda	Antique 9-tiered carved stone structure from Japan, dedicated in 1958	Contributing	Commemoration, 1912-2011 Park Development and Beautification, 1897-1969

CHARACTERISTIC	FEATURE	DESCRIPTION	STATUS	RELATED HISTORIC CONTEXT AND PERIOD
Buildings and structures	Independence Avenue Overpass Bridge	Stone-faced overpass bridge at Maine Avenue SW, 1943	Contributing	Park Development and Beautification, 1897-1969
Buildings and structures	15th St (Ohio Drive SW) Bridge	Stone-faced bridge carrying Ohio Drive west of the Outlet Bridge, c. 1943	*Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Buildings and structures	Paddle boat rental facility	Small dock in the basin, 1961	Compatible	
Buildings and structures	Athletic structures	Chain link ball field back stops and goal posts	Compatible	
Buildings and structures	Kiosk at Thomas Jefferson Memorial	Octagonal structure located near East Basin Drive SW, 1976	Noncontributing	
Buildings and structures	Kiosk at paddle boat area entrance	Octagonal structure located near the parking area, 1976	Noncontributing	
Views and vistas	Vista between Thomas Jefferson Memorial and White House	Designed vista, approximately one mile long and intended to be 150 feet wide	Contributing	Commemoration, 1912-2011
Views and vistas	Vista between the Lincoln Memorial, Martin Luther King, Jr. Memorial and Thomas Jefferson Memorial	Vista	Contributing	Commemoration, 1912-2011
Views and vistas	Vista from the Thomas Jefferson Memorial (north plaza) to the US Capitol	Vista	*Contributing	Commemoration, 1912-2011
Views and vistas	Vista west to the Potomac River from the Thomas Jefferson Memorial	Vista	Contributing	Commemoration, 1912-2011
Views and vistas	Vista from the Franklin Delano Roosevelt Memorial to the Washington Monument	Vista	*Contributing	Commemoration, 1912-2011
Views and vistas	Vista to the John Paul Jones Memorial down 17th Street SW	Vista	Contributing	Commemoration, 1912-2011

Characteristic	Feature	Description	Status	Related Historic Context and Period
Views and vistas	Vista to the Washington Monument from the George Mason Memorial	A break in the street trees provides this direct vista	*Contributing	Commemoration, 1912-2011
Views and vistas	Vista from the Inlet Bridge to the Washington Monument	Popular vista for visitors	*Contributing	Commemoration, 1912-2011 Park Development and Beautification, 1897-1969
Views and vistas	Views to the Thomas Jefferson Memorial	From many locations around the basin	Contributing	Commemoration, 1912-2011
Views and vistas	Views from the Tidal Basin to the Washington Monument	From many locations around the basin	Contributing	Commemoration, 1912-2011
Views and vistas	View of the Thomas Jefferson Memorial from the Franklin Delano Roosevelt Memorial	View from the memorial plazas at the basin perimeter	Contributing	Commemoration, 1912-2011
Views and vistas	Views from the Tidal Basin to Arlington House	Informal view	Compatible	
Views and vistas	Reflections in the Tidal Basin	Reflections in the water of key features, such as the cherry trees	Contributing	Park Development and Beautification, 1897-1969
Views and vistas	Open views across the Tidal Basin to the cherry trees	From many locations around the basin	Contributing	Park Development and Beautification, 1897-1969
Views and vistas	View along Independence Avenue	Park views to the north and south along the avenue	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943 Park Development and Beautification, 1897-1969
Vegetation	Cherry trees	Approximately 3,000 trees given to the city of Washington, DC from Japan, planted c. 1912, few survive from the original plantings, more than 1,700 cherry trees exist today	Contributing	Commemoration, 1912-2011 Park Development and Beautification, 1897-1969

CHARACTERISTIC	FEATURE	DESCRIPTION	STATUS	RELATED HISTORIC CONTEXT AND PERIOD
Vegetation	Floral Library	Curvilinear planting beds with a changing floral display, established 1969	*Contributing	Park Development and Beautification, 1897-1969
Vegetation	John Paul Jones Memorial linden trees	Semi-circle of linden trees	Contributing	Commemoration, 1912-2011
Vegetation	Shrubs at John Paul Jones Memorial	Two evergreen hedges on the memorial's east and west sides	Contributing	Commemoration, 1912-2011
Vegetation	Plantings at the Thomas Jefferson Memorial	Simplified planting palette of boxwood, yew, osmanthus, American holly, dogwood, abelia, cotoneaster, pines, elms, London plane trees, lawn	Contributing	Commemoration, 1912-2011
Vegetation	Zelkovas at the Thomas Jefferson Memorial	Radial rows of zelkovas on the lower level	Noncontributing	
Vegetation	Plantings at Franklin Delano Roosevelt Memorial entrance driveway**	Crabapples, zelkova, and other vegetation	Contributing	Commemoration, 1912-2011
Vegetation	Plantings near Franklin Delano Roosevelt Memorial and basin**	Hollies, hemlocks, mulberries, serviceberries, maples, and other deciduous and evergreen trees	Contributing	Commemoration, 1912-2011
Vegetation	Plantings at the George Mason Memorial**	Bottlebrush buckeye, yews, forsythia, wisteria, spirea, viburnum, magnolia, herbaceous plantings in radial planting beds	Contributing	Commemoration, 1912-2011
Vegetation	Plantings at Martin Luther King, Jr. Memorial**	Cherries, holly, elms, jasmine, and other vegetation	Contributing	Commemoration, 1912-2011
Vegetation	Plantings at Martin Luther King, Jr. Memorial bookstore**	Cherries, holly, olives	Contributing	Commemoration, 1912-2011

Characteristic	Feature	Description	Status	Related Historic Context and Period
Vegetation	Plantings at Kutz Bridge**	Elms and sycamores, part of the Frederick Law Olmsted, Jr. planting design for West Potomac Park	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Mature trees**	Approximately 1,500 deciduous and evergreen trees, including elms, hollies, crabapples, maples, pines, oaks, and zelkova	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings at Ohio Drive SW**	Elms	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings at East Basin Drive SW**	Elms	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings at the Inlet Bridge**	Hollies, pines, linden	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings at the Outlet Bridge**	Elms, hollies, red and white oaks, and honeysuckle	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings at the 14th Street embankment**	Viburnum, cedars, pines, hollies, dogwood, oak, maple, elm, oakleaf hydrangea	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings along the Potomac River**	Maples given to the US by Canada in 2016	Compatible	
Vegetation	Amur cork trees	Group of specimen cork trees of unknown age	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings at Independence Avenue SW**	Holly, elms	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings at the Japanese Lantern**	Horse chestnut, yellow buckeye	Contributing	Commemoration, 1912-2011 Park Development and Beautification, 1897-1969
Vegetation	Plantings at the Lagoon**	Cherries, hollies, burning bush, juniper, firs	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Open lawn with stands of trees	Lawn	Contributing	Park Development and Beautification, 1897-1969

CHARACTERISTIC	FEATURE	DESCRIPTION	STATUS	RELATED HISTORIC CONTEXT AND PERIOD
Vegetation	Plantings at Raoul Wallenberg Place SW and its intersection with Maine Avenue SW**	Elms, cherries, ginkgos cottonwood, red oak, katsura	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings at the football field**	Crabapples, cherries, oaks, pines, hollies, honeysuckle	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings at Maine Avenue SW**	Hollies, oaks, maple	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Planting beds at Maine Avenue median SW**	Perennials, crape myrtles	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Plantings at the parking lot**	Elms, cherries	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Trees near the Floral Library**	Hollies, cherries, maples, lindens	Contributing	Park Development and Beautification, 1897-1969
Vegetation	Mass daffodil plantings**	Drifts of bulb plantings	Contributing	Park Development and Beautification, 1897-1969
Circulation	Independence Avenue SW	Road extension constructed early 1940s to improve access to the city of Washington; associated with the Kutz Bridge	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Circulation	Maine Avenue SW	Split roadway on the east side of the basin	Contributing	Park Development and Beautification, 1897-1969
Circulation	Ohio Drive SW	Keyed to more localized traffic	Contributing	Park Development and Beautification, 1897-1969
Circulation	West Basin Drive SW	Smaller and more park-oriented	Contributing	Park Development and Beautification, 1897-1969
Circulation	East Basin Drive SW	Smaller and more park-oriented west of the Thomas Jefferson Memorial; connects to the interstate east of the memorial	Contributing	Park Development and Beautification, 1897-1969
Circulation	Raoul Wallenberg Place SW	Smaller road on the perimeter of the study area	Contributing	Park Development and Beautification, 1897-1969
Circulation	17th Street SW	Extends north from the lagoon	Contributing	Park Development and Beautification, 1897-1969

Characteristic	Feature	Description	Status	Related Historic Context and Period
Circulation	Approach roadways and parking lot at the Thomas Jefferson Memorial	Asphalt paved area, with granite curbs	Contributing	Commemoration, 1912-2011
Circulation	Circular roadway and sidewalks at Thomas Jefferson Memorial	Paved area, now intended for use by pedestrians, raised and resurfaced in 1999	Contributing	Commemoration, 1912-2011
Circulation	North Plaza at Thomas Jefferson Memorial	Paved concrete plaza installed in 1970	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943 Commemoration, 1912-2011
Circulation	North steps to Thomas Jefferson Memorial	Granite steps connecting the plaza to the Memorial	Contributing	Commemoration, 1912-2011
Circulation	Pedestrian walk around terrace mall level at Thomas Jefferson Memorial	Upper level walkway	Contributing	Commemoration, 1912-2011
Circulation	Concrete walkway around Tidal Basin	Encircling the Tidal Basin, constructed c. 1920-1930s	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Circulation	Rock Creek Trail	Asphalt multi-use trail	Compatible	
Circulation	Pedestrian and bicycle paths east of Thomas Jefferson Memorial	Asphalt paths added to the landscape in the 1980s	Noncontributing	
Circulation	Sidewalks	Exposed aggregate concrete with granite curbs, lining most roads	Contributing	Park Development and Beautification, 1897-1969
Circulation	Wheelchair ramps at sidewalks	Granite floor slabs with truncated dome pavers	Compatible	
Circulation	Parking lot	Asphalt-paved parking along the northeastern edge of the basin.	Contributing	Park Development and Beautification, 1897-1969
Circulation	Social trails	Informal unpaved paths around trees and lawn areas	Noncontributing	
Natural features	Potomac River	Major river and water source for the Tidal Basin	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943

CHARACTERISTIC	FEATURE	DESCRIPTION	STATUS	RELATED HISTORIC CONTEXT AND PERIOD
Topography	Basin landscape (engineered topography)	Reclaimed land is flat and near sea level, slightly bowl-shaped around basin, now sinking in some locations	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Topography	Designed memorial topography	Graded beds, terracing, and other specially-designed topography at the individual memorials	Contributing	Commemoration, 1912-2011
Small-scale features	Basin perimeter railing	Iron pipe rail built along the top of sections of the sea wall between the Outlet Bridge and the Kutz Bridge	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Small-scale features	Post and chain barriers	Galvanized steel pipe posts painted black topped with cast iron acorn-style caps	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Small-scale features	Concrete post and chain barrier	Low concrete posts with metal chain at the John Paul Jones Memorial	Contributing	Commemoration, 1912-2011
Small-scale features	First Japanese cherry trees planting plaque	Plaque mounted on a boulder, placed in 1950	Contributing	Commemoration, 1912-2011
Small-scale features	First Air Flight Marker	Bronze plaque on a memorial boulder	Contributing	Commemoration, 1912-2011
Small-scale features	Twin-Twenty lights	Light standards with twin globes and decorative metal bracket, approximately 21 feet in height	Contributing	Park Development and Beautification, 1897-1969
Small-scale features	Washington Globe lights	Light standard with single globes on a round decorative pole, approximately 15 feet in height	Contributing	Park Development and Beautification, 1897-1969
Small-scale features	Gooseneck light	Light standard with curved bracket, approximately 13 feet in height	Contributing	Park Development and Beautification, 1897-1969

Characteristic	Feature	Description	Status	Related Historic Context and Period
Small-scale features	Kutz Bridge lights	Light standard with a single cylindrical globe, fluted post, and a decorative cap	Contributing	Construction and Engineering of the Tidal Basin, 1882-1943
Small-scale features	Modern highway lights	Tall fixtures with long brackets	Noncontributing	
Small-scale features	NPS standard park benches	Metal frame and wood slats, with minor variations in design	Contributing	Park Development and Beautification, 1897-1969
Small-scale features	"Tulip" trash receptacles	Exterior slat and metal pedestal	Compatible	
Small-scale features	NPS standard water fountains	Metal, pedestal-style accessible fountains	Compatible	
Small-scale features	NPS standard signs	Wayfinding pylons and exhibits	Compatible	
Small-scale features	Jersey barriers around the Thomas Jefferson Memorial	Sectional concrete vehicle barriers	Noncontributing	
Small-scale features	Security gate at Thomas Jefferson Memorial	Metal vehicle barrier	Noncontributing	
Small-scale features	Flood lights	Tall metal multi-fixture lights aimed at the Thomas Jefferson Memorial	Noncontributing	

PART 2

Treatment

Treatment is the work carried out to achieve preservation goals for a cultural landscape. An effective treatment process identifies the context and meaning associated with a cultural landscape and then provides strategies to protect its integrity, interpret its history, and provide appropriate access to its resources. Treatment is grounded in the findings of the history, existing conditions, analysis, and evaluation and is based on planning goals and park operational needs and capabilities. Treatment planning for the Tidal Basin must recognize the dynamic nature of the landscape and establish strategies for resilience to short- and long-term environmental change.

The Tidal Basin is a historic landscape significant for commemoration, architecture, landscape architecture, city planning, recreation, art, and engineering. The landscape contains multiple resources that are united physically, spatially, visually, and thematically. The cultural features and events—the basin, circulation systems, vegetation, festivals, and memorials—also connect the landscape beyond its immediate boundaries to the greater urban and ecological context. Interpreting this multi-layered landscape and managing the intense pressures on its resources are a complex treatment challenge.

Treatment planning for the Tidal Basin follows a defined process:

1. Document the goals, objectives, and associated management directives for the Tidal Basin landscape, drawing from park planning documents.
2. Define the current maintenance and management challenges in the Tidal Basin landscape. Identify the main threats to the integrity and successful operation of the park landscape.
3. Choose a treatment approach that addresses the short- and long-term management requirements of the historic landscape holistically within the overall park planning context and changing ecological conditions.
4. Develop design guidelines that adhere to the standards associated with the preferred treatment approach and that address the management and planning needs of the dynamic park landscape.

This CLR is intended to provide a broad set of design guidelines rather than specific treatment alternatives. The guidelines will inform treatment discussions for future planning documents, such as Visioning or Master Plans, outside the various memorial boundaries. The guidelines will also be an essential part of the

park's efforts to manage and maintain the historic landscape within a rapidly changing environment.

PLANNING FOR CULTURAL LANDSCAPE RESILIENCE

The Tidal Basin's location on the seam between hardened urban fill and the fluctuating river results in a cultural landscape that, in many ways, defies preservation. With a marshy foundation, unstable constructed fill, rising sea levels (Figure 92), increasing flooding, climate change, and land subsidence in the Chesapeake Bay region, the park landscape is precariously positioned to confront multiple types of anticipated changes. While the engineering of the Potomac Flats in the nineteenth century aimed to harness the river's regular tidal flow and protect the city against the effects of flooding, the basin landscape was not designed to manage the ecological transformation it faces now.

Many of the cultural landscape's resources were transformed incrementally over time to adapt to ecological change, resource conditions, and design imperatives. For example, adding sea wall height and the outlet and inlet gates was a response to increased demands on the site's water management systems; the cherry tree collection is regularly updated due to the trees' short life span; and the Floral Library showcases a changing collection of plants that are suitable for the regional environment.

However, other landscape resources, such as national memorials, were designed to be more static. Cast in stone and bronze, the cultural landscape's major memorials are symbols for the nation and intended to endure. Recognizing and adapting to change within the existing engineered landscape system while preserving the integrity of the designed memorials and other important landscape resources is thus a central treatment challenge.

The National Park Service document, *Resilient Systems and Cultural Landscape Management*, describes resilience as the "capacity to withstand change or recover from unexpected impacts quickly," and adds that "in recent decades, the physical environment is experiencing changes at an unprecedented rate. In light of present environmental and cultural conditions, landscape managers are seeking sustainable adaptations to change that perpetuate and enhance the historic character of the resources that they steward" (National Park Service 2015b). Mitigating risk associated with a rapidly changing environment and adaptation to climate change are essential components of a holistic planning strategy for dynamic cultural landscapes.

***RESILIENT SYSTEMS AND CULTURAL LANDSCAPE MANAGEMENT* IDENTIFIES FIVE KEY COMPONENTS OF A RESILIENT SYSTEM:**

Diversity is a safeguard against catastrophic loss by allowing a wide range of responses to stress.

Redundancy provides backups in the event of stress, loss, or failure.

Network connectivity refers to the types and degree of system interaction that promote robustness and discourage brittleness.

Modularity allows structurally or functionally distinct parts to retain autonomy during periods of stress with easier recovery from loss.

Adaptability is the ability of a system or feature to function under stress and our ability to adjust management practices for change.

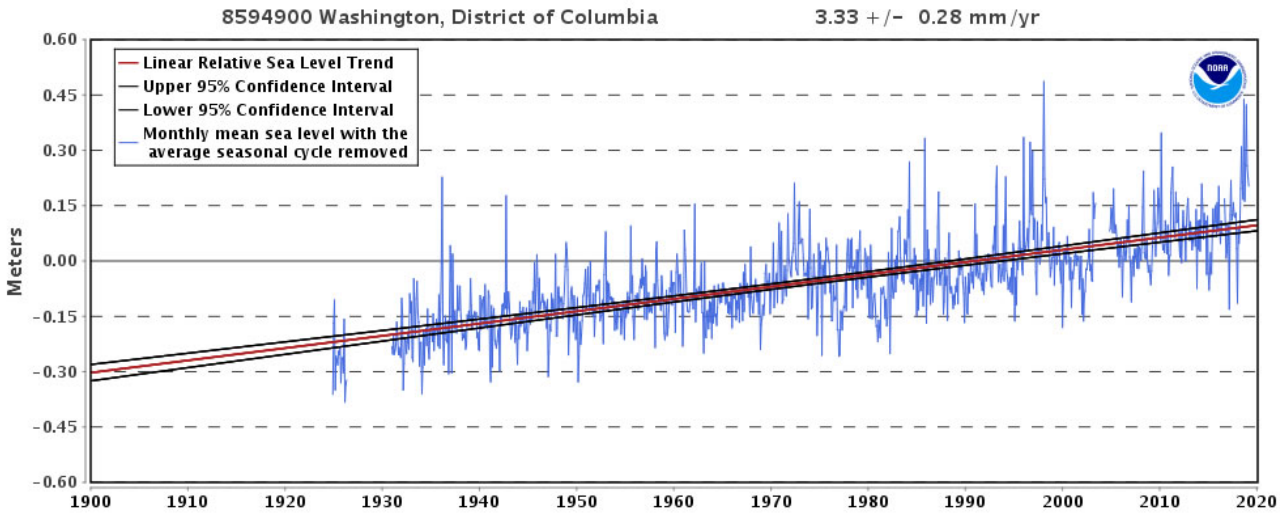


Figure 92. 100 years of sea level rise in Washington, DC

(Source: National Oceanic and Atmospheric Administration)

Resilient systems not only help a cultural landscape recover quickly from disasters such as major floods, but also establish management and maintenance practices that support the long-term protection of the landscape's overall character, function, and environmental health. Some cultural landscapes, such as the Tidal Basin, may require a higher level of treatment flexibility to build resilience. Strategies may include creating more vegetation diversity, establishing designed flood zones, improving soils, rotating land use areas, elevating or relocating key designed resources, or other practices described in the guidelines.

TREATMENT FRAMEWORK

National Park Service guidelines and park planning documents help define and appropriately manage the treatment for the historic Tidal Basin. The *National Mall Plan* and its background reports such as the *Best Management Practices Used at Designed Landscapes in Washington, DC* and *Best Management Practices Used at Urban Parks in National and International Locations*; the *National Mall and Memorial Parks Foundation Document*; and the *Secretary of the Interior's Standards for the Treatment of Historic Properties* are the key documents that structure the preservation goals, planning, and treatment approaches and guidelines.

Other National Park Service documents provide focused background data on possible landscape treatment guidelines for the Tidal Basin study area. The National Park Service *Operations and Maintenance Manual: Turf Management and Event Operations Guide for the National Mall and Memorial Parks*; and earlier rehabilitation plans for the landscape, particularly the *Phased Rehabilitation Plan for the Historic Washington Sea Wall* (2011) provide an important framework and

options for the treatment of specific types of features. This CLR also references previous security planning studies for the Thomas Jefferson Memorial.

NATIONAL MALL AND MEMORIAL PARKS FOUNDATION DOCUMENT

The *Foundation Document* (2017) identifies the park purpose, current conditions, trends, and related key planning issues.

The issues it identifies as particularly affecting the Tidal Basin landscape include the following:

PARK PURPOSE

National Mall and Memorial Parks preserves, protects, and interprets symbolic, monumental, and dignified civic spaces and commemorative works in the center of the nation's capital that honor American ideals and values, distinguished public figures, events, and military and civilian sacrifices and contributions. National Mall and Memorial Parks serves as a public park and open space for First Amendment gatherings, national celebrations, active civic and cultural engagement, recreation, and public enjoyment.

- The park suffers from deferred maintenance.
- Major memorials and events such as the National Cherry Blossom Festival are international destinations attracting millions of visitors every year.
- There is a high demand for commemorative events every year.
- Park or site closures during large events affect broader access.
- High activity levels damage lawn and trees.
- A high level of turf management is required for the parks.
- Visitor facilities, such as restrooms and food service, are inadequate.
- Climate change and flooding affect the preservation of key structures and landscapes.
- Safety and security are increasingly important for park management.
- Multimodal traffic and commuter traffic in and around the park put pressure on circulation systems and lead to user conflicts.
- The goal to encourage water-based activities provides opportunities for additional programming at the Tidal Basin and Potomac River.
- Accessibility planning and updates are required for the landscape.
- Wayfinding for multimodal systems is increasingly important.
- Expansive and diverse recreational opportunities are an important component of the park.
- Vegetation and shade provide passive recreational opportunities.

The *Foundation Document* also provides a detailed itemization of laws, executive orders, regulations, and policy guidance for the park.

NATIONAL MALL PLAN

The *National Mall Plan* (2010) outlines the purpose and significance of the National Mall to define the goals of its long-term management. The cornerstone of the plan is built on foundational planning principles that recognize and protect the National Mall's:

- Uniquely symbolic places; commemorative works that honor important people, events, and ideas; and the designed landscape structured by symbolic views and spaces;
- Multiplicity of public uses; diverse visitors; and its role as the center of our nation's cultural heritage; and
- Democratic spaces that serve as key assembly and event areas.

To support the landscape's purpose and significance, the *National Mall Plan* acknowledges the need to improve maintenance regimens, accessibility, and event management. While these imperatives face nearly any public landscape, their importance in our nation's capital city is paramount. The *National Mall Plan* therefore identified related objectives that help guide treatment for the Tidal Basin:

- Monuments, memorials, and their settings are preserved and protected.
- Primary east-west and several north-south vistas on the National Mall are improved and perpetuated.
- Historic plans for the National Mall are respected. Resources are managed compatibly with the intent of the historic plans.
- Conditions of natural resources, such as water, turf, trees/vegetation, and soils, are improved to be part of a sustainable urban ecosystem.
- The National Mall remains a venue for First Amendment demonstrations and national celebrations.
- Special events are managed to sustain the health of park resources, to balance the desires of all users, and to ensure a safe environment. No one's enjoyment of the National Mall is unacceptably compromised by others, now or in the future.
- To fulfill its symbolic and civic importance, the National Mall is a role model of inclusiveness and universal design for all citizens.
- The National Mall provides the quintessential American experience where visitors can:
    - Feel welcome.
    - Fully understand the importance of this preeminent civic area for First Amendment rights.
    - Learn about our core values as a nation by making an educational, emotional, inspirational, or patriotic connection to the memorials that commemorate our history and the physical design that reflects our democratic form of government.

    - Appreciate the beauty of the National Mall during the day, at night, and year-round.
- Facilities are of high quality and reflect a compatible and enduring character, thus creating a sense of place that reinforces the civic, historic, and symbolic role of the National Mall to our nation.
- The National Mall is a role model in sustainable urban park development, resource protection, and management, focusing on six areas: requirements and policy, resource health, water use, circulation, facilities, and park operations.

The primary vision for the Tidal Basin laid out by the *National Mall Plan* includes retaining the area as a "beautiful informal setting" for memorials; protecting cherry trees; preserving key views and reflections; and providing space for demonstrations, festivals, and other events (National Park Service 2010a).The plan also identifies the need for structural updates to the landscape, including separating circulation systems for pedestrians, cyclists, and vehicles; improving the pedestrian lighting; raising the sea wall; and widening the primary walkway around the basin. (Figure 93 and Figure 94)

The *National Mall Plan* provides specific guidance for the Tidal Basin area:

- A sense of arrival at the Tidal Basin would be created by redesigning pedestrian circulation. Around the Tidal Basin high-quality recreational experiences would be provided for strolling/sightseeing, bicycling, and boating. Improved circulation patterns, high quality paving, additional seating, and more pedestrian stopping points would enhance visitor experiences. Pedestrian lighting would be installed so as not to impact the lighting ambience of the memorials.
- Based on the recommendations of engineering and scientific studies, the Tidal Basin sea walls would be rebuilt above tidewater. The historic appearance would be retained while accommodating wider walks and improving bicycling/vehicular circulation and safety, slightly reducing the size of the basin.
- Educational themes would address the history of the cherry trees and the Tidal Basin, the development of the parks, as well as the history of the National Mall. Rowboat, canoe, and kayak rentals could offer additional recreational boating opportunities. A Tidal Basin recreational excursion boat service could provide enjoyment and additional access to the Thomas Jefferson, Franklin Delano Roosevelt, and Martin Luther King, Jr. Memorials, as well as the Tidal Basin parking lot.
- A system of separate bicycle lanes would be developed. Walks for pedestrians and bicyclists would be widened and separated near the Inlet, Outlet, and Kutz Bridges.
- The recreation equipment rental facility and refreshment stand would be replaced by a new structure in the same general location. Restrooms and seating would be added.

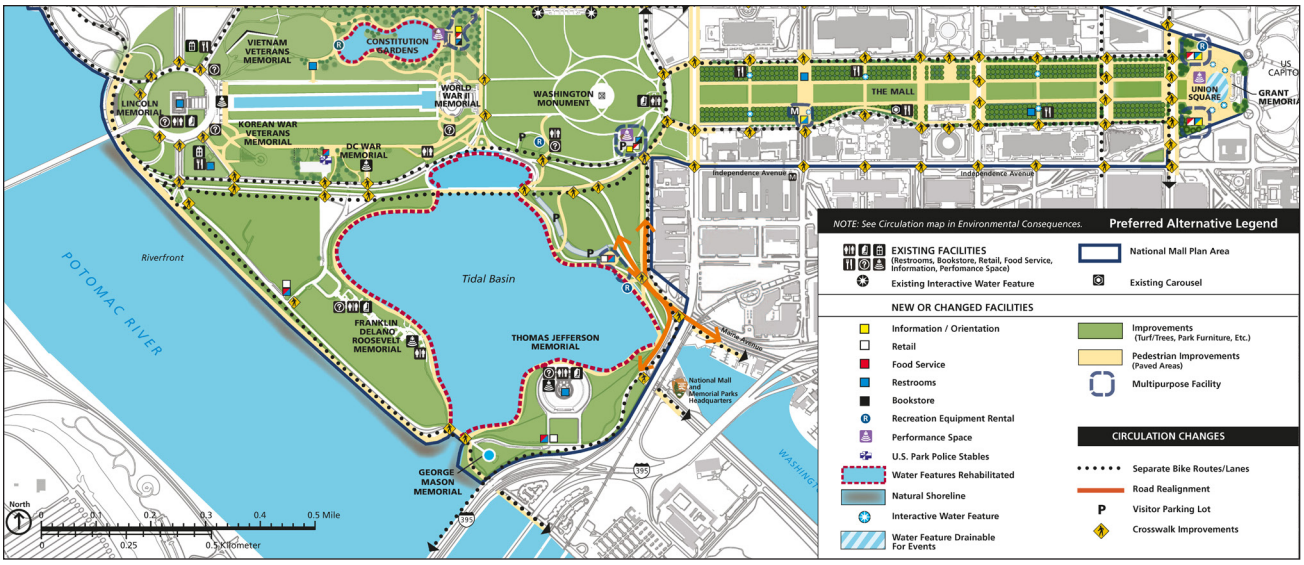
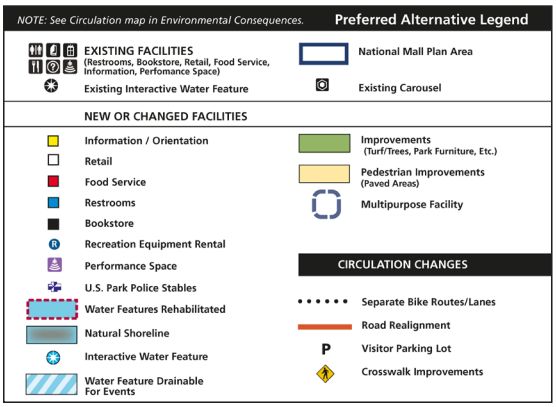


Figure 93. National Mall Plan Preferred Alternative and Tidal Basin detail

(Source: National Mall Plan)



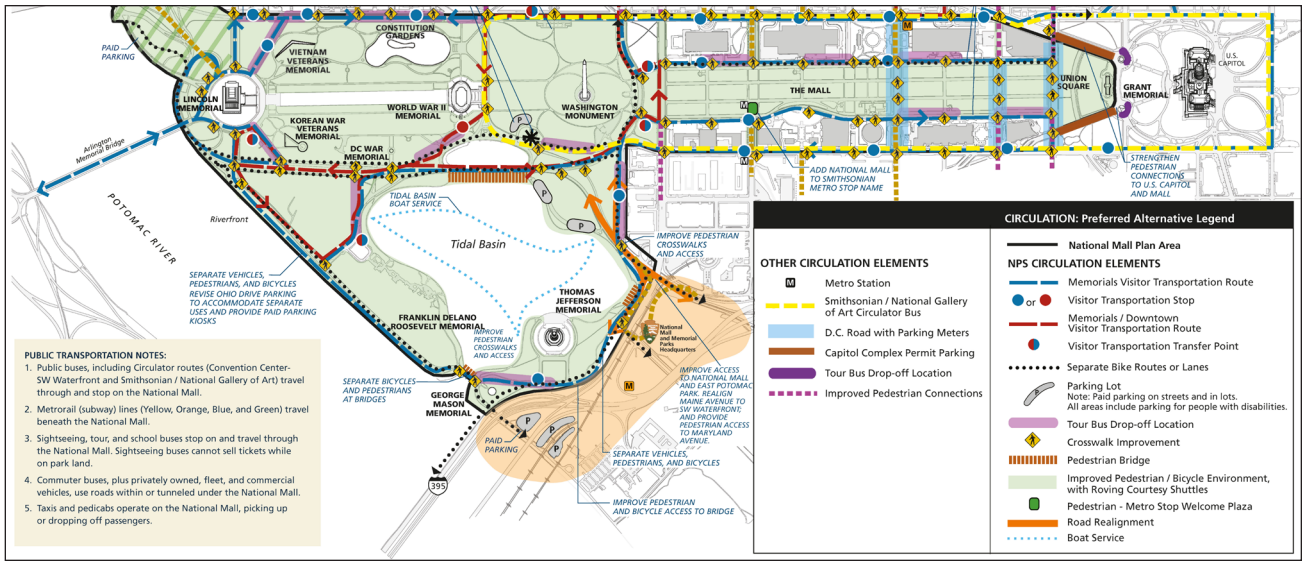
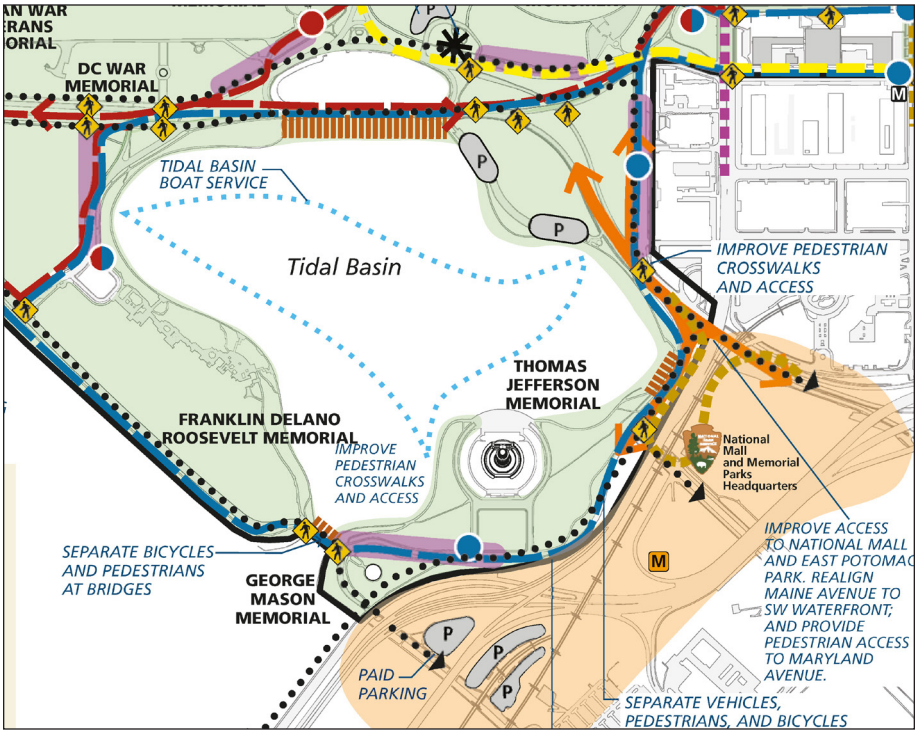
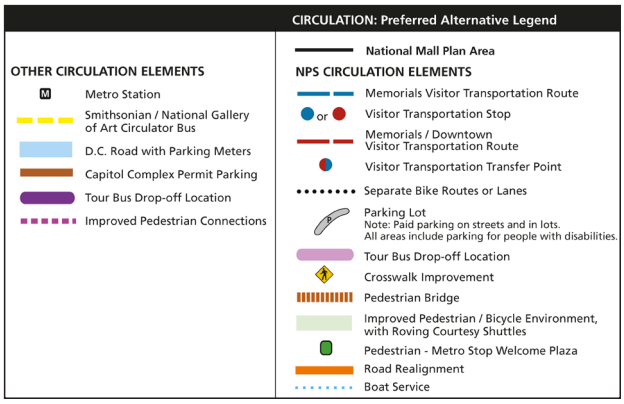


Figure 94. The National Mall Plan: Circulation and Tidal Basin detail

(Source: National Mall Plan)





CULTURAL LANDSCAPE MANAGEMENT CHALLENGES

In response to National Mall Plan imperatives and on-going threats to the integrity of the Tidal Basin landscape and its individual resources, National Park Service staff members at the park and the Region 1 - National Capital Area identified general goals for treatment that focus on the following management concerns:

- **Flooding**—Identify the primary flooding causes and impacts within the study area and potential treatment solutions. Note the frequency and degree of the flooding impact and address impacts to structures such as the sea wall and walkways and other landscape features such as the cherry trees. Identify the scale of resiliency appropriate for the landscape.
- **Viewsheds**—Identify guidelines for the retention of historic vistas and views, such as from the Thomas Jefferson Memorial to the Capitol, the White House, and along the "Line of Leadership" to the Martin Luther King, Jr. Memorial and Lincoln Memorial; along Independence Avenue SW; from the Japanese Lantern to the Jefferson Memorial; from the Franklin Delano Roosevelt Memorial; from the Martin Luther King, Jr. Memorial; and others. The guidelines are required due to the encroachment of vegetation and other features within critical vista corridors.
- **Vegetation management**—Develop a treatment concept for the cherry trees and other historic vegetation such as legacy trees and the Floral Library. Describe current management practices. Define strategies for protection, replacement, education/interpretation. Develop green infrastructure and native planting strategies to improve soils, storm water management, flood control, and urban ecology.
- **Landscape maintenance and management for events**—Provide guidance to protect the landscape from impacts of uncontrolled pedestrian movement resulting in soil compaction/erosion and damage to historic vegetation and other resources. Plan for landscape management during different size events, the largest being the National Cherry Blossom Festival.
- **Multimodal circulation**—Address how the landscape is connected to larger circulation systems, and examine how visitors arrive by bus, bike, and on foot. Address social trails and use of existing circulation features; conflicts between walkways and historic vegetation (overhanging tree limbs, etc.); accessibility (including clarifying which areas of the landscape should remain accessible); hazards such as unprotected water edges and poor sidewalk condition; walkway width; water collection on walkways; and other issues.
- **Security**—Identify guidelines for potential security measures at the Thomas Jefferson Memorial.
- **Small-scale features**— Provide guidelines for the management of smaller features, such as lights, guard rails, bollards, signs, and other features.

Treatment to address these types of management issues involve activities that are both proactive and reactive. Proactive treatment relies on long-term planning to retain the designed character and qualities of both the overall landscape and its component parts, such as national memorials. Reactive treatment focuses on a

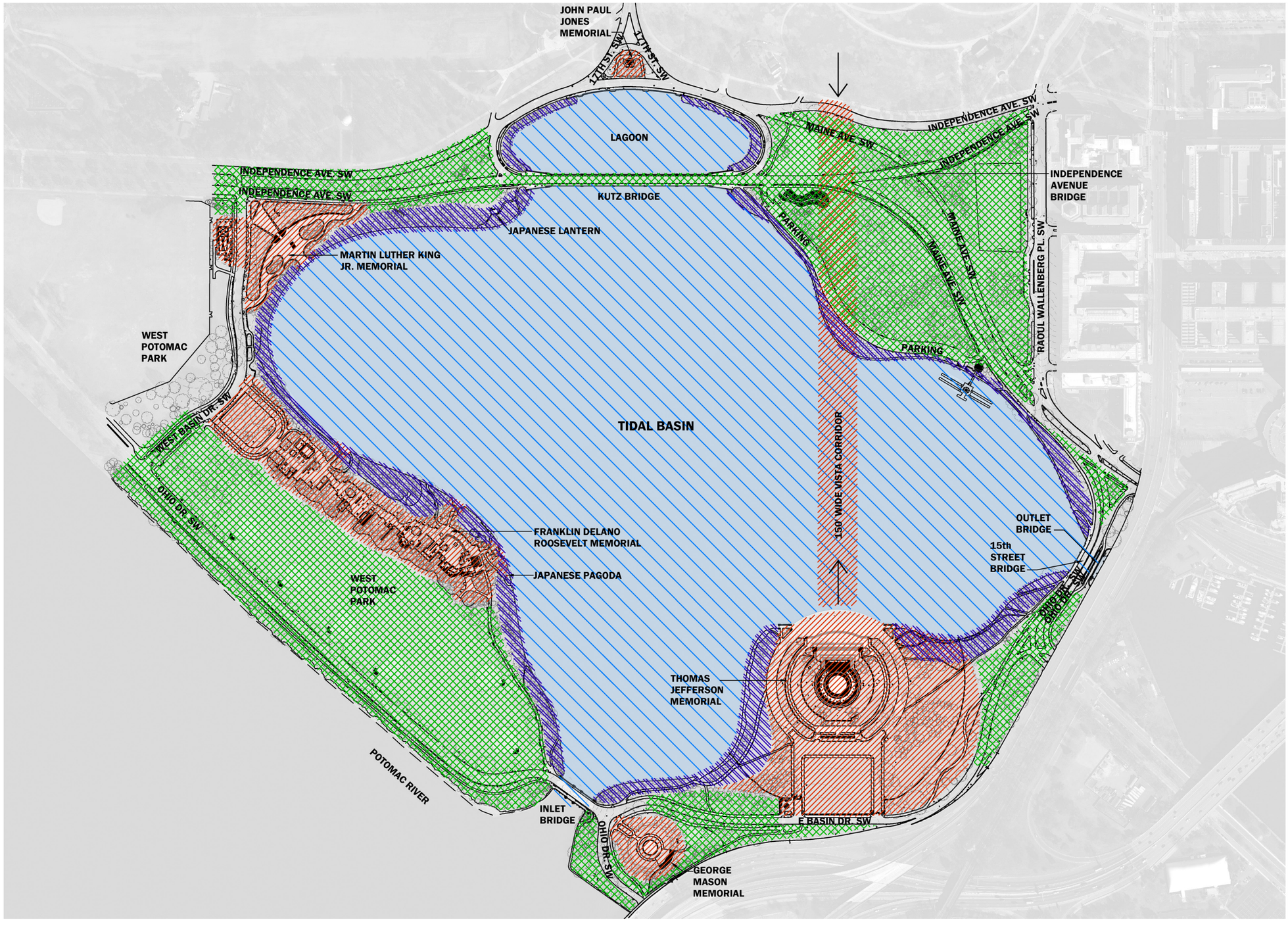
program for the repair of damaged or heavily deteriorated resources. Treatment must adhere to a framework for addressing these varied management and maintenance issues and create an integrated management concept for the cultural landscape.

MANAGEMENT ZONES

Management zones are defined by the landscape's significance, integrity, and function, and by treatment objectives for the related spaces and resources. This CLR defines different management zones for the Tidal Basin landscape to create a practical approach to treatment (Drawing 19).

- Management Zone 1 includes the landscape's historic engineered water systems: the water in the basin, its designed connections through the Inlet and Outlet gates to the Potomac River and Washington Channel, and the recreation and circulation use of the water. The water-related resources in this management zone have high historical significance but threatened integrity. The basin's sluicing system appears to no longer function as it was intended, and the basin's water level is also rising beyond the capacity of the basin to contain it.
- Management Zone 2 includes the basin perimeter landscape, with high significance and threatened integrity. Key resources within this zone are the sea walls and walkways, cherry trees, Japanese Lantern and Pagoda. These areas and resources experience regular tidal and storm inundation, which jeopardize the features around the perimeter of the basin. This zone also experiences intensive visitor use.
- Management Zone 3 includes individually designed memorial sites and designed vistas with very high significance and integrity. Key resources are the memorials for John Paul Jones, Thomas Jefferson, Franklin Delano Roosevelt, George Mason, and Martin Luther King, Jr., and the vista corridor between the Thomas Jefferson Memorial and the White House. Spaces and resources within this zone are highly sensitive to change.
- Management Zone 4 includes recreational spaces and circulation systems with relatively moderate significance and integrity. Related resources include open spaces, roadways and sidewalks, the Kutz Bridge, vegetation, and the Floral Library. This zone is less sensitive to change and may be suitable for future landscape additions, uses, and events.

Although the management zones are defined based on their resources' shared historic context, use, and integrity, they are also functionally, spatially, and systemically interrelated: views, circulation systems, patterns of vegetation, and linkages to the basin connect across many of the management zone boundaries. Treatment addresses these complex relationships while providing guidance for the management of landscapes in each zone.



NATIONAL PARK SERVICE

TIDAL BASIN CULTURAL LANDSCAPE REPORT

MANAGEMENT ZONES

KEY

- MANAGEMENT ZONE 1, TIDAL BASIN WATER
- MANAGEMENT ZONE 2, TIDAL BASIN SHORELINE
- MANAGEMENT ZONE 3, MEMORIALS AND VISTA
- MANAGEMENT ZONE 4, PARKS AND FIELDS
- VISTA

0 400 N

1"=400'

Drawing 19. Management zones

STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

The Tidal Basin is a nationally significant, federally managed landscape and is subject to the Secretary of the Interior's guidance for the management of historic properties. The *Secretary of the Interior's Standards for the Treatment of Historic Properties* defines four treatment approaches for historic landscapes: preservation, rehabilitation, reconstruction, and restoration. Each approach is associated with a set of standards that provides a framework for the consistent and holistic management of a cultural landscape and its resources.

- **Preservation** applies measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction.
- **Rehabilitation** makes possible a compatible use through repair, alterations, and additions while preserving those portions of features which convey its historical, cultural, or architectural values.
- **Reconstruction** depicts, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.
- **Restoration** accurately depicts the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

Treatment for cultural landscapes is complicated by the effects of natural and anthropogenic change. All historic landscapes evolve over time; factors such as climate and weather, vegetation growth, and site redevelopment can affect the rate of change experienced by a historic property. While treatment cannot freeze a landscape in time, responsible stewardship manages change so that the landscape retains integrity and conveys its historic significance to future generations. Embracing adaptive strategies to enhance the landscape's resilience is part of a sustainable treatment plan.

The Tidal Basin landscape currently experiences a high level of use and visitation, coupled with ecological changes that are regular (daily tides), episodic (storm events), and gradual (climate change and geological subsidence). Multiple human/landscape conflicts result in damage to key Tidal Basin resources. For example, large numbers of visitors overwhelm existing paths and create social trails, which results in trampled vegetation, compacted soil, and erosion. Ecological conflicts between natural features, such as periodic flooding of the sensitive cherry tree planting zone, also endanger important cultural landscape features

and characteristics of the Tidal Basin. Managing these types of social and environmental conflicts to retain the integrity of the cultural landscape within its dynamic urban park framework requires comprehensive treatment.

PREFERRED TREATMENT APPROACH - REHABILITATION

Cultural landscape documentation and discussions with the National Park Service staff resulted in the identification of **rehabilitation** as the appropriate treatment approach for the Tidal Basin landscape. The rehabilitation approach emphasizes retaining contributing features and landscape characteristics while accommodating an array of programmatic changes or alterations in the landscape, such as changes to enhance universal site accessibility. Rehabilitation enables a more robust program of repair and replacement to combat deterioration and damage of landscape features; however, proposed landscape alterations would not destroy the critical spatial relationships and resources that characterize the landscape and convey its significance. Finally, rehabilitation creates a framework for building a new level of resiliency into the historic landscape by helping it adapt to increasing land use pressure and a rapidly evolving ecosystem.

The *Secretary of the Interior's Standards for the Treatment of Historic Properties* specify the following standards for rehabilitation:

- A property will be used as it was historically or will be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
- The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
- Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
- Changes to a property that have acquired historic significance in their own right will be retained and preserved.
- Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
- Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
- Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
- Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

- New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
- New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

The related *Guidelines for the Treatment of Cultural Landscapes* further illustrate how to apply the rehabilitation standards to a cultural landscape.

While the standards for rehabilitation provide some treatment flexibility, they are relatively conservative and emphasize the retention of historic materials and features rather than large-scale site design changes as a preferred response to environmental threats. The guidelines below outline strategies for building resilience into the Tidal Basin landscape while meeting the standards as closely as possible, recognizing that the current threats to the landscape's integrity may call for substantial design updates or replacement of many historic features.

GENERAL TREATMENT GUIDELINES

The intent of the guidelines is to preserve the Tidal Basin's picturesque character and sense of place in the National Mall and West Potomac Park; to provide an appropriate context for its memorials; to enhance its use as a public recreational park and civic space; and to perpetuate its identity as a National Park landscape while building in flexible resilience for its features and systems.

Guidelines for treatment describe how to accomplish necessary changes in the landscape without compromising its historic character or damaging its historic resources. They establish means and methods for undertaking the preservation and protection of contributing resources within the framework of the treatment approach. They also suggest long- and short-term management strategies for the rehabilitation of the landscape. Some guidelines apply broadly to the overall landscape and others are specific to individual management zones or resources. In general, Tidal Basin rehabilitation will require compliance with Department of Energy and Environment storm water permitting requirements. Storm water management is a key design driver, and must be closely coordinated with historic preservation and rehabilitation efforts.

MANAGEMENT GUIDELINES FOR VEGETATION

Targeted management for specific vegetation, such as the cherry tree collection, is described below under the guidelines for different management zones. The following guidance applies generally to vegetation, including trees, shrubs, lawn and their planting medium (soil), within the overall cultural landscape. The guidance addresses identified condition and management problems such as overly shaded, compacted, and eroding lawn areas; damage to trees from flooding, wildlife, visitor use, and other environmental stresses; and risks to the landscape from invasive vegetation.

Rehabilitation is intended to initiate tree evaluation and stress reduction; protect the long-term health and longevity of the vegetation within an evolving ecosystem; retain the desired character of the overall park landscape; ensure the safety of the visiting public; and retain a functional setting for park activities.

Protecting the landscape from the effects of invasive plant colonization is an important component of a vegetation management strategy. Historic sites disturbed during construction activities—even minor grading—or other environmental changes are more vulnerable to invasive plants. Protecting the cultural landscape against invasive plants helps stabilize the designed vegetation communities and shields built historic resources from rampant plant growth.

Turf grass presents a special vegetation management challenge due to the park's high level of use. The National Park Service's *Operations and Maintenance Manual*, *Chapter 1: Turf Management and Event Operations and Maintenance Guide For the Mall* defines expectations for the appearance of the grounds, identifies the event capacity for different park areas, and describes the activities required to maintain this appearance, such as pre- and post-event planning, no-stake zones, protective decking, tree fencing, irrigation, aeration, seeding, and record keeping, among others. The *Operations and Maintenance Manual* identifies four levels, or categories, of turf management associated with key event areas around the National Mall (Figure 95). The Tidal Basin landscape contains three of these levels: level 1, level 1 exclusion, and level 3:

- Level 1 – Turf that requires the most protection and must be of the highest quality.
    - Level 1 turf is maintained at the highest level of care and excellence. Grounds are manicured. Level 1 is appropriate for high traffic areas such as gathering areas and commemorative works.
    - Level 1 turf areas within the Tidal Basin study area include the landscape east of the basin parking area; south, east, and southwest of

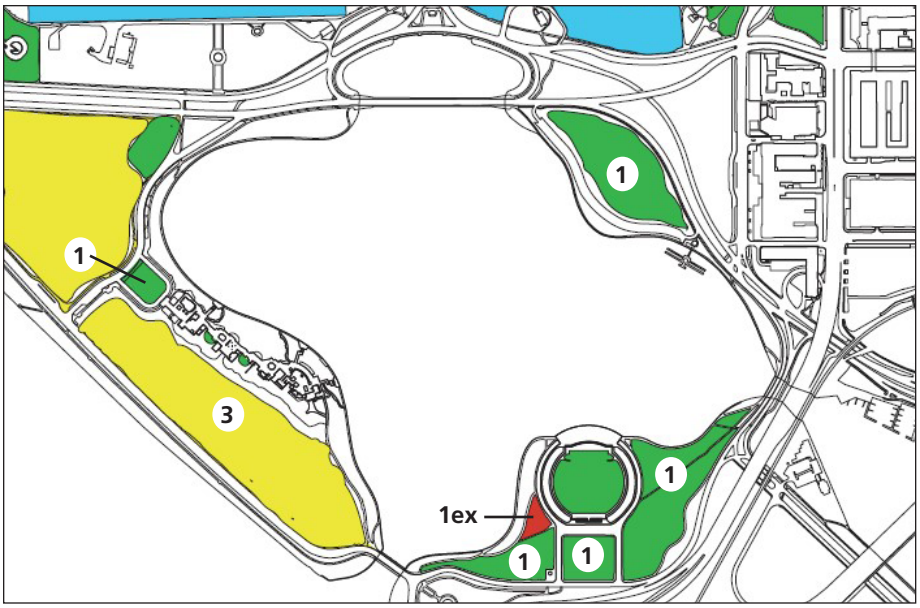


Figure 95. Turf Management Zones for the National Mall and Memorial Parks.

(Source: National Park Service, Operations and Maintenance Manual: Turf Management and Event Operations Guide for the National Mall and Memorial Parks, 2018)

the Thomas Jefferson Memorial; and within the entrance drive of the Franklin Delano Roosevelt Memorial.

- Level 1 exclusion – Turf areas that have limited infrastructure (access, soils, roads, area, etc.) to handle events.
  - Memorials are managed as level 1 exclusion for one day events and level 1 for multi day events.
  - The other level 1 exclusion area within the Tidal Basin study area is the flood-prone landscape west of the Thomas Jefferson Memorial.
- Level 3 – Turf that has a high level of access and a large amount of space.
  - The level 3 area within the Tidal Basin study area is the open ball field area east of Ohio Drive SW.
  - Traffic to the landscape area may be dispersed and event areas can be rotated.

The park's current turf management activities generally follow the manual's prescribed protocols; the vegetation management guidelines below incorporate the related expectations and guidelines.

General Vegetation Management

- Ensure that vegetation management is based on sustainable principles and National Park Service vegetation management objectives for the park as a whole.
- Follow the vegetation protection and management strategies outlined in the *Operations and Maintenance Manual* and other current maintenance documents for the Tidal Basin.
- Preserve general vegetation patterns. Perpetuate the collection of plants that line streets; define views; provide shade; have ornamental and educational value; represent important historical events, relationships, or historical themes; or provide other park functions.

- Undertake vegetation management planning services and technical treatment activities through the services of certified arborists or urban foresters experienced with historic vegetation.
- Consider adding native vegetation and green infrastructure to appropriate spaces within the Tidal Basin landscape to reduce erosion, flooding, and storm water run-off; and to improve soils, plant health, and urban ecology. See information for vegetation in specific management zones for additional guidance.

Lawn

- Retain lawn as the primary ground cover throughout the cultural landscape, with exceptions noted in the specific management zone guidelines below. Ensure lawn is maintained to be smooth, healthy, and green, with no bare areas.
- Conduct a lawn evaluation to identify areas appropriate for conversion to compatible low-growing native grasses or green infrastructure. Consider converting selected turf areas that have substantial maintenance challenges or that might provide greater landscape resiliency. Eroded, steep slopes with social trails; wet, frequently-flooded areas; or other areas may be selectively converted to low-growing native grass or ground cover areas.
- Consider implementing a lawn mowing regimen that differentiates use and design areas, meeting the standards for turf management zones described above.
    - Highly used, flat landscape areas may be mown more frequently to maintain a uniform, short, carpet-like character.
    - Moderately used or sloped landscapes may be mown less frequently to encourage a deeper grass root system and to provide additional erosion control.
- Consider installing temporary protective post-and-chain fencing around lawn areas showing damage from excessive use. Use the fencing to block off social trails and protect large lawn areas with bare spots or flood damage. Remove the protective fencing when the lawn has been fully rehabilitated.
- Avoid lawn mowing over surface tree roots. Consider replacing lawn around tree trunks with aged wood chip mulch. See the related tree mulching guideline below (Figure 96 and Figure 97).

Trees and Shrubs

- Preserve and protect healthy historic trees, shrubs, and hedges throughout the cultural landscape.
- Obtain a health and structural condition evaluation of historic vegetation using low-impact inspection techniques. Follow related maintenance recommendations for tree and shrub protection.
- Consider undertaking additional tree maintenance to reduce short-term tree stress and to foster the long-term health of mature trees.
    - Consider providing a continuous mulch bed of aged wood chips for compact tree clusters to discourage pedestrians from walking in

Figure 96. Scouring damage to lawn and tree roots from mowing.

(Source: AECOM, 2019)

Figure 97. Correct tree mulching that provides protection to the roots and trunk but does not cover the trees root flare.

(Source: AECOM, 2019)

tree root zones, to minimize tree damage by mowers, and to provide health benefits to the trees.

- Consider providing a small mulch ring for single specimen trees within lawn areas to minimize damage to tree trunks and roots by mowers. Ensure mulch rings extend no further than 24-36 inches from the tree trunk to preserve the surrounding open lawn character, and do not allow mulch to cover the root flare.
- Undertake fertilization using vertical mulching; liquid injection soil amendments; or other methods.
- Consider undertaking airspade/airtool aeration for tree root flare excavation to reintroduce oxygen, water, and nutrients to heavily compacted tree planting areas. Fill the new open crevices created by the high pressure air throughout the tree's root zone with organic soil amendments to facilitate the movement of air, water, and nutrients to the tree's feeder roots.

- Consider planting new trees and shrubs in a soil mix that includes structural soil to protect against root compaction.
- Replenish soil and ground cover around trees with exposed roots.
- Consider planting new grasses, forbs, or low shrubs under selected trees or tree clusters.
- Prepare a tree protection plan for all projects that involve grading or potential soil compaction near existing trees. Protect trees during construction and maintenance activities with appropriate barriers that extend to the trees' drip line if possible.
- Minimize the addition of new structures on or near historic tree root zones. Required new structures, such as walkways, may be supported on subsurface piers or other vertical structures to limit related soil compression in the root zone.
- Monitor trees and shrubs for signs of disease or other problems.
- Avoid monoculture plantings to provide disease resistance and enhanced sustainability through species diversity.
- If wildlife threatens the survival of trees or shrubs, consider working with wildlife specialists to relocate the animals or to identify other options for vegetation protection.
- Maintain trees and shrubs to preserve their intended habit and character. In general, prune trees and shrubs to maintain their natural habit. (Vegetation with specific pruning requirements is identified in the guidelines associated with different management zones below).
- Develop a removal plan for hazardous trees and trees in poor condition, using the services of a certified arborist or urban forester experienced with historic landscapes. Consult with biologists before removing hazard trees that may provide habitat for breeding birds.
- Remove or prune hazard trees and trees in poor condition under the guidance of a historical landscape architect, certified arborist, or urban forester experienced with historic vegetation. Use removal and pruning methods that minimize potential damage to adjacent cultural landscape resources.
- When replacing historic vegetation, attempt to match the species currently on the site, or consider using native or adapted species that have similar ornamental characteristics to the missing historic plants. Ensure updated plantings support the historic integrity of the planting design and provide ecological benefits for the landscape.
- Explore opportunities to enhance thematic connections between landscape areas with updated planting schemes.

Soils

- Improve the cultural landscape's soils to support vegetation health and adaptability, and to enhance storm water filtration. Undertake periodic soil testing throughout the cultural landscape and follow related recommendations for soil amending and fertilization, tailored for the specific vegetation in different park locations.
- Consider aerating planting areas on a cyclic basis and after events to mitigate soil compaction and to improve soil oxygen levels and drainage.

Provide standard core aeration to relieve shallow surface compaction or deep tine aeration to relieve harder compaction and to provide deeper drainage.

- Protect soils when using heavy equipment and during special events. Provide lawn covering or temporary support structures, such as roll-out walkway mats, root protection matting, or temporary mulched paths. Minimize the use of large heavy equipment or vehicles on lawns or planting areas to reduce future soil compaction (Figure 98).
- Consider rehabilitating special event areas with heavily compacted lawn by introducing structural soils or structural cells to the subsurface design, avoiding utility lines or other below-ground features.

Invasive Vegetation

- Follow management practices described in the National Capital Region *Invasive Plant Management Plan* (2015).
- Eradicate disruptive invasive vegetation through sustainable methods and according to recent policies and research. Consider the use of appropriate targeted biodegradable herbicides only if necessary.
- Undertake ecologically sound invasive plant removal practices that minimize ground disturbance and do not damage other natural or cultural resources.
- Replant appropriate native vegetation in place of invasive vegetation immediately after clearing. Minimize the length of time that soil is left bare or unvegetated.
- Develop a list of predicted invader species and develop sustainable strategies to prevent their colonization of cleared areas.
- Select noninvasive plants for new plantings. Use native plants or species historically documented as existing on the property, unless they are known to be invasive.

Figure 98. Example of temporary root protection matting.

(Source: National Park Service, Jefferson National Expansion Memorial Landscape Preservation Maintenance Plan)

MANAGEMENT GUIDELINES FOR STONEWORK AND STATUARY

Cut, carved, inscribed, and cast materials, including marble, granite, limestone, and bronze, are present throughout the cultural landscape. The memorials' stonework and statuary, the Japanese Lantern and Pagoda, and metal plaques are contributing resources and have special treatment needs due to their age, design, and materials.

Bronze has a complex chemistry and may become damaged or deteriorated due to faults in the casting process, structural failure in the joints, corrosion, lack of maintenance, and inappropriate past treatments. Bronze, left untreated, will usually develop a green patina on its surface. The patina is a sign of initial surface corrosion; however, the patination process usually slows and stabilizes to form a protective coating on the bronze. While some regard the green color as unsightly, the patina does help reflect the age of the feature.

Stone varies in its density and durability. Granite is a course-grained stone that is very dense and durable. Marble and limestone are softer and more easily weathered. However, all stone is subject to structural problems, staining, erosion, gouging or chipping.

The aim of rehabilitation is to repair current damage and protect these features from future damage while retaining or reestablishing their artistic and historic integrity and allowing them to reflect their age (War Memorials Trust 2013 and 2014; National Park Service 1988).

- Monitor the condition of the commemorative artwork, related bases and plinths, and other architectural stone structures through annual inspections to identify any condition problems or potential structural failures. Create a maintenance plan based on the condition survey, using a written record and photography to describe changes to the features over time.
    - Monitor the condition of architectural bases for decay, cracks, standing water, freeze/thaw damage, erosion, biological growth, crumbling, chipping, bronze patina run-off and staining, and other problems.
    - Monitor the landscape surrounding large architectural bases or sculptural work for conditions such as erosion or disturbance from tree roots that may cause structural movement resulting in leaning, subsidence, or collapse.
- Consider undertaking a metal composition analysis of sculpture or other historic metal features such as plaques before treatment to ensure a close match for any repair or replacement material.

- Undertake maintenance, cleaning, repointing, and other repair according to sound, professional conservation principles, using the services of a specialists familiar with historic stonework or statuary.
- Undertake repairs that are reversible if possible and that do not hinder future repair and treatment options.
- Retain as much original fabric as possible during any repair of architectural or sculptural features.
- Protect and repair carvings and inscriptions as needed to ensure their longevity and legibility.
- Discourage visitors from climbing on architectural structures or artwork.
- Clean historic stonework and metal only as necessary, using the gentlest means possible, and minimizing the use of harsh processes such as sand blasting.

MANAGEMENT GUIDELINES FOR PEDESTRIAN CIRCULATION FEATURES

Paths, sidewalks and walkways provide the primary access to the landscape. The system includes exposed aggregate concrete sidewalks along most roads; the exposed aggregate concrete basin walkway; asphalt multi-use trails along Ohio Drive SW and east and west of the Thomas Jefferson Memorial; and other access paths that are constructed either of asphalt or exposed aggregate concrete. Informal packed earth social trails also appear in different areas of the landscape, most often near memorial entrances or bus stops.

Many sections of the circulation system are currently inaccessible due to heaving or damaged pavement, steps, or slopes that do not meet guidelines for universal accessibility. Portions of the basin walkway and other concrete walks are cracked, heaving, or spalling. Storm run-off and flooding deposit soil, mulch, water, or other landscape materials on walkways, which creates an unsafe or inaccessible system for visitors. Mixed modes of travel, including bicycle traffic, also use paths intended primarily for pedestrians.

Rehabilitation is focused on preserving a unified, high-quality character for park circulation systems, repairing damaged pavement, and enhancing the system's safety, resiliency, and universal accessibility. Specific guidelines for the basin walkway and memorial paving systems are described below under their related management zones.

- Preserve historic paved pedestrian circulation systems and features in the landscape, such as sidewalks, plazas, and other walkways.
- Undertake repairs as needed to address concrete pavement cracks, heaving, and other condition and accessibility defects. Coordinate

pavement treatment with treatment for adjacent features such as trees that may be causing the damage. Patch or replace excessively chipped, cracked, or heaving pavement, matching the appearance of the current materials as closely as possible.

- Explore opportunities to replace impervious pavement with paving materials that are compatible with the historic character of the circulation system and support strategies for improved storm water management and flooding reduction.
- Reduce barriers to accessibility in the landscape. Regrade paths and walkways to provide universal accessibility between the basin, memorials, other historic features, and adjacent streets/sidewalks. Provide flush connections between sidewalks, walkways, and memorial plazas. Minimize the need for new railings by avoiding the construction of steeper sloped ramps.
- Maintain the walkways, sidewalks, and paths to minimize the deposition and collection of mulch, soil, and other landscape material.
- Create positive drainage across all rehabilitated paved surfaces and ensure that storm water flow across existing paved surfaces is not blocked by other landscape features, such as slopes or vegetation.
- Remove asphalt trails and paths from the landscape (except for the Rock Creek Trail) and consider replacing them with lawn or designed new accessible paths. New paths should be compatible with the picturesque character of the landscape, with gently curving alignments and materials that match National Park Service standard paving.
- Remove social trails and reestablish compatible plantings in their place.
- Explore opportunities to re-design flooded paths in coordination with the treatment of associated historic resources such as the sea wall and other features.
- Encourage bicycle, scooter, and Segway riders to use designated bike lanes and sidewalks outside the core historic landscape. Work with local agencies to identify appropriate routes and parking facilities for these modes of traffic on city and commuter route maps. Avoid directing visitors using these modes of travel through memorials or along the basin walkway.
- Retain granite curbing between sidewalks and roadways, with National Park Service standard curb ramps as necessary to enhance accessibility.

MANAGEMENT GUIDELINES FOR SMALL-SCALE FEATURES

The Tidal Basin landscape contains a suite of National Park Service standard small-scale features; historic plaques; custom-designed features associated with individual memorials or structures; and other features that help establish the cultural landscape's identity and support its ongoing use. Incompatible features such as jersey barriers or chain link fencing also occupy the landscape near the Thomas Jefferson and Franklin Delano Roosevelt Memorials. Small-scale features such as lights and benches are currently concentrated on the western side of the basin without a similar level of visitor support amenities on the south, east, or north. The basin's night lighting does not provide a safe environment for visitors, and pests create maintenance issues for trash receptacles.

Rehabilitation is focused on achieving a consistent high quality identity and sense of place for the park landscape; ensuring the most efficient placement of small-scale features; enhancing safety and wayfinding; retaining the features' long-term functionality; and coordinating with the rehabilitation of other designed elements within the cultural landscape.

- Preserve and protect custom-designed small-scale features associated with individual memorials and structures as described below under Management Zone 3.
- Preserve and protect historic plaques in their historic locations. Clean or repair plaques as necessary using the gentlest means possible.
- Continue to use National Park Service standard small-scale features for site furnishings, fencing and other barriers, signs, and other needs.
- Repair and maintain National Park Service standard small-scale features. Replace missing parts such as bench slats or sign panels, repaint benches and railings, and undertake other repairs as required.
- Consider updating the pedestrian/walkway lighting system in the landscape areas outside the memorials to provide a safer night environment and improved wayfinding (Figure 99). Determine an appropriate performance standard for background lighting that meets current standards for walkways and other circulation systems while retaining the designed contrast with highly-lit memorial landscapes. Consider providing small unobtrusive lights that are integrated with other site features, such as lights mounted under guardrails. Ensure lights are pedestrian scaled and avoid introducing taller incompatible light fixtures throughout the landscape. Ensure lighting meets local dark-sky requirements and other criteria to minimize light pollution.
- Ensure visitor amenities, such as benches, are distributed more evenly throughout the landscape. Consider providing additional site furnishings in landscape areas with few features, such as the eastern side of the basin.
    - Place features within easy access of paths.
    - Consider placing small-scale features such as trash receptacles, exhibits, or benches on concrete foundations to reduce soil compaction

Figure 99. Limited lighting at the basin walkway contrasts the Thomas Jefferson Memorial at night.

(Source: AECOM, 2018)

on adjacent landscapes. Or, relocate these features periodically to minimize their related impact on the landscape.

- ° Limit the addition of new permanent trash receptacles to minimize pests. Consider meeting the waste disposal needs for special events or other occasions by placing temporary receptacles throughout the landscape or in targeted use areas as needed.

- Coordinate the placement of new small-scale features during the rehabilitation of major landscape features such as the basin walkway.
- Remove incompatible small-scale features, such as jersey barriers and chain link fence. Replace these features with compatible substitutes that perform the same function.
- Ensure that all small-scale features and signs meet accessibility standards.
- Retain wayfinding signs at major park and memorial entrances and path intersections. Consider providing additional wayfinding signs at bus stops, the parking lot at Maine Avenue SW, entrance paths at the bridges, bike parking, or other locations where visitors enter the Tidal Basin landscape.
- Ensure that information on wayside exhibits and other interpretive signs is updated as needed to present accurate and current data about the cultural landscape. Ensure interpretive information remains focused on topics related to the historic context of the landscape and its resources. Incorporate educational information about resource protection into exhibits and signs so that visitors are aware of park rules and the actions required to care for the landscape. Coordinate the information on park signs with information available on websites, brochures, and mobile apps. Place interpretive signs near pedestrian walkways, adjacent to the features they are interpreting but outside or on the perimeter of core designed areas to minimize visual clutter and disruption of the related space.

GUIDELINES FOR SPECIFIC MANAGEMENT ZONES

The management zones map (Drawing 19) groups resources that are united by function, significance, and integrity into related zones. Guidelines for each zone share a general treatment concept and set of strategies for landscape rehabilitation. The management zones and their related treatment are described below:

- Management Zone 1, water
- Management Zone 2, the basin perimeter
- Management Zone 3, the designed memorials and vistas
- Management Zone 4, the outer landscapes around the edges of the study area

MANAGEMENT ZONE 1

Water systems, tidal gates, water recreation and circulation

Rehabilitation concept and strategies

The Tidal Basin has historic significance as an engineered water management system that has provided flood control, channel clearing, and water-based recreation since the late nineteenth century. Harnessing the power of the tides by structuring water movement through the Inlet and Outlet gates twice a day has been an essential function of the basin. While the recreational function of the basin has changed over time—bathing beaches and swimming are no longer uses—boating remains as a popular activity. The basin's four-lobed shape, northern lagoon, hard wall edge, and gated connections to the Potomac River and Washington Channel are important structural features of the overall water system. The large open space and related open views and vistas across the water body are contributing characteristics of the landscape.

Engineers adapted the Tidal Basin to changing environmental conditions by building and raising the sea walls, dredging the basin, and adding the tidal gates. Today, however, the tidal gates may not function as designed and increasing water levels regularly overtop the sea walls. Water particularly breaches the sea wall in the southern lobe of the basin with high tides, and flooding associated with major storms periodically breaches larger sections of the basin, disrupting the use of the landscape and threatening the condition of other important historic features, such as the basin walkway and hundreds of cherry trees.

More broadly, inland and riverine flooding affects larger sections of the National Mall and urban areas of Washington, DC. The US Army Corps of Engineers, the National Park Service, District of Columbia, and other members of the "Silver Jackets" interagency team address these challenges in different areas around the city—including National Park Service lands—as part of a coordinated planning approach for flood risk management. Water management and flood control is often managed through "hard" engineered systems with walls, levees, basins, pipes, and channels; or "soft" ecologically based systems such as bioretention facilities or constructed wetlands; or some combination of the two, such as horizontal levees that pair constructed levee walls with an expanded wetland or tidal marsh to buffer inland areas. Because much of the Tidal Basin's significance relates to its history as part of an urban engineered water system with hard structural elements, treatment should aim to retain that basic system as a component of the overall cultural landscape. However, it may become necessary over time to provide additional ecologically-based water management as an extra layer of flood protection for the landscape and its resources.

The rehabilitation guidance focuses on retaining the basin's historic water system and related spatial organization, views and vistas, and use while recognizing that changing environmental conditions demand coordinated and updated water management engineering. Guidance for this management zone is closely related to treatment for Management Zone 2, described below.

Constructed Water Features: The Water System

- Preserve the open water basin and historic water management system that connects the three water bodies (Tidal Basin, Potomac River, and Washington Channel) through the Inlet and Outlet gates. Retain subsurface piped connections to other water systems and pumps as required.
- Assess the condition of the engineered water system, including the siltation levels of the basin, the function of the tidal gates, water quality in the basin, and other related storm water issues (overland flow and subsurface piping, for example) before undertaking treatment of water systems.
- Monitor water system change by tracking flood levels, reviewing historical data, preparing computer modeling, field checking the water system and related structures, or other approaches.
- Coordinate the rehabilitation of this water system with treatment for the Management Zone 2 resources (sea wall and other basin perimeter features).
- Coordinate any future water system engineering and flood protection planning with appropriate agencies defined in the Silver Jackets program to provide a holistic, sustainable, and resilient approach to flood risk management of the Tidal Basin cultural landscape and the broader National Mall. Undertake resilient cultural landscape management as part of a coordinated system that addresses flood inundation protection, excess siltation, interior drainage and water storage, water pumping, levee construction, subsurface conditions and utilities, cultural resource protection, and other factors. Consider treatment options such as dredging to retain the depth of the water body, as appropriate.
- Define an appropriate and realistic performance standard for flood management and related cultural resource protection before rehabilitating the basin and related sea wall. Consider the long-term flood risks to the Tidal Basin landscape from rising sea levels and other threats when defining the new performance standard and related resiliency measures, recognizing that the entire cultural landscape is within the flood zone for today's 100 year storms, which may become 25 year storms by mid-century (District of Columbia 2016).
- Create a maintenance plan, updated as required, to ensure the long-term functionality of the water system and related features such as the tidal gates.

Structures: Inlet and Outlet Gates

- Preserve the Inlet and Outlet gates at their historic locations. Preserve the designed integration of the gates with their respective bridge structures and circulation features.

- Protect and repair the related stonework and ornamental features of each structure.
- Consider repairing the Inlet's designed water features (spouts).
- Replace the guard rail on the Outlet Bridge with a new railing that is compatible with the historic character of the landscape and meets safety codes.
- Replace the chain link fence at the Outlet Bridge's wingwalls with a new barrier that is compatible with the historic character of the landscape and meets safety codes.

- Undertake an assessment of the gate function and condition for both structures through the services of professional engineers experienced with historic resources.
- Coordinate gate repairs and rehabilitation with other future water management strategies for the overall basin and National Mall landscape. If additional layers of flood protection, such as new tidal or flood gate structures, are required at the basin inlet or outlet, consider constructing them outside the basin, south of the current gates.
- Consider rehabilitating the Inlet and Outlet gates to provide additional flood protection. For example, consider rebuilding the automatic tidal gates with taller leaves to protect the basin from higher tide elevations; utilizing the manual curtain gates during riparian floods; or other design changes to enhance the function of the historic gate system (Figure 100).
- Consider interpreting the historic function of the gates through wayside exhibits near these structures.

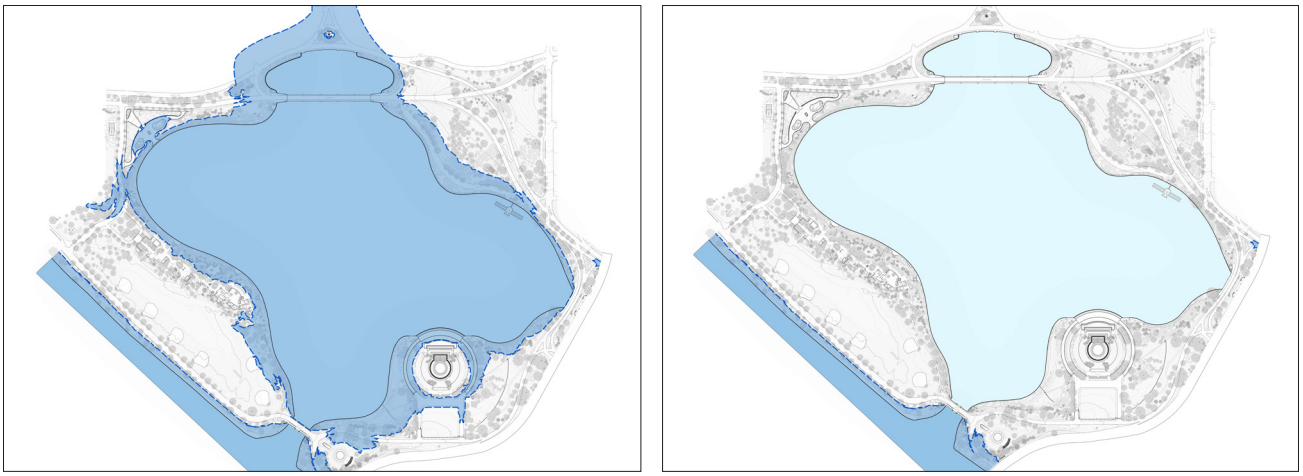


Figure 100. Basin condition with potential taller (8 feet high) operable flood gates, open (left) and closed (right) at major flood stage.

(Source: AECOM, 2019)

Land Use and Circulation

- Preserve water-based recreation and circulation uses in the Tidal Basin.
- Consider providing additional boating opportunities and water access points around the basin, as recommended by the *National Mall Plan*. Work with concessioners as needed to provide paddle boating, canoeing, kayaking, or boat excursions.
- Place new water access features and related landscape circulation—such as docks, gates, and gangways—outside important view corridors and the major memorial landscapes, but convenient to key points of interest

around the basin perimeter. See the *National Mall Plan* circulation plan (Figure 94) for locations.

- Design new water access features to be visually unobtrusive and universally accessible if possible, while minimizing the proposed facilities' overall size. Ensure new water access facilities remain close to the basin perimeter. Design water access features to be removable and flexible, with floating docks or gangways. Avoid the addition of permanent fixed piers or other new infrastructure in the basin.
- Avoid adding new docks or any other floating structures within the central basin area.

Spatial Organization, Views and Vistas

- Preserve the open, uninterrupted spatial and visual quality of the basin. Minimize the addition of new features in the basin that would disrupt the open quality of the space or obstruct important views and vistas.

MANAGEMENT ZONE 2

Sea walls and walkway, cherry trees, Japanese Lantern and Pagoda

Rehabilitation concept and strategies

The basin perimeter and its key features relate to all aspects of the cultural landscape's significance and are subject to the most complex set of threats. Flooding—resulting from sea level rise, land settlement, and storms—and heavy visitor use create substantial risks to the long-term survival of the resources within this management zone. Portions of the sea wall and basin's landscape perimeter west of the Thomas Jefferson Memorial flood daily with brackish water, threatening the basin structure, cherry trees, and the use of adjacent walkways. Major storms and related flooding can breach the sea wall around most of the basin edge, including the locations of the Japanese Lantern and Pagoda. Crowds of visitors exceed the space capacity of the walkway around the basin, causing pedestrians to overflow into cherry tree planting areas, which poses long-term threats to tree health from root compaction, erosion, and broken tree limbs. Many older cherry trees planted near the walkway also overhang the pedestrian space, which creates an accessibility challenge for visitors. Given these conditions (Figure 101), a preservation approach that retains features and systems in their current state is not a sustainable treatment option.

Rehabilitation may address these complicated and interrelated challenges through treatment strategies that emphasize the use of recent flood modeling and planned long-term resilience of the landscape. Building flood zones into the sea wall structure and its landscape perimeter; elevating landscape features; expanding circulation features; and diversifying the cherry tree collection to enable it to withstand ecological threats are all possible treatments described and considered below.

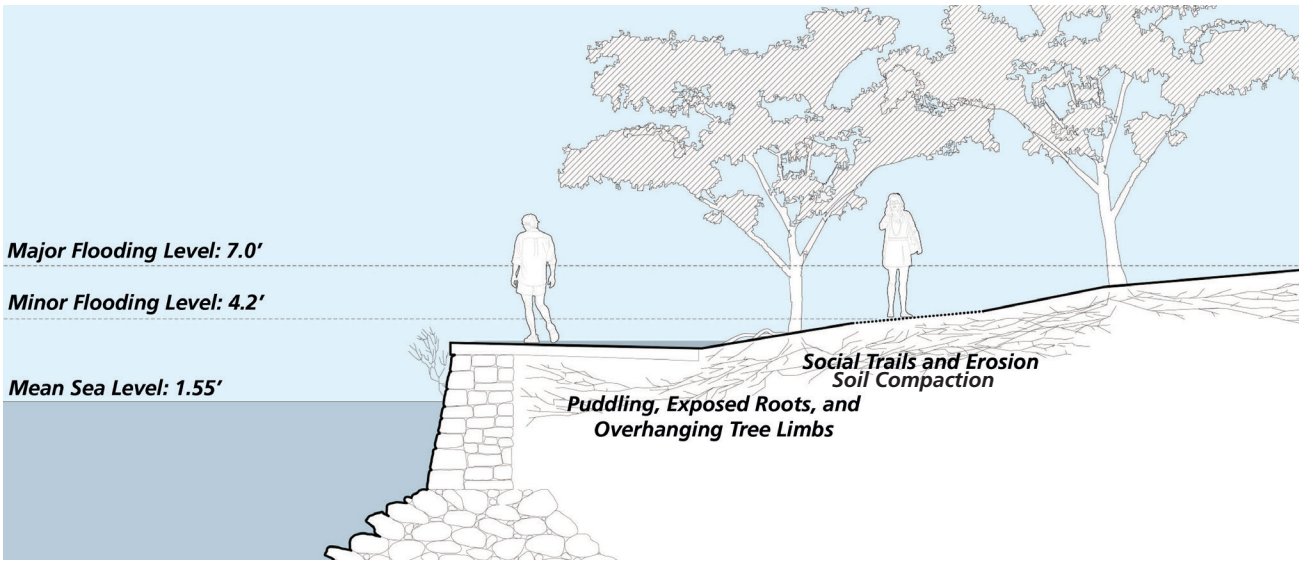


Figure 101. Threats to the landscape at the basin perimeter from flooding and heavy visitor use.

(Source: AECOM, 2019

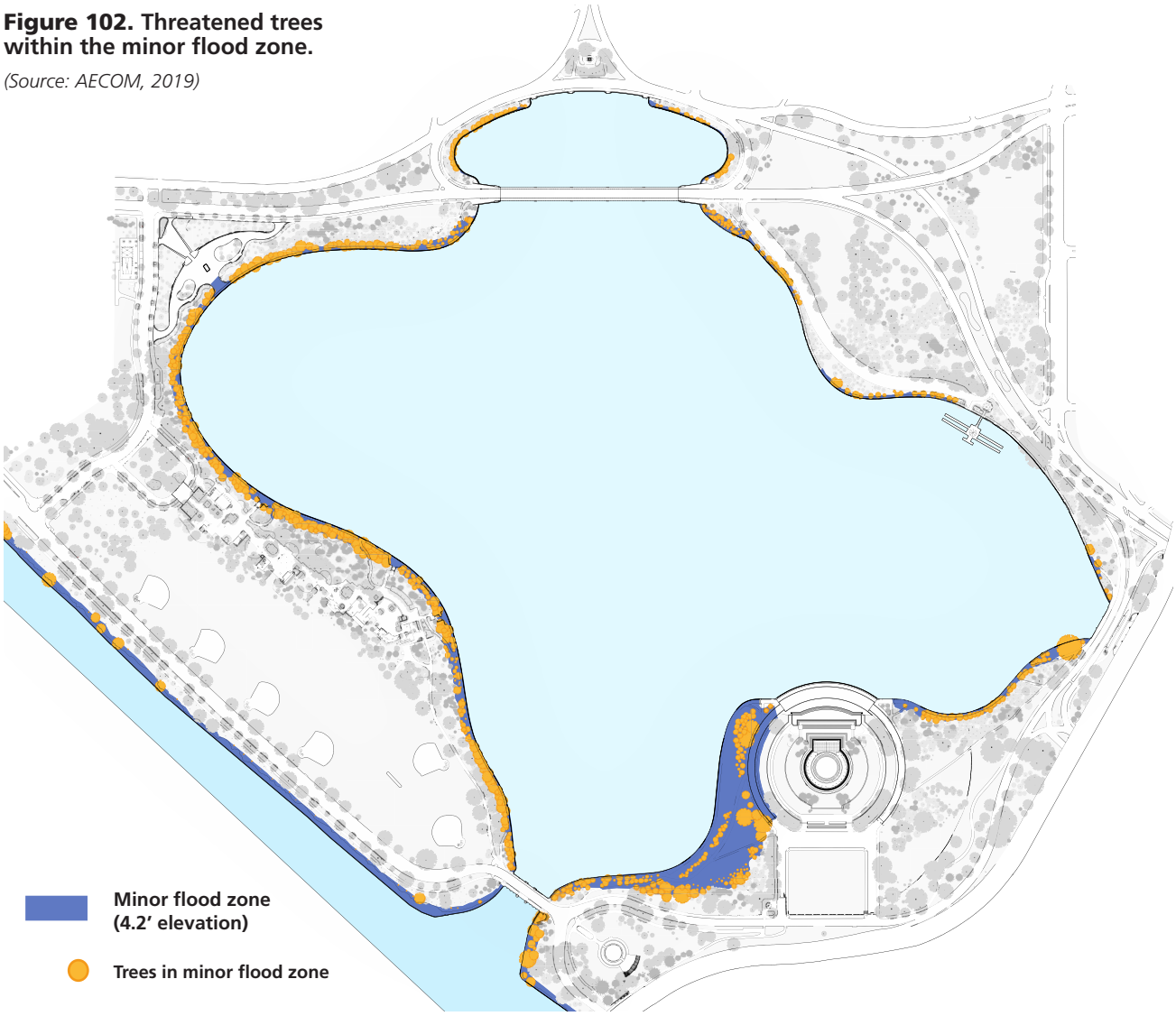
The proposed rehabilitation for this management zone builds on previous National Park Service studies. The *Phased Rehabilitation Plan for Historic Washington Sea Wall* contains both a condition assessment and analysis of options for the rehabilitation of the walls in Potomac Park. Lessons derived from this plan are applicable to the current wall rehabilitation challenges at the Tidal Basin. The plan identified several options to address the main causes of damage to the walls—inundation, erosion, settlement—including wall and non-wall solutions. Wall options of different heights would utilize different foundations, such as deep foundation or spread footings to mitigate settlement. Non-wall options included "soft" or bioengineering solutions, although these choices were not recommended in the plan due to their safety and security issues, incompatibility with the historic character of the sea wall structures, and their vulnerability to currents, waves, and related scouring.

The *Phased Rehabilitation Plan for Historic Washington Sea Wall* identified an inherent challenge in the rehabilitation of the sea wall: defining the ideal performance standard for the structure. In other words, what wall height is required to protect the landscape against different levels of storm events? The plan considered a performance standard that would protect the landscape from 50 year storm events, but determined that a wall of a height adequate to protect the landscape from such an event (9-10 feet above mean sea level in 2011 when the plan was written) would not be feasible due to costs and other considerations, such as the impact to other historic resources. The plan therefore recommended a new performance standard: a new wall height that would prevent frequent water overtopping and provide a drainage path for flood waters to recede. The *National Mall Plan* identified a related approach, which recommended that the sea walls be

rebuilt above the high tide line and shifted further into the basin to accommodate wider walkways, slightly shrinking the volume of the basin.

Discussions during the Tidal Basin treatment workshop emphasized a desire for flexibility and adaptability in the face of future environmental changes, while acknowledging that landscape changes to provide additional flood protection could impact the material integrity of the historic sea wall, walkways, cherry trees, and other landscape resources. For example, raising the sea wall, walkway, and related topography above minor flood levels could affect approximately 500 trees around the perimeter of the basin. Many of the historic trees within the area susceptible to minor flooding are already threatened by the effects of brackish water inundation and root zone compaction (Figure 102).

Figure 102. Threatened trees within the minor flood zone.
(Source: AECOM, 2019)



Raising the sea wall to protect the landscape in this management zone from minor flooding would require coordinated landscape elevation at both the Martin Luther King, Jr. and Franklin Delano Roosevelt Memorials where their plazas and access walkways connect with the basin walkway. Protecting cherry trees from excessive visitor wear and tear may require widening historic walkways or adding new barriers in the landscape to protect planting beds and lawn areas. These types of rehabilitation options are described in more detail below.

Structures: Sea Wall

- Consider undertaking sea wall rehabilitation to protect the basin perimeter landscape from tidal inundation and riverine/urban flooding, coordinated with water management strategies identified for Management Zone 1. Consider undertaking the sea wall rehabilitation in phases if necessary, prioritizing the protection of landscape areas that are the most historically sensitive or that flood the most often. Preserve and protect sections of the sea wall not identified for rehabilitation.
- Identify resilient design alternatives for the sea wall that may include options for raising or altering the structure to respond to environmental changes in the future. See Appendix B for options discussed during the project treatment workshop.
    - Consider undertaking an updated sea wall design within a comprehensive flood management framework that may include re-designed hydraulic structures with green infrastructure and living shoreline designs.
    - Pursue sea wall design options that address settlement problems through deep foundations, spread footings, micropiles, or other designs; and inland drainage through appropriate piping and pumping, or water retention above the basin; or both.
- Ensure that proposed changes to the sea wall perpetuate its historic character, defined by the coursed, mortared, and battered Potomac River stone wall and flat-topped coping stone or reinforced concrete coping. Consider reusing the current stone in the construction of any new sea wall if possible. Or, use new stone that matches the historic material.
- Determine the impacts of different sea wall design changes on the adjacent walkway, memorials, topography, cherry trees, views, and other landscape features before undertaking the rehabilitation. Balance the benefits of enhanced flood protection with the impacts to the integrity of these resources. Ensure treatment for these resources is integrated with the rehabilitation of the sea wall.
- Consider designing different levels of flood protection around the basin perimeter by implementing a terracing strategy that 1) elevates the sea wall to contain regular flooding, 2) creates an intermediate landscape level that can be occupied or planted but buffers sensitive historic resources from more serious flooding, and 3) elevates critical resources such as cherry trees and memorials above the flooding levels associated with major storms. Ensure related slopes, lawns, and other plantings are compatible with the landscape's historic character (Figure 103).

IN 2011, THE *PHASED REHABILITATION PLAN FOR HISTORIC WASHINGTON SEA WALL* USED FOUR CATEGORIES OF DATA TO INFORM A REHABILITATED SEA WALL ELEVATION:

Storm event-based records—suggesting the sea wall design elevation should be in a range of approximately 6-10 feet (referenced to mean sea level) to protect against the effect of major floods

Probability-based records—suggesting the sea wall design elevation should be in a range of approximately 6-9 feet (referenced to NAVD88), which would protect the landscape from storm events ranging from 10 year to 50 year frequencies

Park management criteria—protecting the park's fundamental resources and values in a cost effective manner

Affected features (damages)—understanding the incremental benefits and costs associated with protecting the park landscape from different flood levels, balanced against the damages associated with providing no additional flood protection

Figure 103. An example of a terraced storm water management design.

(Source: AECOM, 2019)

Circulation: Basin Walkway

- In the short-term, maintain the basin walkway according to this report's general guidance for pedestrian circulation features.
- Plan for long-term walkway rehabilitation. Coordinate the basin walkway rehabilitation with sea wall treatment, cherry tree and broader landscape management, and designed memorial connections. Retain the walkway's adjacency to the basin and general spatial relationship to the cherry trees. Reestablish a continuous walkway around the basin perimeter, with compatible and accessible path connections at the bridges. Ensure that the currently closed sections of the walkway west of the Thomas Jefferson Memorial can be re-opened as part of the rehabilitation.
- Ensure the rehabilitated walkway is compatible with the historic character and materials of the basin walkway and meets Architectural Barriers Act Accessibility Standards. Design the walkway with a uniform width along as much of its length as practicable. Explore options for improving pavement permeability and other resiliency measures to reduce storm water runoff and associated flooding.
- Consider elevating and widening the walkway as part of a coordinated rehabilitation of the basin perimeter, providing additional paved space for limited sections of the walkway with the highest use if necessary.
    - Identify walkway elevation options that may adapt to future environmental conditions, such as higher tidal or flood levels.
    - Determine an appropriate performance standard for a revised walkway width based on current visitor use levels, projected visitor use levels, and special event use. Or, retain the current walkway width, but provide additional separation between the walkway and cherry trees (Figure 104).
    - Consider options for walkway treatment, such as extending or widening the walkway inland into the landscape; outward into the basin (as recommended by the *National Mall Plan*); or cantilevered over the existing walkway.

Figure 104. Evidence that visitors use 2-3 times the space provided by the basin walkway.

(Source: AECOM, 2019)

- Coordinate the treatment of the basin walkway with the rehabilitation of memorial access points. Provide flush, accessible connections between the walkway and memorial plazas.
- Establish and maintain clear zone standards to limit the encroachment of tree limbs and other impediments in the walkway area.
- Provide positive drainage across the walkway to reduce puddling.
- Consider constructing a continuous guard rail system around the perimeter of the basin in coordination with the walkway and sea wall rehabilitation. Ensure that the guard rail meets current codes and is compatible with the historic landscape by maximizing transparency between the basin walkway and the basin and by using a simple contemporary interpretation of the historic guard rail design.
- If a new elevated walkway structure, such as a boardwalk, is introduced as a replacement circulation feature, ensure the structure is of a simple, contemporary design, compatible with the historic character and scale of the landscape, and meets accessibility guidelines.

Structures: Japanese Lantern and Pagoda

- Preserve the Japanese Lantern and Pagoda. Maintain them according to the general guidance for stonework.
    - Retain the Lantern, the related plaza, and the Pagoda in their respective locations, but consider elevating them in coordination with future sea wall rehabilitation to protect them from flooding.
- Retain their general visual relationships to the basin and their spatial proximity to the walkways and cherry trees.

Vegetation: Cherry Trees

- Preserve the cherry tree collection around the perimeter of the basin, defined by its range of spreading, spring-blooming, pink and white blossoming cherry species and cultivars dominated by Yoshino (*Prunus x yedoensis*), and the evolution of the planting layout over the last century

with annual tree removals and additions. Remove individual specimens only as required to meet management standards or as part of a holistic landscape rehabilitation.

- Follow the general vegetation management guidance described above for maintaining cherry trees and related lawn areas.
- Prune cherry trees to protect their health and maintain their open, spreading habit through the services of arborists or urban foresters experienced with historic vegetation. Consider pruning large branches that presently overhang the basin walkway and impede accessible routes (Figure 105).
- Consider removing trees that are in poor condition, over-mature, no longer retain their characteristic habit, or have other major structural or ornamental deficiencies. (Figure 106) Coordinate potential cherry tree removals, raising, relocations, and replanting with sea wall and walkway rehabilitation plans.
    - Consider limiting new cherry tree planting to landscape areas above a designated flood elevation.

Figure 105. Cherry trees hang over the walkway and impede pedestrian routes.

(Source: AECOM, 2019)

Figure 106. A flooded cherry tree in poor condition.

(Source: AECOM, 2019)

    - Consider elevating/raising healthy trees in place to meet new established grades above the flood zone. (New low-impact tree raising methods include the use of inflatable airbags below the root zone, which is then backfilled with structural stone.)
    - If historic cherry trees cannot be retained or safely raised in place, relocate them in phases from the flood zone or areas designated for extensive grading or rehabilitation. Move these trees to appropriate locations at higher elevations.
- Plant new cherry trees in clusters or along walkways to perpetuate the historic character of the collection. Provide an 8-10 foot gap between the new trees and the basin walkway to minimize damage to the trees' root zone from pedestrians.
- Consider establishing continuous beds of mulched or under-planted cherry tree groves to improve soils and plant health, and to reduce potential damage by visitors or mowing/maintenance practices.
- Provide appropriate temporary protective fencing around cherry trees as required to support tree health.
- Consider diversifying a larger portion of the cherry tree collection outside the immediate basin perimeter to provide hardiness, resiliency, and ornamental variety while ensuring that the overall collection reflects its thematic connection to Japan.
    - Continue updating the collection with cherry trees of Japanese origin, such as Yoshino, Kwanzan (*Prunus serrulata 'Kwanzan'*), and others that are hardy to the region.
    - Introduce additional cherry trees that bloom in other seasons, such as early and late spring, to extend the blossom period and related viewing opportunities.
    - Consider introducing a limited number of hardy native cherry trees to the collection.

MANAGEMENT ZONE 3

Designed memorials (particularly Thomas Jefferson, John Paul Jones, and George Mason Memorials) and vistas

Rehabilitation concept and strategies

Designed memorials and vistas are closely integrated with the basin, sea wall, and cherry tree collection. They relate to historical themes for the cultural landscape, such as landscape architecture, architecture, art, city planning, and commemoration, and they retain a high level of integrity. Commemorative activities, resources, and spaces draw visitors to reflect on the people and events that formed—and continue to shape—our nation. Designed vistas thematically and visually connect important memorials, government institutions, and special public spaces. The designed memorials and vistas are thus essential components of the cultural landscape and require special treatment, coordinated with treatment for landscape areas in other management zones.

Each memorial at the Tidal Basin illustrates a unique narrative. The memorial compositions are rooted in the ideas and qualities of the people they commemorate; the design philosophies of their respective landscape architects, architects, and artists; and the cultural era in which they were created. The City Beautiful movement influenced the design of two of the memorials—the Thomas Jefferson and John Paul Jones Memorials —and their urban relationship to the city's streets and government buildings. Their designs are strongly neoclassical, with symmetrical, centered, and vertical commemorative structures. In contrast, the Franklin Delano Roosevelt and Martin Luther King, Jr. Memorials are more modern, with low, horizontal forms and off-center—though still monumental—artwork. The George Mason Memorial represents a third design typology as a human- scaled, garden-inspired commemorative landscape.

Landscape rehabilitation must preserve the integrity of each memorial by working within the framework of their respective design styles and by adhering to guidelines that help retain their distinctive character and historic features while providing updates to enhance accessibility and resiliency to environmental change. The baseline for each memorial's integrity and subsequent treatment is the original implemented historic design and subsequent compatible alterations that were undertaken within the commemorative period of significance (1912-2011). This CLR does not address specific treatment guidance for the Franklin Delano Roosevelt or Martin Luther King, Jr. Memorials because separate reports are planned for these landscapes. However, this CLR does address guidance for enhanced and improved access to these memorials.

The vista between the White House and Thomas Jefferson Memorial is another essential character-defining feature in the landscape with high significance and integrity. The connection between the two important historic structures is a designed element of the McMillan Plan and helps complete the urban framework of the capital city. It is intended to be approximately 150 feet in width along its nearly one mile length, although tree growth and incompatible small-scale features currently encroach on the corridor.

Thomas Jefferson Memorial

Treatment should preserve and protect the memorial's important place in the capital city and its role in the commemorative landscape of the National Mall. The City Beautiful-inspired design of the memorial and its relationship to the cross axis of the monumental core landscape is enhanced by the purposeful arrangement of structures, plazas, plantings, walkways, topography, and views

at the edge of the Tidal Basin. The landscape components reinforce the solemn monumental neoclassical "object" quality of the memorial and connect it visually and spatially to other important places within the capital city. The memorial's raised and prominent location on the southern side of the basin; its dignified, predominantly evergreen, plant palette; dramatic night lighting; and enduring materials of stone and bronze enhance the commemorative intent of the memorial, which is to acknowledge Founding Father Thomas Jefferson's historic importance to the nation.

Today, the elevated terrace levels currently inhibit full accessibility for visitors and incompatible features such as the kiosk, asphalt trails, security barriers, zelkova trees, and tall light poles detract from the historic design and character of the landscape.

The rehabilitation guidelines emphasize the preservation and appropriate repair of the landscape's materials, removal of incompatible features, and the retention of the memorial's intended historic character and spatial/visual relationships to other important features on the National Mall and around the perimeter of the Tidal Basin. The guidelines also identify opportunities to improve the landscape's accessibility, security, and resiliency. The rehabilitation of the Thomas Jefferson Memorial must be carefully coordinated with the rehabilitation of resources in Management Zone 2, such as the settling sea wall and damaged basin walkway west of the memorial, and flood-prone lawn and cherry trees in the broader memorial landscape.

Land use

- Continue to use the memorial landscape for commemorative activities, national celebrations, and other special events.
- Guide high impact events, such as those with many participants or requiring special equipment or structures, to paved areas at the north plaza or to the southern rectangular lawn.
- Avoid placing either permanent or temporary event infrastructure on the upper terraces or in the memorial structure.
- Consider providing unobtrusive security enhancements to the memorial landscape, described in more detail below under *Buildings and Structures*.

Spatial organization

- Preserve the memorial's monumental scale and strong neoclassical design, with its geometric shape and central vertical structure.
- Retain the symmetrical radial organization of structural elements.
- Enhance the bilaterally symmetrical structure of the core memorial

landscape through the balanced placement of any materials and features that may be introduced as part of future design or rehabilitation work.

- Protect the memorial's general spatial relationship to the basin: its direct connection to the basin on the north, and its views to the basin and river beyond to the west.
- Retain the open rectangular lawn area north of East Basin Drive SW.
- Retain the basic pattern of open lawn and tree-covered spaces east and west of the memorial structure.

Views and vistas

- Retain the open White House vista corridor north of the memorial.
- Retain the open vista corridor to the Potomac River on the west side of the memorial.
- Retain the open view to the memorial from East Basin Drive SW.
- Consider adjusting the design or placement of the flood lights on the northern side of the memorial to minimize their intrusion on the vista to the Martin Luther King, Jr. and Lincoln Memorials. (See guidelines for small-scale features later in this section).
- Consider interpreting the vistas to the White House; to the US Capitol along Maryland Avenue from the north plaza; and to other memorials through new exhibits or media. Consider options such as the installation of interpretive plaques at key viewpoints, or brochures, mobile/ smartphone apps, and other media that describe the historic vistas. Avoid placing raised interpretive exhibits on the north plaza of the memorial or within other related vista corridors.

Buildings and Structures

- Minimize changes to the historic memorial structure. Preserve the walls, roadways, terraces, north plaza, monumental steps, and the central colonnaded memorial structure and sculpture.
- Avoid adding new structures to the memorial landscape.
- Undertake appropriate structural investigations of the historic memorial as required to support its longevity and intended character and use. Continue to protect, repair, and maintain the memorial's historic structures and artwork according to best professional conservation practices. When cleaning or repairing structural material as part of a maintenance program, use the gentlest possible techniques through the services of preservation specialists.
- Match historic material for all patching and replacements. Consider date-stamping or marking replacement material to distinguish it from historic material.
- Consider implementing designs for security enhancements to the memorial.
    - Protect views, historic vegetation, street lighting, and the memorial landscape's spatial organization when adding new security features (Figure 107).
    - Remove the existing incompatible jersey barriers.
    - Consider providing a barrier bollard, wall, or pier security system placed at the perimeter of the memorial along East Basin Drive SW,

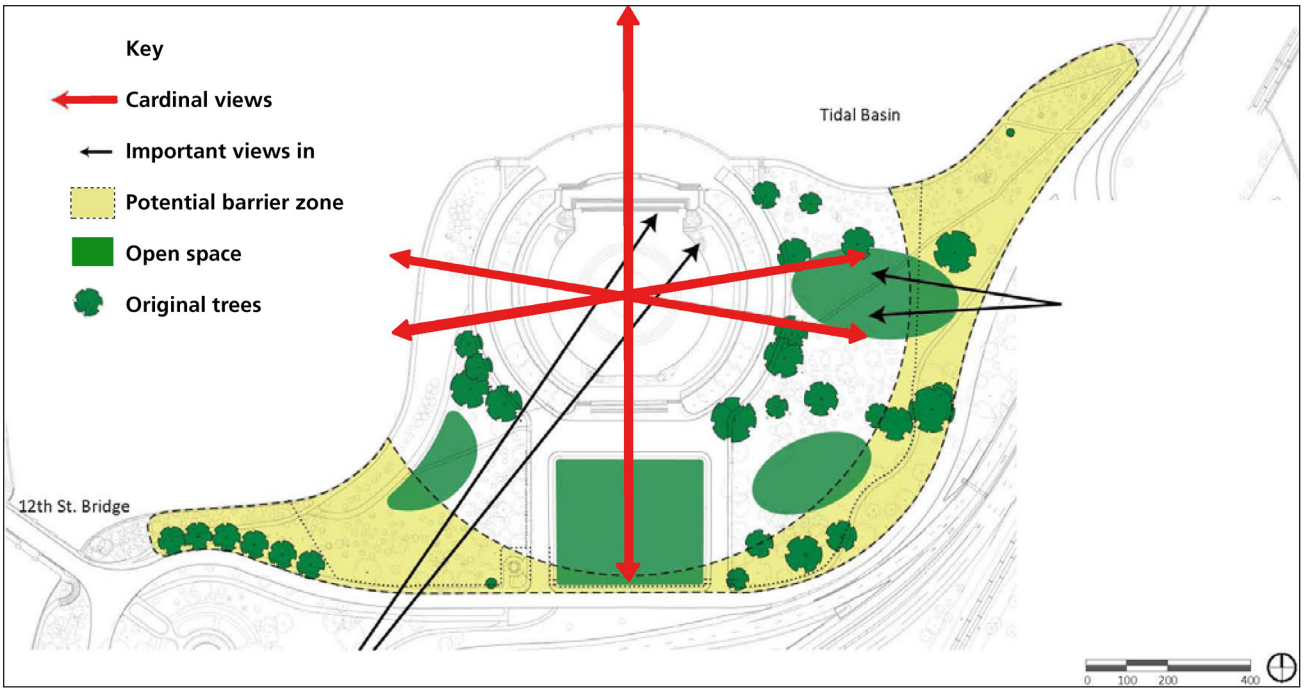


Figure 107. Thomas Jefferson Memorial security option: protection of views, spaces, and vegetation, 2013

(Source: Jefferson Memorial Vehicular Barrier Design Project Summary 2009-2015)

with special barrier conditions at the bridges and bus drop-off areas, as required. Ensure new security barriers are compatible with the neoclassical design of the memorial and surrounding picturesque landscape.

- Coordinate security designs with multi-modal traffic enhancements to reduce pedestrian and bicycle conflicts and improve parking.
- Consider removing the existing kiosk or replacing it with a new, compatible structure that provides required visitor services and amenities. Ensure any replacement structure is located outside the core memorial landscape, does not block views to the memorial, and is appropriately scaled, with a low height and compact massing.

Vegetation

- Ensure trees and shrubs near the memorial structure do not overly screen views to the building.
- Rehabilitate lawn as required according to the general management guidelines for vegetation listed above.
- Trim hedges to prevent their encroachment into walkways but otherwise retain their natural habit. Fill in hedge gaps with new shrubs that match the dominant species. Replace evergreen shrubs when they become overgrown or "leggy" and lose their dense compact quality.
- Retain the cherry trees that are east and west of the memorial along the basin edge. Replace these cherry trees in kind as required.
- Avoid placing new trees within established view corridors north, south, and west of the memorial.
- Consider removing the noncontributing zelkova trees located on the lawn-covered slope between the outer circular drive/walkway and first radial retaining wall. Or, avoid replacing them in kind when they die. Replace these trees with lawn (Figure 108).

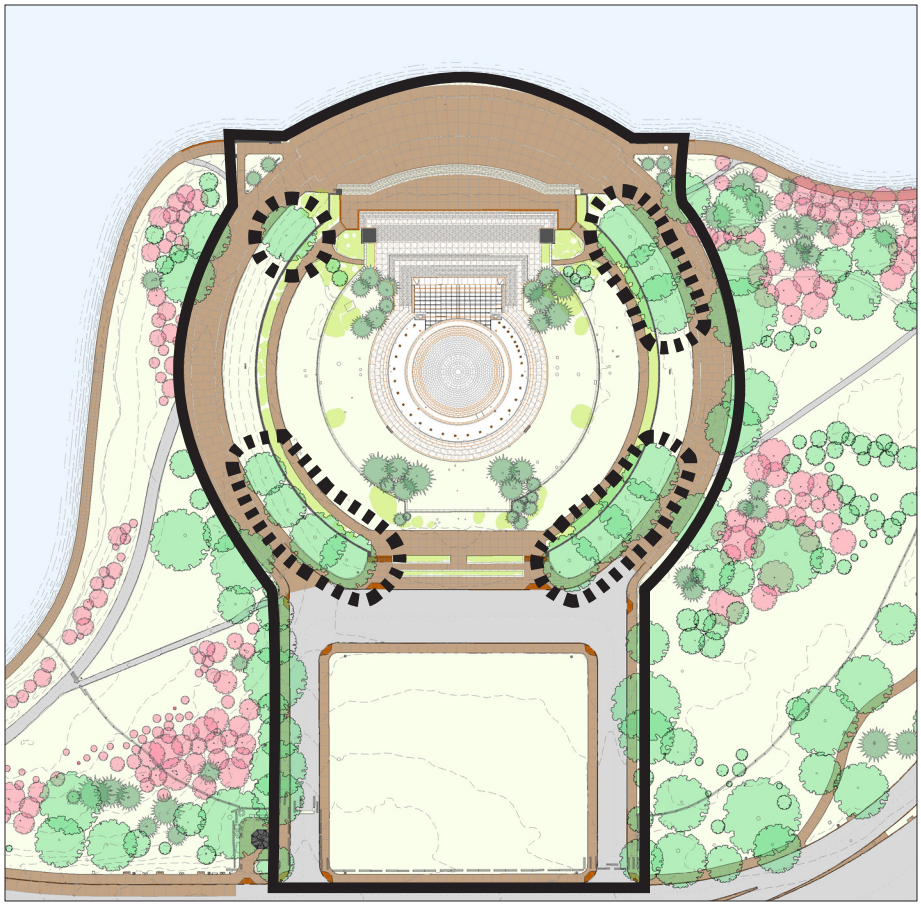


Figure 108. Location of noncontributing zelkovas shown in dashed black outline and circulation features to be retained in a solid black outline.

(Source: AECOM, 2018)

- If new replacement vegetation is required within the core memorial landscape, create a planting rehabilitation plan that is compatible with the historic Olmsted Brothers plan, as implemented.
    - Replace unhealthy or over-mature historic vegetation in kind if possible.
    - Ensure any new planting plan replicates the qualities of the historic plant palette, with evergreen trees and shrubs and smaller ornamental trees. Consider planting American holly, yew, cotoneaster, abelia, dogwood, cherry or other similar trees and shrubs that are hardy for urban conditions and anticipated climate conditions.
    - Follow the historic plan's design intent for the spatial organization of the vegetation. Align plantings to follow the memorial's geometric patterns, with radial plant placement around the circular roadway, and orthogonal north/south plant placement along the edges of the rectangular lawn and driveway. Enhance vegetation clusters near the northern steps and southern portion of the terrace walls as needed.

Circulation

- Preserve historic paved areas and walkways. Retain and maintain the rectangular driveway, the radial scored concrete walkways and north plaza, and paved perimeter around the memorial structure (Figure 108).
- Coordinate memorial paving treatment with the treatment of the sea wall and walkway, roadways, and other perimeter features.
    - If memorial landscape areas require regrading in the future, retain the width and horizontal alignment of the current paved areas and walkways while adjusting their elevation as required to meet flush with other circulation systems adjacent to the memorial landscape.

Small-scale Features

- Consider replacing the memorial's tall flood lights with lower height lights providing an equivalent lighting quality. Or, consider shifting the location of the northwestern lights to a location outside the Lincoln and Martin Luther King, Jr. Memorials vista corridor (Figure 109).
- Remove large planters and other temporary security features once a new security design has been implemented.
- Ensure all site furnishings and small-scale features in the landscape, such as benches, trash receptacles, and wayfinding signs, conform to National Park Service standard designs and meet accessibility guidelines.
- Consider providing wayside exhibits to interpret the memorial and its grounds and vistas. Locate new exhibits near walkways and outside major vista corridors and core commemorative spaces.

Figure 109. Incompatible flood lights within a significant vista corridor

(Source: AECOM, 2018)

John Paul Jones Memorial

The John Paul Jones Memorial is the oldest commemorative structure in the cultural landscape and was created to honor the American naval hero of the Revolutionary War period. The central neoclassical structure surrounded by an ordered symmetrical ring of vegetation at the terminus of 17th Street SW fulfilled the tenets of the City Beautiful movement, popular at the time of the memorial's creation. The memorial's historic spatial relationship to the basin and use of water in its two integrated fountains symbolized John Paul Jones' career on the seas.

Today, the memorial's stone work exhibits signs of staining and cracking, the few remaining trees have lost their intended trimmed habit, the lawn is thinning, and the fountain no longer functions. The memorial's location on a traffic island north of Independence Avenue SW disconnects it from the basin and from the flow of other pedestrian circulation systems in the landscape.

Rehabilitation guidance focuses on preserving the neoclassical qualities of the memorial, restoring lost elements of the memorial, and enhancing the integrity of its planting design. The rehabilitation of the plantings—the lawn, trees, and shrubs—and the relocation of incompatible small-scale features will reestablish the memorial's intended crisp vertical and formal character. Repairing the memorial's constructed water features and connections to the basin will support interpretation of John Paul Jones' role in US history as a naval hero and will help visitors understand this memorial's place in the overall commemorative landscape.

Land use

- Continue to use the memorial landscape for commemorative activities.

Spatial organization

- Retain the neoclassical and symmetrical organization of the memorial's structural elements and planting.
- Avoid adding new elements to the memorial landscape.

Views and Vistas

- Retain the open vista to the memorial along 17th Street SW. Do not add structures, vegetation, signs, or other vertical elements directly north of the memorial.
- Avoid the introduction of visual barriers between the memorial and basin.

Constructed Water Features

- Rehabilitate the fountains so that water flows consistently with a stream that matches its designed character. Ensure the fountain water flows to sanitary drain systems rather than directly to the Tidal Basin.

Buildings and Structures

- Preserve, repair, and maintain the marble pedestal and bronze sculpture. Ensure the structure is clean and free of cracks, scratches, chips, or other damage. Undertake any required repairs through the services of art or architectural conservators specializing in historic structures.
- Match historic material for all patching and replacements. Consider date-stamping or marking replacement material to distinguish it from historic material.

Vegetation

- Retain and maintain the existing semi-circle of linden trees.
- Consider removing selected lower limbs from the mature trees north of the memorial to provide a clear view of the structure.
- If any of the linden trees requires removal, consider replacing all of them at one time to reestablish the symmetry of the planting design. Consider reconstructing the original double radial rows of 24 matched lindens, pruning them as they were intended to create a crisp architectural character for the canopy.
- Retain the evergreen shrubs and fill in the gaps as required with shrubs of the same species. Prune the shrubs to retain a natural habit.
- Retain turf lawn as the primary ground cover within the reservation and memorial area. Repair thinning lawn according to the guidelines for vegetation.

Circulation Features

- Retain the scored concrete walkways around the memorial structure. Retain the alignment and width of the walkways.
- Retain the granite curb around the traffic island.
- Discourage pedestrian movement across 17th Street SW at unofficial crossings by placing temporary post-and-chain fencing along the curb at locations where thinning lawn indicates social trail use. Or, create a paved walkway and crosswalk along pedestrian desire lines if the crossing design can meet safety standards.
- Consider creating a second Independence Avenue SW crossing at the eastern side of the memorial triangle to enhance pedestrian connections to the basin and broader commemorative landscape.

Small-scale Features

- Retain the low concrete bollard and metal chain barrier on the south side of the memorial. Reset the bollards as needed to ensure they remain vertically upright. Repair or replace the materials in kind as required.
- Retain National Park Service standard benches and trash receptacles along the walkways surrounding the memorial. Repair or replace these features in kind as required.
- Minimize the addition of new small-scale features around the memorial.
- Consider relocating spot lights to less obtrusive locations.
- Consider relocating the interpretive wayside exhibit about John Paul Jones to a new location with better access to the memorial, such as near

the sidewalk on the west side of 17th Street SW or the north side of Independence Avenue SW.

George Mason Memorial

The design of the George Mason Memorial recalls its history as a garden landscape with an intimate space, colorful plantings, low trimmed hedges, site furnishings, and a human-scaled pergola with a seated statue. The centerpiece of the design, Fountain No. 4, is simple in form and small in scale. The memorial landscape retains views to other larger features in the landscape, such as the Inlet Bridge and Washington Monument. Condition issues include the deterioration and damage of the stone retaining walls from skateboards, lawn mowers, or other uses, and thinning garden beds and lawns.

The George Mason Memorial is a relatively new memorial and has undergone recent rehabilitation work; as such, its overall current condition is good. Rehabilitation is intended to perpetuate the designed character of the memorial by reinforcing its garden qualities, materials, and scale, and preserving features, such as the statue and inscription walls, that commemorate Founding Father George Mason. Retaining the balance between the memorial's overall sense of enclosure with defined views in and out of the space is an important treatment consideration.

Land use

- Continue to use the memorial landscape for commemorative activities.

Spatial Organization

- Preserve the historic garden character and human scale of the memorial landscape.
- Preserve the circular core space, centered on Fountain No. 4 and defined by hedges, other ornamental vegetation, and the pergola on its perimeter.
- Preserve the memorial's pedestrian entrance corridor and its spatial alignment with the Inlet Bridge and George Mason statue.

Constructed Water Features

- Maintain the recently rehabilitated Fountain No. 4 in working order. Ensure the water remains clean and free of algae and other contaminants and that the fountain functions as designed, with a low circular jet and spray.

Buildings and Structures

- Preserve and protect the pergola structure with its accompanying stone benches and inscription walls.
- Maintain the statue of George Mason and its stone bench base under the supervision of art or architectural conservators specializing in bronze sculpture and stone work.

Figure 110. Damage on the retaining wall.

(Source: AECOM, 2018)

- Retain the low inscribed curved stone retaining wall at the memorial entrance near the Inlet Bridge. Repair the marks and gouges on the wall. Attempt to protect the wall from further damage without adding anti-skateboard guards or other devices to the wall (Figure 110).
- Repair the inscriptions as needed to maintain their longevity and legibility.
- Avoid adding new structures to the memorial landscape.

Views and Vistas

- Consider retaining the view to the Washington Monument from the central Fountain No. 4 landscape. Maintain this open view by removing taller vegetation such as canopy or street trees from the corridor.

Vegetation

- Retain and maintain healthy historic trees, shrubs, lawn, and hedges within the memorial landscape.
- Retain the formal, geometrically arranged herbaceous garden beds, including the segmented radial beds around Fountain No. 4 and the radial beds outside the central walkway. Replace the herbaceous plantings seasonally, or as necessary, following the memorial's original design intent.
- Retain and replenish as required the evergreen and deciduous trees and shrubs on the steep embankment southeast of the memorial to provide spatial separation and a visual screen from the roadway above.
- Retain and maintain hedges with a crisp trimmed character. Fill hedge gaps with shrubs matching the dominant species. If the shrubs become misshapen, oversized, or over mature, replace them all at one time to preserve the consistent size and character of the planting.

- Replace vegetation in kind as required, matching the historic planting design for the memorial landscape.
- Maintain lawn according to the general vegetation guidelines. Ensure a neat character for the lawn by maintaining a smooth green even surface and trimmed edges along all paved surfaces.

Circulation Features

- Retain and maintain the scored concrete walkways at the memorial entrance and around the fountain. Retain their alignment and width.
- Retain the wedge shaped pavement with radial bands of stone pavers between the fountain walkway and pergola. Replace damaged stone pavers and joint material in kind, retaining the historic paver pattern, color, size, and finish.

Small-scale Features

- Retain the Washington Globe lights in their evenly spaced radial arrangement around the central memorial landscape. Retain other lights to illuminate the memorial at night.
- Retain other small-scale features such as interpretive exhibits and benches.
- Avoid the introduction of other small-scale features in the landscape.

Franklin Delano Roosevelt and Martin Luther King, Jr. Memorials

Although this CLR does not provide detailed treatment guidance for these memorials, it does identify opportunities to create enhanced visitor access and improved path connections to the commemorative landscapes. Currently, the pedestrian connections between these memorials are not clearly understood by visitors, who often use social trails from the adjacent bus stops to gain access to and between the sites.

Circulation Features

- Retain the memorials' designed pedestrian connections to the basin walkway and adjacent streets/sidewalks (Figure 111).
- Coordinate memorial access and plaza treatment with the treatment of the sea wall, basin walkway, roadways, and other perimeter features.
    - If memorial landscapes require regrading or elevating in the future, retain the width and horizontal alignment of the memorials' paved areas and walkways if possible while adjusting their elevation to meet flush with other circulation systems. Adjust the related grading and elevation of memorial structures, such as retaining walls, as required to retain the overall plaza/access designs.
- Enhance the accessible routes from the basin walkway to the Franklin Delano Roosevelt Memorial by providing paved paths that are compatible with the character and design of the memorial landscape.
    - Consider removing the current asphalt paving.

Figure 111. One of three Franklin Delano Roosevelt Memorial access plaza areas at the basin walkway.

(Source: AECOM, 2018)

    - Consider creating accessible paved paths with scored concrete that matches National Park Service standard sidewalks or stone paving that matches the memorial plazas.
    - Ensure that accessible paths meet current federal guidelines for accessibility.
- Repair the granite sett crosswalk at the Martin Luther King, Jr. Memorial to ensure it meets accessibility standards.
- Prevent social trails from developing at bus stop locations near these memorials by retaining permanent post-and-chain fences along walkways and sidewalks. Alternately, consider creating new designed accessible walkway connections between the bus stop zone and the basin walkway.

Vegetation

- Ensure that overgrown vegetation between and around the memorials is properly pruned or replaced with compatible plantings to create a consistent historic character and provide ecological benefit.

Thomas Jefferson Memorial to White House Vista

The vista connects two nationally important historic buildings: the White House and Thomas Jefferson Memorial along a nearly one mile long corridor. The corridor is intended to be 150 feet wide, but is currently almost half that width (Figure 112). Approximately ten large elms, sugar maples, and Norway maples and many smaller cherry trees grow within the vista corridor, which also contains incompatible vehicular parking and small-scale features such as signs, trash and recycling receptacles.

While the White House is visible from the north plaza and upper terraces of the Thomas Jefferson Memorial, tree growth encroaches on the vista. Parked cars and other features within the corridor are particularly visible in winter when trees are bare. Rehabilitation guidelines suggest options for reestablishing the spatial and visual integrity of the corridor and enhancing its historic character while protecting other features such as circulation systems and cherry trees.

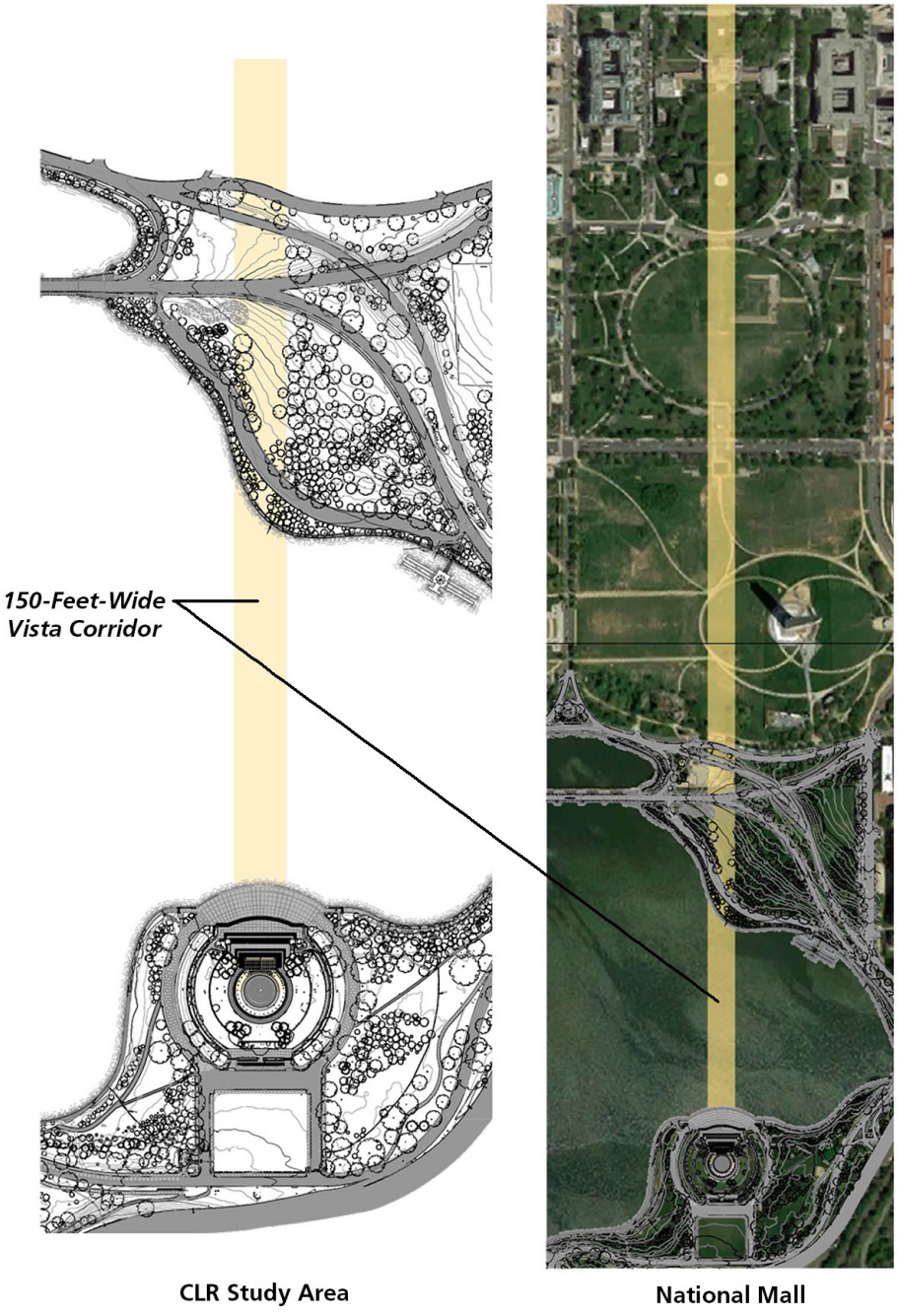


Figure 112. White House vista corridor at two scales.

(Source: National Park Service, Historic American Landscapes Survey and Google Earth aerial photograph.)

- Preserve the historic vista between the Thomas Jefferson Memorial and the White House along the major north/south cross axis of the National Mall.
- Reestablish the 150-feet-wide vista corridor between these two historic buildings.
    - Coordinate rehabilitation along the entire vista corridor—within and outside the study area.
    - Consider removing selected mature canopy trees within the study area section of the vista corridor. Or, consider undertaking selective removal of large branches encroaching on the vista if the branch trimming can be accomplished without risking the health or appropriate character of the tree. Replace removed trees with lawn. Do not replace trees removed from the vista corridor.
    - Consider retaining the lower height cherry trees within the corridor to screen existing parking. If the parking lot is redesigned in the future to limit its impact on the vista, consider allowing the existing cherry trees to mature and be removed as required without replacing them.
    - Remove or relocate incompatible small-scale features, such as bright blue recycling containers, fences, or regulatory signs, from the corridor.
- Consider interpreting the vista with wayside exhibits or some other unobtrusive media along the edge of the corridor, for example, along a sidewalk at Independence Avenue SW.

MANAGEMENT ZONE 4

Circulation systems, Kutz Bridge, Independence Avenue Overpass Bridge, 15th Street Bridge, commemorative features, recreational spaces, the Floral Library and other vegetation

Rehabilitation concept and strategies

Like the other management zones, this landscape has changed over time but retains important historic systems and spaces. Many of the features within the landscape fulfill the historic recreational goals for the park by providing places for active and passive recreation, such as ball fields, tree lined paths, and gardens. This management zone also contains visitor amenities and open spaces that host civic events. The transportation demands on the landscape are evident through the use of complex multi-modal circulation systems and features such as busy urban roads, walkways, bike lanes, tour bus stops, and parking.

The intent of rehabilitation in this zone is to carefully balance multiple land uses while preserving and protecting related historic structures, spaces, and features. Open areas may be able to absorb limited new program, such as enhanced amenities or new athletic facilities required to serve visitors, while protecting the open space needs of the park. For instance, providing additional interconnected

universal access to historic features such as the Floral Library and other resources could enhance visitors' enjoyment and understanding of the landscape.

The landscape in this management zone may also help provide a compatible and integrated flood protection function without disrupting the important historic land uses described above. Ample lawn space in this zone creates the opportunity to install storm water collection and infiltration as part of a compatible "blue-green" infrastructure system, with small or large multi-use retention areas, berms for flood protection, or even engineered bermed levees. Paved areas, such as the parking lot near Maine Avenue SW, could utilize porous pavement to mitigate storm water runoff and could provide a location for underground water storage. The planning for compatible new storm water management and flood protection infrastructure must be carefully coordinated with related agencies and with the full understanding of subsurface conditions, including soil profiles, water tables, and the location of underground utilities.

Land Use and Spatial Organization

- Preserve the transportation, recreation, special event, and commemorative land uses within this zone.
- Preserve open, multi-use areas with sufficient space to host large public events or enable civic activities, such as the ball fields or other appropriate areas. Protect the condition of these open areas by scheduling recovery periods for the landscape after major events and other landscape maintenance activities described in the *Operations and Maintenance Manual*.
- Update active recreational facilities, such as play fields and informal recreation areas, as appropriate to meet the most current applicable standards for athletic facilities. Adjust the location of these facilities within their open spaces as needed to maximize their availability for recreation users.
- Preserve passive recreational uses of the landscape by retaining unprogrammed space with supporting facilities, such as paths and benches.
- Continue to host the National Cherry Blossom Festival and related programming, concentrating intensive festival uses on paved surfaces (Figure 113).
- Identify appropriate locations for potential new uses, including smaller visitor facilities such as comfort stations, concessions, interpretive kiosks, and others. Ensure the addition of new facilities and features reinforces the landscape's overall historic character and organization and does not impair the integrity of existing historic features.
    - Ensure that proposed new visitor facilities are located near convenient gathering places or pedestrian thresholds into the landscape, with accompanying visitor support features such as wayfinding signs or bike racks. Ensure that new facilities meet National Park Service design standards.

Figure 113. Festival activities at the paved parking area.

(Source: AECOM, 2019

- Identify opportunities to integrate ecologically-based or structural storm water management and flood mitigation features into this management zone. Consider options such as small bioretention facilities, underground water storage, permeable paving, reduction of impervious surfaces, or other storm water management and flood mitigation uses that are compatible with the character of the historic landscape. Consider integrating these types of new features into open spaces with few other land use conflicts, such as road medians. Interpret these interventions for the visiting public.
- Minimize the use of medians and other open space for construction staging areas or maintenance. Ensure that construction fencing is compatible with the landscape and that all equipment and material is properly screened from public view.

Views and Vistas

- Preserve open panoramic views to the Potomac River and basin and park views along Independence Avenue SW. Avoid the introduction of incompatible features within these view areas.
- Retain the balance of hollies and other screening vegetation with open lawn to define views across the landscape.

Buildings and Structures

- Preserve and maintain the Kutz Bridge and its integrated circulation systems, lights, railings, abutments, other structural features. Minimize changes to the bridge to those required for critical safety or functional upgrades. Undertake repairs to historic components of the bridge as required to preserve their longevity and function. Retain the bridge's historic stone, concrete, and metal materials to the extent possible; repair them as needed, matching the historic character. Ensure any new features added to the bridge are compatible with its historic character.
- Preserve, repair, and maintain the Independence Avenue Overpass Bridge and the 15th Street Bridge based on a structural analysis and condition

assessment undertaken by engineers experienced with historic bridge structures. Undertake design updates as required to meet codes or other safety and accessibility requirements. Protect and maintain historic stonework, concrete, and railings.

- Ensure that new visitor facilities, such as restrooms, kiosks, or other concession buildings are small in scale, compatible in character, and located to minimize their impact on the historic landscape. Avoid the introduction of large, visually obtrusive structures in the landscape.
- Consider replacing the current concession kiosk near the paddle boat rental facility with a new compatible multi-purpose visitor facility that meets National Park Service design standards.
- Work with the US Army Corps of Engineers and Silver Jackets as needed to identify areas that may be suitable for landscape-integrated flood control structures along the Potomac River shoreline, coordinated with the introduction of new tidal/flood gates or "living shoreline" wetlands. Undertake comprehensive repair or other rehabilitation as required to protect the river shoreline.

Circulation

- Maintain roads within this management zone, including Ohio Drive SW, East and West Basin Drives SW, Independence Avenue SW, and Raoul Wallenberg Place SW. Retain granite curbs throughout the street system and replace them in kind as required. Consider realigning or consolidating Maine Avenue SW, as recommended in the *National Mall Plan*.
- Avoid the introduction of new roads within the cultural landscape.
- Repair crosswalks and curb ramps as needed to ensure the street and sidewalk system is fully accessible.
- Explore opportunities to integrate safe designated bicycle lanes into asphalt paved road corridors. Consider delineating bicycle lanes or other multi-modal circulation space using removable or reversible techniques such as painted lanes.
- Preserve and maintain sidewalks. Retain the sidewalks' current width; avoid widening sidewalks if doing so conflicts with street tree preservation.
- Retain Rock Creek Trail, adjusting its design over time to meet the most current multi-use trail standards.
- Consider undertaking rehabilitation of the parking to reduce its impermeable surfaces and incompatibility with the White House vista. Consider replacing asphalt paving in the parking lot with pervious paving or permeable pavers to improve storm water infiltration while providing space for special events. Minimize the visual impact of parked cars on the vista by removing selected parking spaces within the vista corridor or other options. Avoid the addition of new vehicular off-street parking facilities within this zone.
- Place new bicycle or scooter parking in this zone if required. Place new parking facilities near established routes for these modes of traffic, avoiding smaller park paths and walkways.
- Discourage the creation and use of social trails. Block social trails with temporary fencing. Alternately, consider replacing selected social trails

with permanent accessible paths or sidewalks meeting National Park Service standards. Ensure new permanent trails provide connectivity to existing circulation systems.

- Consider creating a compatible paved walkway system through the Floral Library to enhance visitor access to this resource. Design new paths so that they follow the general alignment of current circulation spaces and do not alter the garden bed layout. Ensure paths meet accessibility standards. Connect the garden paths to the adjacent sidewalk for easy visitor access.

Vegetation

- Manage lawn, street trees, and other park vegetation according to the general guidelines for vegetation listed above.
- Explore options for replacing over-mature vegetation with native plants that are compatible with the historic character of the existing vegetation.
- Avoid adding shrubs to the landscape to retain open pedestrian-level views through the park.
- Evaluate options for adding storm water management capacity to lawn and other planting areas. For example, consider creating micro-depressions in lawn areas, with new water tolerant turf or low growing herbaceous plants as the ground cover. Ensure proposed plantings perpetuate the historic open spatial character of the landscape.
- Consider pruning holly trees and other dense vegetation to provide additional space and light at ground level.
- Preserve the Floral Library as a changing collection of herbaceous garden plants. Retain the historic design of small planting beds and curving walkways, with the same size and number of beds. Consider updating the Floral Library plant collection to add an ecological function to its educational and beautification program. For example, provide a collection of native rain garden plants in slightly depressed mulched beds within the existing library framework. Perpetuate the educational mission of the library by labeling plants in each bed and providing other explanatory information about the plants' use.

Small-scale Features

- Follow the general management guidelines for small-scale features described above.
- Retain and maintain historic plaques as needed.
- Retain or update other signs and exhibits as needed according to current National Park Service standards.
- Retain and maintain the metal guardrails on bridges and overlooks. Repair railings as needed, retaining or matching historic materials.
    - Update railings as required to meet safety and accessibility codes, using designs that are compatible with the historic character of the historic railings.
- Minimize the placement of small-scale features, such as trash receptacles, within important viewsheds or designed open spaces.
- Retain and maintain the Twin-Twenty Globe, Washington Globe, and

Gooseneck street lights in their current locations. If additional or replacement street lights are required, provide new lights meeting these design standards. Match the light type and placement pattern currently used along the streets. Avoid the introduction of tall highway lights or other incompatible lighting. Consider updating the lighting fixtures to meet current standards for sustainability and safety as required, while retaining the historic characteristics of the light.

- Retain and maintain the Kutz Bridge lights, replacing them in kind as required.

FUTURE RESEARCH

New studies may provide additional historic context, analysis, general planning, and treatment guidance for the landscape's resources. National Park Service staff identified the following future research needs for the Tidal Basin landscape:

- Context study for the 1960s Beautification movement
- Individual cultural landscapes inventories for the Tidal Basin landscape and the John Paul Jones, Franklin Delano Roosevelt, George Mason, and Martin Luther King, Jr. Memorials
- Administrative histories for the Thomas Jefferson, Franklin Delano Roosevelt, George Mason, and Martin Luther King, Jr. Memorials
- Cultural landscape reports for the Thomas Jefferson, John Paul Jones, Franklin Delano Roosevelt, George Mason, and Martin Luther King, Jr. Memorials
- Historic structure report and updated National Register of Historic Places nomination for the Thomas Jefferson Memorial
- Tidal Basin master plan (scoping underway)
- Historic American Building Surveys and National Register of Historic Places nominations for John Paul Jones, Franklin Delano Roosevelt, George Mason, and Martin Luther King, Jr. Memorials; historic resource studies for all (could be combined)
- Vegetation studies, addressing compacted soils and investigating wet soil-tolerant cherry tree cultivars
- Tidal Basin sediment accretion study/dredging operations plan (US Army Corps of Engineers and National Park Service)
- Tidal Basin gates repair plan (Army Corps of Engineers and National Park Service)
- Tidal Basin flooding projections and flood control plan (in coordination with National Park Service Dam Safety Program, Silver Jackets Interagency Committee, and US Army Corps of Engineers)

References

BIBLIOGRAPHY

ArchDaily
2012 *Martin Luther King Jr. Memorial/ROMA Design Group*. Accessed online at https://www.archdaily.com/200438/martin-luther-king-jr-memorial-roma-design-group

ArchNewsNow
2002 *George Mason National Memorial by Rhodeside & Harwell Incorporated: A new memorial on the National Mall honors an American patriot and restores historic park grounds*. Accessed online at http://www.archnewsnow.com/features/Feature13.htm

The Cultural Landscape Foundation
ND *Franklin Delano Roosevelt Memorial*. Accessed online at https://tclf.org/landscapes/franklin-delano-roosevelt-memorial

Dejong, Benjamin et al.
2015 "Pleistocene relative sea levels in the Chesapeake Bay region and their implications for the next century." *GSA Today*, v. 25, no. 8, doi: 10.1130/GSATG223A.1.

Dewberry & Davis
2011 *Phased Rehabilitation Plan for Historic Washington Sea wall; Task Five – Initial Rehabilitation Plan, East Potomac Park, West Potomac Park, and Tidal Basin*. National Mall and Memorial Parks. Prepared for the National Park Service.

District of Columbia
2016 *Climate Ready DC: The District of Columbia's Plan to Adapt to a Changing Climate*. Accessed online at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/CRDC-Report-FINAL-Web.pdf

District Department of Transportation
2018a *Capital Bikeshare Celebrates 20 Million Trips and Highest Daily Ridership Record*. DDOT Press Release.
2018b *District of Columbia Bicycle Map*. Accessed online at https://ddot.dc.gov/sites/default/files/dc/sites/ddot/page_content/attachments/BikeMap_2018_UPDATED%206118%28sidewalk%29%201.pdf

Evening Star
1910 *Working Model Finished*, July 24
1912 *Praise Naval Hero*, April 18
1923 *Park Estimates*, October 18
1940 *Plans Mapped for Navy Day Observance*, October 26

Goff, Jenna
2015 "Cooling off in the Tidal Basin." *Boundary Stones*, accessed online at https://blogs.weta.org/boundarystones/2015/07/21/cooling-tidal-basin

Histories of the National Mall, Roy Rosenzweig Center for History and New Media, George Mason University
2019a *$1,795,847 District Deficiency Measure is Now Up to Senate*. Accessed online at http://mallhistory.org/items/show/174
2019b *Carving an Inscription at the FDR Memorial*. Accessed online at http://mallhistory.org/items/show/506

2019c *Cherry Tree Protest at Jefferson Memorial Site*. Accessed online at http://mallhistory.org/items/show/208

2019d *District Swimmers Race as Beach Opens*. Accessed online at http://mallhistory.org/items/show/170

2019e *Early Cherry Blossom Festival*. Accessed online at http://mallhistory.org/items/show/480

2019f *First Air Flight Marker*. Accessed online at http://mallhistory.org/items/show/28

2019g *Floral Library*. Accessed online at http://mallhistory.org/items/show/432

2019h *Franklin Delano Roosevelt Memorial*. Accessed online at http://mallhistory.org/items/show/27

2019i *Japanese Lantern*. Accessed online at http://mallhistory.org/items/show/481

2019j *Original Cherry Trees*. Accessed online at http://mallhistory.org/items/show/24

2019k *Potomac Flats Reclaimed*. Accessed online at http://mallhistory.org/items/show/326

2019l *Tidal Basin Beach Officially Opens*. Accessed online at http://mallhistory.org/items/show/211

2019m *Tidal Basin Paddle Boats*. Accessed online at http://mallhistory.org/items/show/494

2019n *Where on the Mall have People Played Sports?* Accessed online at http://mallhistory.org/explorations/show/sports

Interagency Initiative for National Mall Road Improvement Program

2013 *Streetscape Manual*, Roadway Treatment Classifications Map.

KressCox Associates

1986 *Historic Structures Report: Tidal Basin Inlet Bridge, Washington, DC*. Report prepared for the National Park Service

National Park Service

1976 *The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. National Park Service, Technical Preservation Services.

1978 *National Register of Historic Places Nomination: American Revolutionary Statuary*. Prepared by Gary Scott, Program Assistant, National Capital Region.

1981 *National Register of Historic Places Nomination: Thomas Jefferson Memorial*. National Capital Region.

1983 *The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. National Park Service*, Technical Preservation Services.

1988 *Keeping it Clean: Removing Exterior Dirt, Paint, Stains, and Graffiti from Historic Masonry Buildings*, prepared by Anne E. Grimmer. Accessed online at https://www.nps.gov/tps/how-to-preserve/preservedocs/Keeping-It-Clean.pdf.

1994a *National Register of Historic Places Nomination: L'Enfant Plan of the City of Washington, District of Columbia*. Prepared by Sara Amy Leach and Elizabeth Barthold, HABS Historians

1994b *Preservation Brief 36: Protecting Cultural Landscapes, Planning, Treatment, and Management of Historic Landscapes*. National Park Service, Preservation Assistance.

1996a *Landscape Overview, Thomas Jefferson Memorial*. Department of the Interior, National Park Service, Denver Service Center.

1996b *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. National Park Service, Technical Preservation Services.

1998a *Director's Order 28, Cultural Resource Management*. NPS Office of Policy.

1998b *A Guide to Cultural Landscape Reports*. Cultural Resource Stewardship and Partnerships Park Historic Structures and Cultural Landscapes Program. Prepared by Robert Page, Cathy Gilbert, and Susan Dolan.

1999 *Cultural Landscape Report, West Potomac Park, Lincoln Memorial Grounds, National Capital Parks Central*. Department of Interior, National Park Service, National Capital Region, Cultural Landscape Program.

2000 *Historic American Engineering Record, Tidal Reservoir DC-09*. NPS Park Roads and Bridges Recording Project. Prepared by Jill Patricia Caouette

2001 *National Register of Historic Places Nomination: East and West Potomac Parks Historic District, Update*. Update prepared by Laura L. Bobeczko and Judith Robinson. Original prepared by Helen Dillon, 1973.

2004a *Director's Order 28A, Archeology.* NPS Office of Policy.

2004b *Cultural Landscape Inventory, Thomas Jefferson Memorial*. National Capital Region, Cultural Landscape Program.

2007a *Best Management Practices Used at Designed Landscapes in Washington, DC, a Background Report for the National Mall Plan*. Department of the Interior, National Park Service, National Mall and Pennsylvania Avenue National Historic Park.

2007b *Best Management Practices Used at Urban Parks in National and International Locations, a Background Report for the National Mall Plan*. National Parks Conservation Association for the National Mall and Memorial Parks.

2010a *Final National Mall Plan/Environmental Impact Statement*. National Mall and Memorial Parks.

2010b *National Mall Plan: Summary. Enriching our American Experience Envisioning a New Future*. National Mall and Memorial Parks.

2010c *Cultural Landscape Inventory, President's Park South, The White House (President's Park)*. National Park Service, National Capital Region, Cultural Landscape Program.

2011a *The Secretary of the Interior's Standards and Guidelines on Sustainability*. National Park Service, Technical Preservation Services.

2012 *Cherry Tree Rebellion,* accessed online at https://www.nps.gov/nama/blogs/cherry-tree-rebellion.htm

2013 "Roadway Treatment Classifications Map." *Streetscape Manual*, Interagency Initiative for National Mall Road Improvement Program. Second Revision.

2015a *Cultural Landscape Inventory* (update), Washington Monument. National Park Service, National Capital Region, Cultural Landscape Program.

2015b *Resilient Systems and Cultural Landscape Management*. Accessed online at https://www.nps.gov/subjects/culturallandscapes/resilientsystems_management.htm. Prepared byChris Beagan and Susan Dolan.

2016 *National Register of Historic Places Nomination: National Mall Historic District*. Update prepared by Judith Robinson in 2016. Original prepared in 1981.

2017 *Foundation Document, National Mall and Memorial Parks*. Department of Interior, National Park Service, National Mall and Memorial Parks

2018a *Historic American Landscapes Survey, Tidal Basin. Historic American Landscapes Survey DC-59*. Prepared by Christianson, Justine and Mattea Sanders

2018b *Operations and Maintenance Manual: Turf Management and Event Operations; Guide for the National Mall and Memorial Parks*

2018c *Native Peoples of Washington, DC*. Accessed online at https://www.nps.gov/articles/native-peoples-of-washington-dc.htm

NDa *Jefferson Memorial Vehicular Barrier Design Project Summary*, 2009-2015

NDb *National Mall & Memorial Parks Little-Known Facts*, National Capital Region Office of Communications

NDc *Cherry Trees: A First Lady's Legacy*. Accessed online at https://www.nps.gov/articles/cherry-trees-a-first-lady-legacy.htm

NDd *History of the Cherry Trees*, accessed online at http://www.nps.gov/subjects/cherryblossom/history-of-the-cherry-trees.htm

NDe *Thomas Jefferson Memorial*, accessed online at https://www.nps.gov/articles/600004.htm#4/34.45/-98.53

NDf *Thomas Jefferson Memorial Construction*, accessed online at https://www.nps.gov/thje/learn/historyculture/memorialconstruction.htm

Steinhauer, Jason
2015 *The Indians' Capital City: Native Histories of Washington, DC*. Accessed online at https://blogs.loc.gov/kluge/2015/03/the-indians-capital-city-native-histories-of-washington-d-c/

Tavernise, Sabrina
2011 "A Dream Fulfilled, Martin Luther King Memorial Opens," *New York Times*. Accessed online at https://www.nytimes.com/2011/08/23/us/23mlk.html?_r=1&smid=fb-nytimes&WT.mc_id=US-SM-E-FB-SM-LIN-ADF-082311-NYT-NA&WT.mc_ev=click

United States Commission of Fine Arts
2006 *Designing the Nation's Capital: The 1901 Plan for Washington, DC*. Sue Kohler and Pamela Scott, editors.

United States Congress
1790 Residence Act

1808 An Act authorizing the erection of a bridge over the river Potomac within the District of Columbia. 10th Congress Session I, Chapter 15. Accessed online at https://www.loc.gov/law/help/statutes-at-large/10th-congress/c10.pdf

1979 Archeological Resources Protection Act (ARPA), Public Law 96-95; 16 USC. 470aa-mm, as Amended.

United States Department of Transportation
1984 "Plans for Proposed Project 32B1, Bridge Deck, Approach Repairs, and Other Work, Tidal Basin Bridge," Federal Highway Administration, Eastern Direct Federal Division

United States Geological Survey
ND Feature Detail Report, Washington Channel. Accessed online at https://geonames.usgs.gov

War Memorials Trust
2013 *Conservation: Bronze*. Accessed online at http://www.warmemorials.org/uploads/publications/124.pdf

2014 *The Conservation, Repair, and Management of War Memorials*. Accessed online at https://historicengland.org.uk/images-books/publications/conservation-repair-management-war-memorials/heag006-war-memorials/

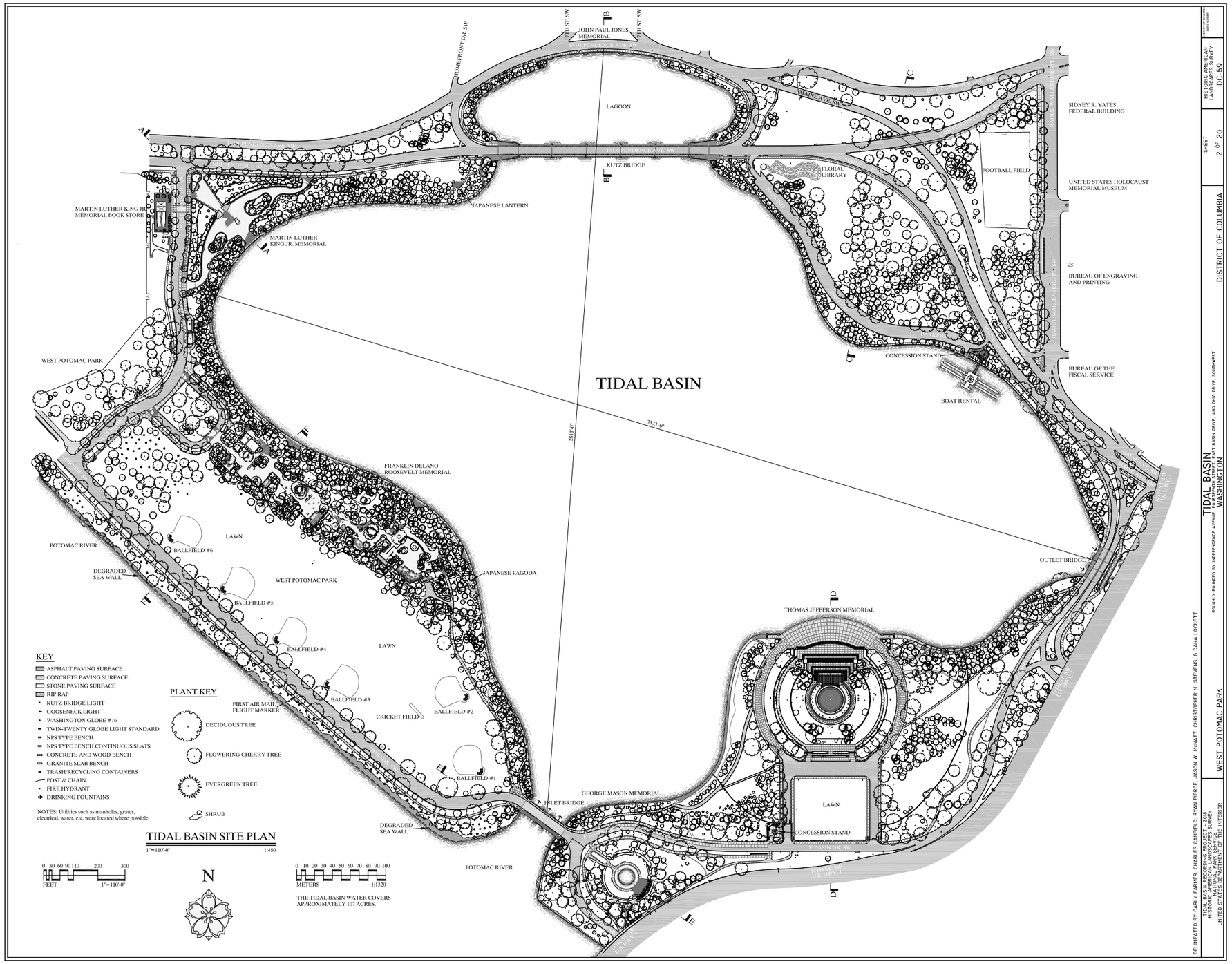
Washington Post
2015 "The National Mall's Immortal Reflection." Accessed online at https://www.washingtonpost.com/lifestyle/magazine/the-nationals-mall-immortal-reflection/2015/09/15/9544c86a-3d10-11e5-b3ac-8a79bc44e5e2_story.html?utm_term=.4836f0425ed5

Appendices

Appendix A

HISTORIC AMERICAN LANDSCAPES SURVEY

Tidal Basin DC-59, Selected Drawings


TIDAL BASIN
JOHN PAUL JONES MEMORIAL
7TH ST. SW
HOMEFRONT DR. SW
INDEPENDENCE AVE. SW
LAGOON
WAINE AVE. SW
SIDNEY R. YATES FEDERAL BUILDING
KUTZ BRIDGE
FLORAL LIBRARY
FOOTBALL FIELD
UNITED STATES HOLOCAUST MEMORIAL MUSEUM
MARTIN LUTHER KING JR. MEMORIAL BOOK STORE
JAPANESE LANTERN
MARTIN LUTHER KING JR. MEMORIAL
BUREAU OF ENGRAVING AND PRINTING
WEST POTOMAC PARK
CONCESSION STAND
BUREAU OF THE FISCAL SERVICE
BOAT RENTAL
3372'-0"
2811'-0"
FRANKLIN DELANO ROOSEVELT MEMORIAL
OUTLET BRIDGE
POTOMAC RIVER
LAWN
BALLFIELD #6
DEGRADED SEA WALL
WEST POTOMAC PARK
JAPANESE PAGODA
BALLFIELD #5
BALLFIELD #4
LAWN
THOMAS JEFFERSON MEMORIAL
FIRST AIR MAIL FLIGHT MARKER
BALLFIELD #3
CRICKET FIELD
BALLFIELD #2
BALLFIELD #1
GEORGE MASON MEMORIAL
INLET BRIDGE
LAWN
CONCESSION STAND
DEGRADED SEA WALL
POTOMAC RIVER
KEY
ASPHALT PAVING SURFACE
CONCRETE PAVING SURFACE
STONE PAVING SURFACE
RIP RAP
KUTZ BRIDGE LIGHT
GOOSENECK LIGHT
WASHINGTON GLOBE #16
TWIN-TWENTY GLOBE LIGHT STANDARD
NPS TYPE BENCH
NPS TYPE BENCH CONTINUOUS SLATS
CONCRETE AND WOOD BENCH
GRANITE SLAB BENCH
TRASH/RECYCLING CONTAINERS
POST & CHAIN
FIRE HYDRANT
DRINKING FOUNTAINS
NOTES: Utilities such as manholes, grates, electrical, water, etc. were located where possible.
PLANT KEY
DECIDUOUS TREE
FLOWERING CHERRY TREE
EVERGREEN TREE
SHRUB
TIDAL BASIN SITE PLAN
1"=110'-0" 1:480
0 30 60 90 110 200 300
FEET 1"=110'-0"
N
0 10 20 30 40 50 60 70 80 90 100
METERS 1:1320
THE TIDAL BASIN WATER COVERS APPROXIMATELY 107 ACRES.
DELINEATED BY CARLY FARMER, CHARLES CAMFIELD, RYAN PIERCE, JASON W. MONATT, CHRISTOPHER M. STEVENS, & DANA LOCKETT
TIDAL BASIN RECORDING PROJECT, SUMMER 2004
HISTORIC AMERICAN LANDSCAPES SURVEY
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR
TIDAL BASIN
BOUNDED BY INDEPENDENCE AVENUE, 17TH ST., EAST BASIN DRIVE, AND OHIO DRIVE, SOUTHWEST
WASHINGTON, DISTRICT OF COLUMBIA
WEST POTOMAC PARK
SHEET 2 OF 20
HISTORIC AMERICAN LANDSCAPES SURVEY DC-59

Plant Key	Scientific Name	Common Name	Type
AB	*Abelia* spp.	Abelia	Shrub
AC	*Abies concolor*	White fir	Tree
AN	*Abies nordmanniana*	Nordmann fir	Tree
A	*Acer* spp.	Maple	Tree
AF	*Acer barbatum*	Florida maple	Tree
AP	*Acer palmatum*	Japanese maple	Tree
AO	*Acer platanoides*	Norway maple	Tree
AR	*Acer rubrum*	Red maple	Tree
AS	*Acer saccharum*	Sugar maple	Tree
AE	*Aesculus flava*	Yellow buckeye	Tree
AH	*Aesculus hippocastanum*	Horsechestnut	Tree
AV	*Aesculus parviflora*	Bottlebrush buckeye	Shrub
AL	*Alnus* spp.	Alder	Tree
AM	*Amalanchier* spp.	Serviceberry	Tree
BN	*Betula nigra*	River birch	Tree
B	*Buxus* spp.	Boxwood	Shrub
CA	*Carya* spp.	Hickory	Tree
CE	*Cedrus atlantica*	Atlas cedar	Tree
CD	*Cedrus deodara*	Deodar cedar	Tree
CJ	*Cercidiphyllum japonicum*	Katsura	Tree
CC	*Cercis canadensis*	Eastern redbud	Tree
CS	*Chaenomeles speciosa*	Flowering quince	Shrub
C	*Cornus* spp.	Dogwood	Tree
CO	*Cotoneaster* spp.	Cotoneaster	Shrub
CR	*Crataegus* spp.	Hawthorn	Tree
EP	*Elaeagnus pungens*	Thorny olive	Shrub
E	*Euonymus alatus*	Burning bush	Shrub
FS	*Fagus sylvatica*	European beech	Tree
FI	*Forsythia x intermedia*	Forsythia	Shrub
F	*Fraxinus* spp.	Ash	Tree
G	*Ginkgo biloba*	Ginkgo	Tree
GT	*Gleditsia triacanthos*	Honeylocust	Tree
HA	*Hamamelis* spp.	Witch hazel	Shrub
HE	*Hedera helix*	English ivy	Groundcover
H	*Hemerocallis* spp.	Daylily	Perennial
HP	*Hydrangea petiolaris*	Climbing hydrangea	Vine
HQ	*Hydrangea querquifolia*	Oakleaf hydrangea	Shrub
IC	*Ilex cornuta* 'Burfordii'	Burford holly	Shrub
IG	*Ilex glabra*	Inkberry	Shrub
IO	*Ilex opaca*	American holly	Tree
IV	*Ilex verticillata*	Winterberry	Shrub
IA	*Ilex x attenuata*	Foster's holly	Tree
I	*Iris sibirica*	Siberian iris	Perennial
IT	*Itea virginica*	Virginia sweetspire	Shrub
JN	*Jasminum nudiflorum*	Winter jasmine	Shrub
JU	*Juglans nigra*	Black walnut	Tree
JC	*Juniperus chinensis*	Juniper	Shrub
L	*Lagerstroemia indica*	Common crapemyrtle	Tree
LA	*Larix laricina*	Tamarack	Tree
LE	*Leucothoe axillaris*	Leucothoe	Shrub
LI	*Liquidambar styraciflua*	Sweetgum	Tree
LO	*Lonicera* spp.	Honeysuckle	Shrub
MA	*Magnolia* spp.	Magnolia	Tree
MG	*Magnolia grandiflora*	Southern magnolia	Tree
MT	*Magnolia stellata*	Star magnolia	Tree
MV	*Magnolia virginiana*	Sweetbay magnolia	Tree
MS	*Magnolia x soulangeana*	Saucer magnolia	Tree
M	*Malus* spp.	Crabapple	Tree
MO	*Morus* spp.	Mulberry	Tree
MP	*Myrica pensylvanica*	Northern bayberry	Shrub
O	*Osmanthus heterophyllus*	Holly olive	Shrub

Plant Key	Scientific Name	Common Name	Type
PT	*Pachysandra terminalis*	Japanese pachysandra	Groundcover
PH	*Phellodendron amurense*	Amur corktree	Tree
P	*Picea* spp.	Spruce	Tree
PP	*Picea pungens*	Black spruce	Tree
PI	*Pinus* spp.	Pine	Tree
PF	*Pinus flexilis*	Limber pine	Tree
PS	*Pinus strobus*	Eastern white pine	Tree
PA	*Platanus x acerifolia*	London plane	Tree
PD	*Populus deltoides*	Eastern cottonwood	Tree
○	*Prunus* spp.	Flowering cherry	Tree
PJ	*Prunus japonica*	Japanese bush cherry	Shrub
PL	*Prunus laurocerasus*	Cherry laurel	Shrub
PY	*Pyracantha* spp.	Pyracantha	Shrub
QA	*Quercus alba*	White oak	Tree
QN	*Quercus nigra*	Water oak	Tree
QP	*Quercus palustris*	Pin oak	Tree
QW	*Quercus phellos*	Willow oak	Tree
QC	*Quercus prinus*	Chestnut oak	Tree
QR	*Quercus rubra*	Northern red oak	Tree
QS	*Quercus shumardii*	Shumard red oak	Tree
R	*Rhododendron* spp.	Azalea	Shrub
RA	*Rhus aromatica*	Fragrant sumac	Shrub
RP	*Robinia pseudoacacia*	Black locust	Tree

Plant Key	Scientific Name	Common Name	Type
SS	*Salix x sepulcralis* Simonkai	Weeping willow	Tree
SJ	*Sophora japonica*	Japanese pagoda tree	Tree
S	*Spiraea* spp.	Spiraea	Shrub
T	*Taxus* spp.	Yew	Shrub
TA	*Tilia americana*	American basswood	Tree
TC	*Tilia cordata*	Littleleaf linden	Tree
TV	*Tilia x vulgaris*	Common linden	Tree
TS	*Tsuga canadensis*	Eastern hemlock	Tree
UA	*Ulmus americana*	American elm	Tree
UP	*Ulmus parvifolia*	Chinese elm	Tree
UR	*Ulmus rubra*	Slippery elm	Tree
VT	*Viburnum plicatum f. tomentosum*	Doublefile viburnum	Shrub
VP	*Viburnum prunifolium*	Blackhaw viburnum	Shrub
VR	*Viburnum rhytidophyllum*	Leatherleaf viburnum	Shrub
VM	*Vinca minor*	Periwinkle	Groundcover
W	*Wisteria* spp.	Wisteria	Vine
Z	*Zelkova serrata*	Japanese zelkova	Tree

PLANT KEY

DECIDUOUS TREE

FLOWERING CHERRY TREE

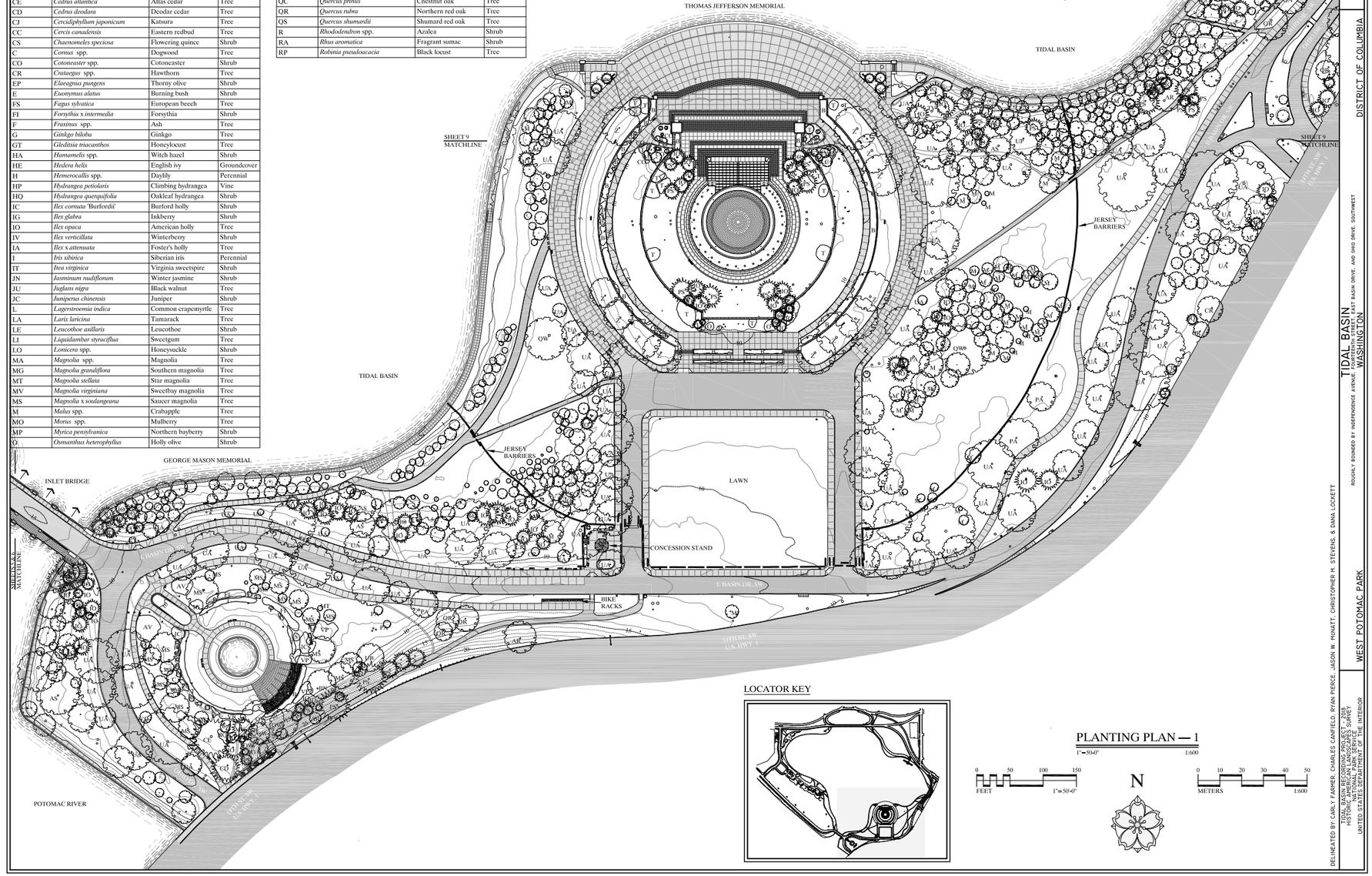
EVERGREEN TREE

SHRUB

KEY

- ASPHALT PAVING SURFACE
- CONCRETE PAVING SURFACE
- STONE PAVING SURFACE
- RIP RAP
- KUTZ BRIDGE LIGHT
- GOOSENECK LIGHT
- WASHINGTON GLOBE #16
- TWIN-TWENTY GLOBE LIGHT STANDARD
- NPS TYPE BENCH
- NPS TYPE BENCH CONTINUOUS SLATS
- CONCRETE AND WOOD BENCH
- GRANITE SLAB BENCH
- TRASH/RECYCLING CONTAINERS
- POST & CHAIN
- FIRE HYDRANT
- DRINKING FOUNTAINS

NOTES: Utilities such as manholes, grates, electrical, water, etc. were located where possible.



LOCATOR KEY

PLANTING PLAN — 1

1"=50-0" 1:600

0 50 100 150 FEET 1"=50-0"

N

0 10 20 30 40 50 METERS 1:600

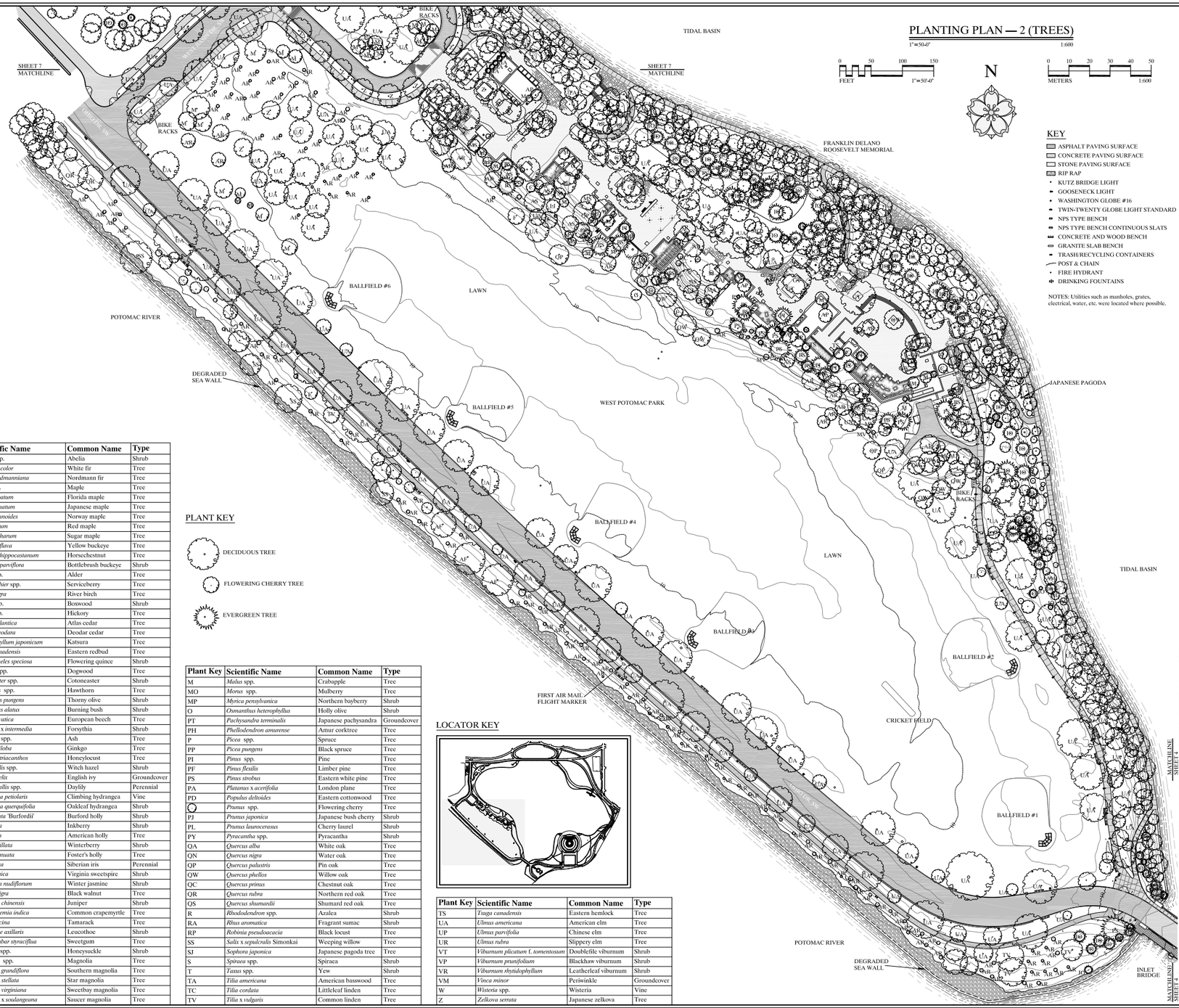
PLANTING PLAN — 2 (TREES)

1"=50'-0" 1:600

0 50 100 150 FEET 1"=50'-0"

0 10 20 30 40 50 METERS 1:500

N



KEY

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PLANT KEY

- DECIDUOUS TREE
- FLOWERING CHERRY TREE
- EVERGREEN TREE

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AP	*Acer palmatum*	Japanese maple	Tree
AO	*Acer platanoides*	Norway maple	Tree
AR	*Acer rubrum*	Red maple	Tree
AS	*Acer saccharum*	Sugar maple	Tree
AE	*Aesculus flava*	Yellow buckeye	Tree
AH	*Aesculus hippocastanum*	Horsechestnut	Tree
AV	*Aesculus parviflora*	Bottlebrush buckeye	Shrub
AL	*Alnus* spp.	Alder	Tree
AM	*Amalanchier* spp.	Serviceberry	Tree
BN	*Betula nigra*	River birch	Tree
B	*Buxus* spp.	Boxwood	Shrub
CA	*Carya* spp.	Hickory	Tree
CE	*Cedrus atlantica*	Atlas cedar	Tree
CD	*Cedrus deodara*	Deodar cedar	Tree
CJ	*Cercidiphyllum japonicum*	Katsura	Tree
CC	*Cercis canadensis*	Eastern redbud	Tree
CS	*Chuenomeles speciosa*	Flowering quince	Shrub
C	*Cornus* spp.	Dogwood	Tree
CO	*Cotoneaster* spp.	Cotoneaster	Shrub
CR	*Crataegus* spp.	Hawthorn	Tree
EP	*Elaeagnus pungens*	Thorny olive	Shrub
E	*Euonymus alatus*	Burning bush	Shrub
FS	*Fagus sylvatica*	European beech	Tree
FI	*Forsythia* x *intermedia*	Forsythia	Shrub
F	*Fraxinus* spp.	Ash	Tree
G	*Ginkgo biloba*	Ginkgo	Tree
GT	*Gleditsia triacanthos*	Honeylocust	Tree
HA	*Hamamelis* spp.	Witch hazel	Shrub
HE	*Hedera helix*	English ivy	Groundcover
H	*Hemerocallis* spp.	Daylily	Perennial
HP	*Hydrangea petiolaris*	Climbing hydrangea	Vine
HQ	*Hydrangea querquifolia*	Oakleaf hydrangea	Shrub
IC	*Ilex cornuta* 'Burfordii'	Burford holly	Shrub
IG	*Ilex glabra*	Inkberry	Shrub
IO	*Ilex opaca*	American holly	Tree
IV	*Ilex verticillata*	Winterberry	Shrub
IA	*Ilex* x *attenuata*	Foster's holly	Tree
I	*Iris sibirica*	Siberian iris	Perennial
IT	*Itea virginica*	Virginia sweetspire	Shrub
JN	*Jasminum nudiflorum*	Winter jasmine	Shrub
JU	*Juglans nigra*	Black walnut	Tree
JC	*Juniperus chinensis*	Juniper	Shrub
L	*Lagerstroemia indica*	Common crapemyrtle	Tree
LA	*Larix laricina*	Tamarack	Tree
LE	*Leucothoe axillaris*	Leucothoe	Shrub
LI	*Liquidambar styraciflua*	Sweetgum	Tree
LO	*Lonicera* spp.	Honeysuckle	Shrub
MA	*Magnolia* spp.	Magnolia	Tree
MG	*Magnolia grandiflora*	Southern magnolia	Tree
MT	*Magnolia stellata*	Star magnolia	Tree
MV	*Magnolia virginiana*	Sweetbay magnolia	Tree
MS	*Magnolia* x *soulangeana*	Saucer magnolia	Tree
M	*Malus* spp.	Crabapple	Tree
MO	*Morus* spp.	Mulberry	Tree
MP	*Myrica pensylvanica*	Northern bayberry	Shrub
O	*Osmanthus heterophyllus*	Holly olive	Shrub
PT	*Pachysandra terminalis*	Japanese pachysandra	Groundcover
PH	*Phelldendron amurense*	Amur corktree	Tree
P	*Picea* spp.	Spruce	Tree
PP	*Picea pungens*	Black spruce	Tree
PI	*Pinus* spp.	Pine	Tree
PF	*Pinus flexilis*	Limber pine	Tree
PS	*Pinus strobus*	Eastern white pine	Tree
PA	*Platanus* x *acerifolia*	London plane	Tree
PD	*Populus deltoides*	Eastern cottonwood	Tree
	Prunus spp.	Flowering cherry	Tree
PJ	*Prunus japonica*	Japanese bush cherry	Shrub
PL	*Prunus laurocerasus*	Cherry laurel	Shrub
PY	*Pyracantha* spp.	Pyracantha	Shrub
QA	*Quercus alba*	White oak	Tree
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R	*Rhododendron* spp.	Azalea	Shrub
RA	*Rhus aromatica*	Fragrant sumac	Shrub
RP	*Robinia pseudoacacia*	Black locust	Tree
SS	*Salix* x *sepulcralis* Simonkai	Weeping willow	Tree
SJ	*Sophora japonica*	Japanese pagoda tree	Tree
S	*Spiraea* spp.	Spiraea	Shrub
T	*Taxus* spp.	Yew	Shrub
TA	*Tilia americana*	American basswood	Tree
TC	*Tilia cordata*	Littleleaf linden	Tree
TV	*Tilia* x *vulgaris*	Common linden	Tree

LOCATOR KEY

Plant Key	Scientific Name	Common Name	Type
TS	*Tsuga canadensis*	Eastern hemlock	Tree
UA	*Ulmus americana*	American elm	Tree
UP	*Ulmus parvifolia*	Chinese elm	Tree
UR	*Ulmus rubra*	Slippery elm	Tree
VT	*Viburnum plicatum* f. *tomentosum*	Doublefile viburnum	Shrub
VP	*Viburnum prunifolium*	Blackhaw viburnum	Shrub
VR	*Viburnum rhytidophyllum*	Leatherleaf viburnum	Shrub
VM	*Vinca minor*	Periwinkle	Groundcover
W	*Wisteria* spp.	Wisteria	Vine
Z	*Zelkova serrata*	Japanese zelkova	Tree

HISTORIC AMERICAN LANDSCAPES SURVEY DC-59

SHEET 5 OF 20

DISTRICT OF COLUMBIA

WEST POTOMAC PARK

TIDAL BASIN
ROUGHLY BOUNDED BY INDEPENDENCE AVENUE, EAST BASIN DRIVE, AND OHIO DRIVE, SOUTHWEST
WASHINGTON
HISTORIC AMERICAN LANDSCAPES SURVEY
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

DELINEATED BY CARL F FARMER, CHARLES CANFIELD, RYAN PIERCE, JASON W. MONATT, CHRISTOPHER R. STEVENS, & DANA LOCKETT

PLANTING PLAN — 4

1" = 50'-0" 1:600

0 50 100 150 FEET 1" = 50'-0"

N

0 10 20 30 40 50 METERS 1:600

KEY

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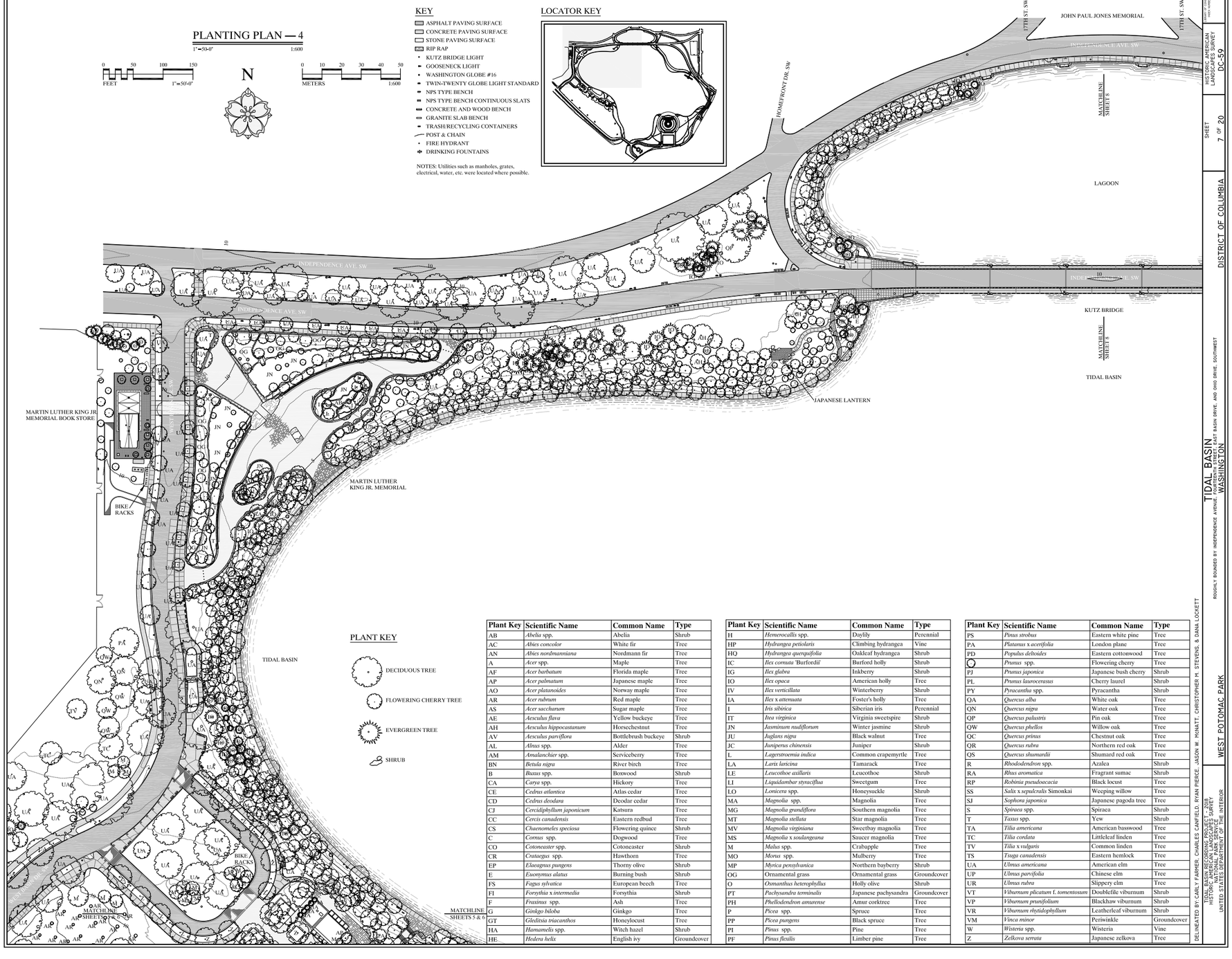

PLANT KEY

DECIDUOUS TREE

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WEST POTOMAC PARK

ROUGHLY BOUNDED BY INDEPENDENCE AVENUE, EAST BASIN DRIVE, AND OHIO DRIVE, SOUTHWEST

DISTRICT OF COLUMBIA

SHEET 7 OF 20

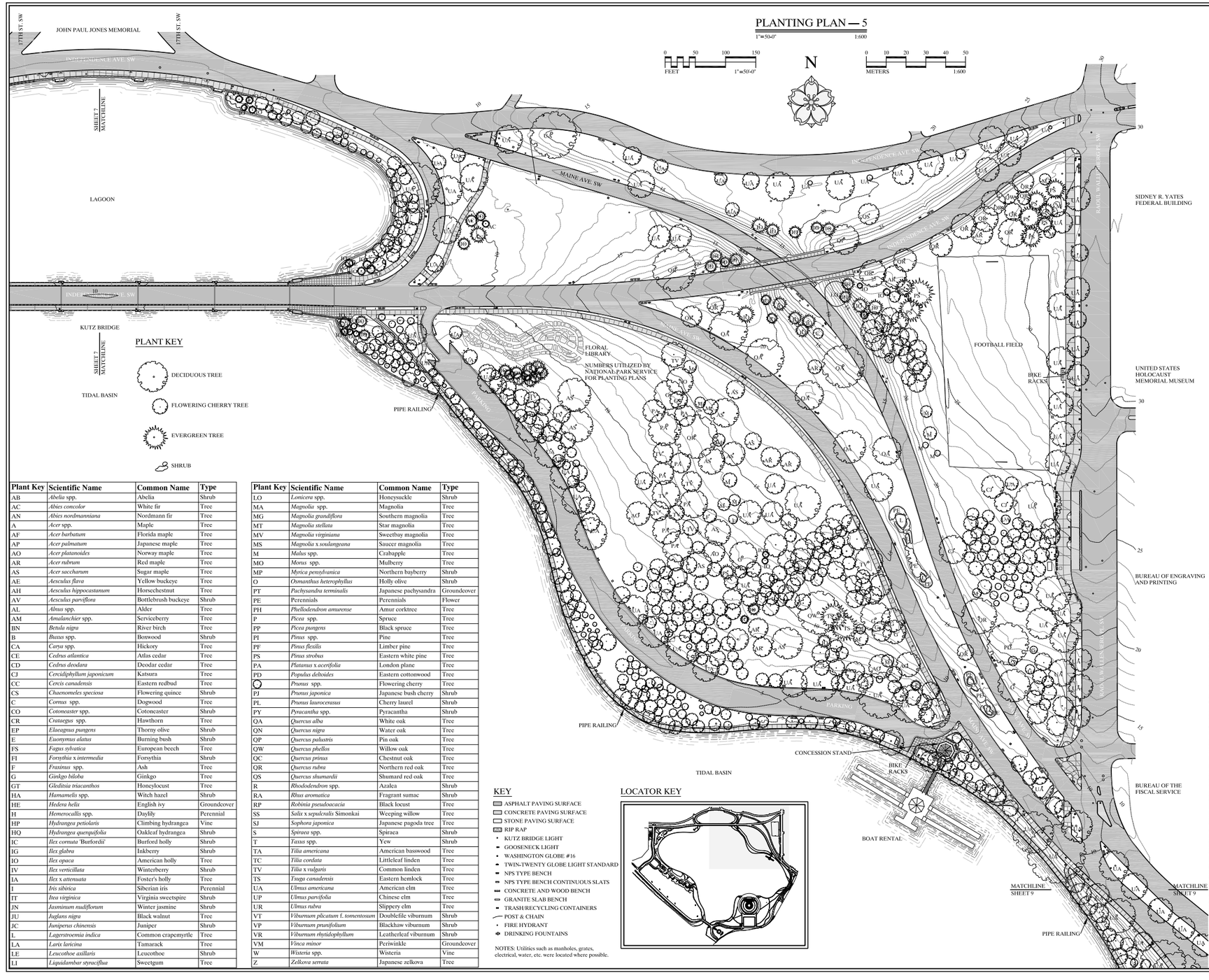
HISTORIC AMERICAN LANDSCAPES SURVEY DC-59

PHOTO # NUMBER

TIDAL BASIN
PLANTING PLAN — 4
WASHINGTON, D.C.

PLANTING PLAN — 5

1"=50'-0" 1:600



PLANT KEY

- DECIDUOUS TREE
- FLOWERING CHERRY TREE
- EVERGREEN TREE
- SHRUB

Plant Key	Scientific Name	Common Name	Type
AB	*Abelia* spp.	Abelia	Shrub
AC	*Abies concolor*	White fir	Tree
AN	*Abies nordmanniana*	Nordmann fir	Tree
A	*Acer* spp.	Maple	Tree
AF	*Acer barbatum*	Florida maple	Tree
AP	*Acer palmatum*	Japanese maple	Tree
AO	*Acer platanoides*	Norway maple	Tree
AR	*Acer rubrum*	Red maple	Tree
AS	*Acer saccharum*	Sugar maple	Tree
AE	*Aesculus flava*	Yellow buckeye	Tree
AH	*Aesculus hippocastanum*	Horsechestnut	Tree
AV	*Aesculus parviflora*	Bottlebrush buckeye	Shrub
AL	*Alnus* spp.	Alder	Tree
AM	*Amalanchier* spp.	Serviceberry	Tree
BN	*Betula nigra*	River birch	Tree
B	*Buxus* spp.	Boxwood	Shrub
CA	*Carya* spp.	Hickory	Tree
CE	*Cedrus atlantica*	Atlas cedar	Tree
CD	*Cedrus deodara*	Deodar cedar	Tree
CJ	*Cercidiphyllum japonicum*	Katsura	Tree
CC	*Cercis canadensis*	Eastern redbud	Tree
CS	*Chaenomeles speciosa*	Flowering quince	Shrub
C	*Cornus* spp.	Dogwood	Tree
CO	*Cotoneaster* spp.	Cotoneaster	Shrub
CR	*Crataegus* spp.	Hawthorn	Tree
EP	*Elaeagnus pungens*	Thorny olive	Shrub
E	*Euonymus alatus*	Burning bush	Shrub
FS	*Fagus sylvatica*	European beech	Tree
FI	*Forsythia* x *intermedia*	Forsythia	Shrub
F	*Fraxinus* spp.	Ash	Tree
G	*Ginkgo biloba*	Ginkgo	Tree
GT	*Gleditsia triacanthos*	Honeylocust	Tree
HA	*Hamamelis* spp.	Witch hazel	Shrub
HE	*Hedera helix*	English ivy	Groundcover
H	*Hemerocallis* spp.	Daylily	Perennial
HP	*Hydrangea petiolaris*	Climbing hydrangea	Vine
HQ	*Hydrangea querquifolia*	Oakleaf hydrangea	Shrub
IC	*Ilex cornuta* 'Burfordii'	Burford holly	Shrub
IG	*Ilex glabra*	Inkberry	Shrub
IO	*Ilex opaca*	American holly	Tree
IV	*Ilex verticillata*	Winterberry	Shrub
IA	*Ilex* x *attenuata*	Foster's holly	Tree
I	*Iris sibirica*	Siberian iris	Perennial
IT	*Itea virginica*	Virginia sweetspire	Shrub
JN	*Jasminum nudiflorum*	Winter jasmine	Shrub
JU	*Juglans nigra*	Black walnut	Tree
JC	*Juniperus chinensis*	Juniper	Shrub
L	*Lagerstroemia indica*	Common crapemyrtle	Tree
LA	*Larix laricina*	Tamarack	Tree
LE	*Leucothoe axillaris*	Leucothoe	Shrub
LI	*Liquidambar styraciflua*	Sweetgum	Tree

Plant Key	Scientific Name	Common Name	Type
LO	*Lonicera* spp.	Honeysuckle	Shrub
MA	*Magnolia* spp.	Magnolia	Tree
MG	*Magnolia grandiflora*	Southern magnolia	Tree
MT	*Magnolia stellata*	Star magnolia	Tree
MV	*Magnolia virginiana*	Sweetbay magnolia	Tree
MS	*Magnolia* x *soulangeana*	Saucer magnolia	Tree
M	*Malus* spp.	Crabapple	Tree
MO	*Morus* spp.	Mulberry	Tree
MP	*Myrica pensylvanica*	Northern bayberry	Shrub
O	*Osmanthus heterophyllus*	Holly olive	Shrub
PT	*Pachysandra terminalis*	Japanese pachysandra	Groundcover
PE	Perennials	Perennials	Flower
PH	*Phellodendron amurense*	Amur corktree	Tree
P	*Picea* spp.	Spruce	Tree
PP	*Picea pungens*	Black spruce	Tree
PI	*Pinus* spp.	Pine	Tree
PF	*Pinus flexilis*	Limber pine	Tree
PS	*Pinus strobus*	Eastern white pine	Tree
PA	*Platanus* x *acerifolia*	London plane	Tree
PD	*Populus deltoides*	Eastern cottonwood	Tree
	Prunus spp.	Flowering cherry	Tree
PJ	*Prunus japonica*	Japanese bush cherry	Shrub
PL	*Prunus laurocerasus*	Cherry laurel	Shrub
PY	*Pyracantha* spp.	Pyracantha	Shrub
QA	*Quercus alba*	White oak	Tree
QN	*Quercus nigra*	Water oak	Tree
QP	*Quercus palustris*	Pin oak	Tree
QW	*Quercus phellos*	Willow oak	Tree
QC	*Quercus prinus*	Chestnut oak	Tree
QR	*Quercus rubra*	Northern red oak	Tree
QS	*Quercus shumardii*	Shumard red oak	Tree
R	*Rhododendron* spp.	Azalea	Shrub
RA	*Rhus aromatica*	Fragrant sumac	Shrub
RP	*Robinia pseudoacacia*	Black locust	Tree
SS	*Salix* x *sepulcralis* Simonkai	Weeping willow	Tree
SJ	*Sophora japonica*	Japanese pagoda tree	Tree
S	*Spiraea* spp.	Spiraea	Shrub
T	*Taxus* spp.	Yew	Shrub
TA	*Tilia americana*	American basswood	Tree
TC	*Tilia cordata*	Littleleaf linden	Tree
TV	*Tilia* x *vulgaris*	Common linden	Tree
TS	*Tsuga canadensis*	Eastern hemlock	Tree
UA	*Ulmus americana*	American elm	Tree
UP	*Ulmus parvifolia*	Chinese elm	Tree
UR	*Ulmus rubra*	Slippery elm	Tree
VT	*Viburnum plicatum* f. *tomentosum*	Doublefile viburnum	Shrub
VP	*Viburnum prunifolium*	Blackhaw viburnum	Shrub
VR	*Viburnum rhytidophyllum*	Leatherleaf viburnum	Shrub
VM	*Vinca minor*	Periwinkle	Groundcover
W	*Wisteria* spp.	Wisteria	Vine
Z	*Zelkova serrata*	Japanese zelkova	Tree

KEY

- ASPHALT PAVING SURFACE
- CONCRETE PAVING SURFACE
- STONE PAVING SURFACE
- RIP RAP
- KUTZ BRIDGE LIGHT
- GOOSENECK LIGHT
- WASHINGTON GLOBE #16
- TWIN-TWENTY GLOBE LIGHT STANDARD
- NPS TYPE BENCH
- NPS TYPE BENCH CONTINUOUS SLATS
- CONCRETE AND WOOD BENCH
- GRANITE SLAB BENCH
- TRASH/RECYCLING CONTAINERS
- POST & CHAIN
- FIRE HYDRANT
- DRINKING FOUNTAINS

NOTES: Utilities such as manholes, grates, electrical, water, etc. were located where possible.

LOCATOR KEY

DELINEATED BY CARLY FARMER, CHARLES CANFIELD, RYAN PIERCE, JASON W. MCNATT, CHRISTOPHER M. STEVENS, & DANA LOCKETT
TIDAL BASIN RECORDING PROJECT, 2018
HISTORIC AMERICAN LANDSCAPES SURVEY
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

ROUGHLY BOUNDED BY INDEPENDENCE AVENUE, 17TH STREET, EAST BASIN DRIVE, AND OHIO DRIVE, SOUTHWEST

TIDAL BASIN
WASHINGTON, DISTRICT OF COLUMBIA

WEST POTOMAC PARK

DISTRICT OF COLUMBIA

SHEET 8 OF 20

HISTORIC AMERICAN LANDSCAPES SURVEY
DC-59

PLANT KEY

DECIDUOUS TREE

FLOWERING CHERRY TREE

EVERGREEN TREE

SHRUB

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PLANTING PLAN — 6

1"=50'-0" 1:600

0 50 100 150 FEET 1"=50'-0"

N

0 10 20 30 40 50 METERS 1:600

TIDAL BASIN

PIPE RAILING

CONCESSION STAND

BIKE RACKS

BOAT RENTAL

BUREAU OF ENGRAVING AND PRINTING

BUREAU OF THE FISCAL SERVICE

SHEET 8 MATCHLINE

PIPE RAILING

OUTLET BRIDGE

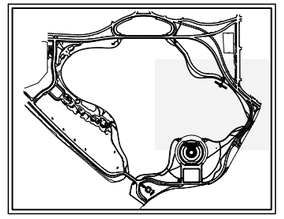
MATCHLINE SHEET 4

THOMAS JEFFERSON MEMORIAL

TIDAL BASIN

MATCHLINE SHEET 4

LOCATOR KEY



DELINEATED BY CARLY FARMER, CHARLES CANFIELD, RYAN PIERCE, JASON W. McNATT, CHRISTOPHER M. STEVENS, & DANA LOCKETT

TIDAL BASIN RECORDING PROJECT, SUMMER 2008
HISTORIC AMERICAN LANDSCAPES SURVEY
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

TIDAL BASIN
ROUGHLY BOUNDED BY INDEPENDENCE AVENUE, 14TH STREET, EAST BASIN DRIVE, AND OHIO DRIVE, SOUTHWEST
WASHINGTON
DISTRICT OF COLUMBIA
WEST POTOMAC PARK

SHEET 9 OF 20

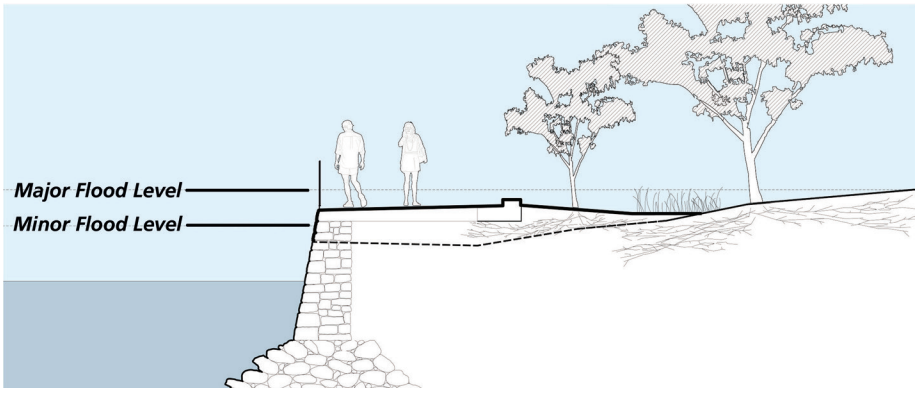
HISTORIC AMERICAN LANDSCAPES SURVEY DC-59

Appendix B

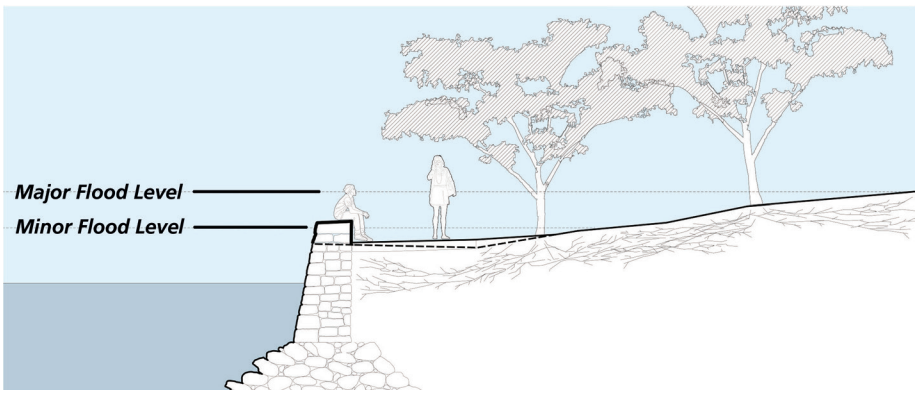
Treatment Workshop: Tidal Basin Treatment Options

Rehabilitation treatment options discussed by the CLR team during the Tidal Basin CLR Treatment workshop, along with related benefits and impact considerations.

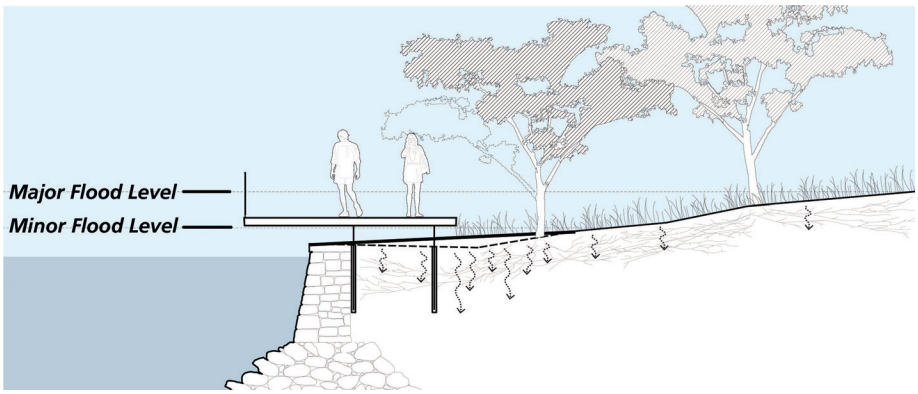
CAP AND FILL
Adds height to the sea wall and expands the walkway inland.
Benefits: Wider walkway above minor flood level. Retains the sea wall structure.
Impact: Requires filling approximately 8.5 acres of topography and replacement of approximately 480 cherry trees



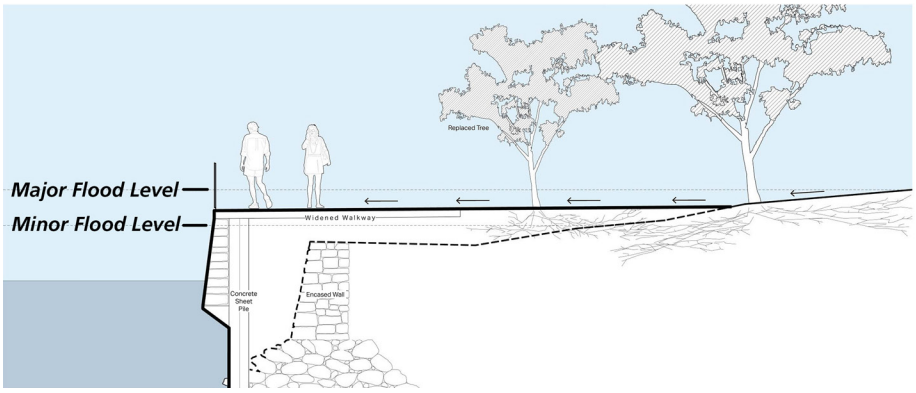
PARAPET
Adds a new seat wall/parapet to the existing sea wall.
Benefits: Provides some protection to the walkway and trees from minor flooding. Option to widen the walkway. Provides seating.
Impact: Impedes the continuous view of the cherry trees around the basin perimeter.



CANTILEVER WALKWAY
Provides a higher widened walkway around the basin perimeter.
Benefits: Leaves the sea wall and most cherry trees in place. Flexible walkway elevation.
Impacts: Does not protect the land against flooding. Changes the character of the sea wall.



ENCASE AND EXTEND
Rebuilds the sea wall and extends the wall and walkway further into the basin. The wall and walkway would be rebuilt above minor flood level.
Benefits: Wider walkway above minor flood level with protection against settlement.
Impacts: Reduces basin size. Requires filling landscape areas and replacing trees.



IMPACT	CAP AND FILL	PARAPET	CANTILEVER WALKWAY	ENCASE AND EXTEND
Minimizes changes to the historic sea wall			X	
Minimizes changes to the quality of the basin perimeter views	X			X
Minimizes cherry tree replacement			X	
Minimizes changes to adjacent topography		X	X	
Provides minimal flooding protection		X	X	
Provides positive drainage across the walkway to the basin	X		X	X
Protects cherry trees from minor flooding	X	X		X
Impacts views to and from the basin edge		X	X	
Provides an adjustable walkway elevation and width			X	
Provides a wider walkway	X	X	X	X
Elevates the walkway above minor flooding level	X		X	X
Results in loss of many individual mature cherry trees	X			X
Reduces the size of the basin				X
Requires substantial new grading	X			X
Requires coordinated elevation of memorial plazas and other circulation features	X			X
Protects against further sea wall settlement				X
Requires complete sea wall rebuilding				X

LESS CHANGE

MORE CHANGE

National Park Service
U.S. Department of the Interior

National Mall and Memorial Parks
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Washington, D.C.

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