National Park Service
Cultural Landscapes Inventory
2022



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Lyndon Baines Johnson Memorial Grove on the Potomac

George Washington Memorial Parkway

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Introduction

Cultural Landscapes in the Cultural Resources Inventory System:

CRIS is the National Park Service's database of cultural resources on its lands, consisting of archeological sites, historic structures, ethnographic resources and cultural landscapes. The set of CRIS records for cultural landscapes is referred to as CRIS-CL. CRIS-CL records conform to a standardized data structure known as the Cultural Landscapes Inventory (CLI).

The legislative, regulatory and policy directions for conducting and maintaining the CRIS are: Section 110 of the National Historic Preservation Act, NPS Management Policies (2006), Director's Order 28 (Cultural Resources) and Director's Order 28a (Archeology).

The Cultural Landscapes Inventory (CLI)
The CLI is the data structure within CRIS used to document and evaluate all potentially significant landscapes in which NPS has, or plans to acquire any enforceable legal interest. Each CRIS-CL record is certified complete when the landscape is determined to meet one of the following:

Landscape individually meets the National Register of Historic Places criteria for evaluation; or, Landscape is a contributing element of a property that is eligible for the National Register; or, Landscape does not meet the National Register criteria, but is managed as cultural resources because law, policy or decisions reached through the park planning process.

Cultural landscapes vary from historic sites, historic designed landscapes, historic vernacular landscapes to historic ethnographic landscapes, but may also fit within more than one type. Those eligible for the National Register have significance in the nation's history on a national, state or local level, as well as integrity or authenticity.

The legislative, regulatory and policy directions for conducting and maintaining the CLI within CRIS are: *National Historic Preservation Act of 1966 (16 USC 470h-2(a)(1)). Each Federal agency shall establish…a preservation program for the identification, evaluation, and nomination to the National Register of Historic Places…of properties…*

Executive Order 13287: Preserve America, 2003. Sec. 3(a)…Each agency with real property management responsibilities shall prepare an assessment of the current status of its inventory of historic properties required by section 110(a)(2) of the NHPA…No later than September 30, 2004, each covered agency shall complete a report of the assessment and make it available to the Chairman of the Advisory Council on Historic Preservation and the Secretary of the Interior…

Executive Order 13287: Preserve America, 2003. Sec. 3(c) each agency with real property management responsibilities shall, by September 30, 2005, and every third year thereafter, prepare a report on its progress in identifying…historic properties in its ownership and make the report available to the Councill and the Secretary…

The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act, 1998. Standard 2: An agency provides for the timely identification and evaluation of historic properties under agency jurisdiction or control and/or subject to effect by agency actions (Sec. 110 (a)(2)(A) Management Policies 2006. 5.1.3.1 Inventories: The Park Service will (1) maintain and expand the following inventories…about cultural resources in units of the national park system…Cultural Landscape Inventory of historic designed landscapes, historic vernacular landscapes,…and historic sites…

Cultural Resource Management Guideline, 1997, Release No. 5, page 22 issued pursuant to Director's Order #28. As cultural resources are identified and evaluated, they should also be listed in the appropriate Service-wide inventories of cultural resources.

General Information

Cultural Landscape Inventory Name	***LBJ Grove***
Cultural Landscape Inventory Number	***600246***
Parent Cultural Landscape Inventory Name	***Lady Bird Johnson Park***
Parent Cultural Landscape Inventory Number	***600245***
Park Name	***George Washington Memorial Parkway***
Park Alpha Code	***GWMP***
Park Org Code	***330E***
Property Level	***Component Landscape***

Landscape/Component Landscape Description

The Lyndon Baines Johnson Memorial Grove on the Potomac (LYBA) is a component landscape located in the southwestern portion of Lady Bird Johnson Park (formerly Columbia Island), its parent landscape. Lady Bird Johnson Park is a 157-acre island that extends along the Virginia shore of the Potomac River, south of Theodore Roosevelt Island, east of the Pentagon, and west of West Potomac Park. The island is within the District of Columbia and is administered by the George Washington Memorial Parkway (GWMP); however, the memorial is located within the boundaries of both Lady Bird Johnson Park in the District of Columbia and the Commonwealth of Virginia on the Pentagon Reservation. LYBA consists of 17 acres on the island bounded by the GWMP on the northeast and Columbia Island Marina on the southeast. The Boundary Channel flows between the island and the entrance on the Virginia side, which is approximately two acres in area bounded on the northwest and southwest by the Pentagon Reservation. Approximately 12 acres of the Boundary Channel's bed lies within the Cultural Landscape Inventory (CLI) boundary and a pedestrian bridge spans this waterbody connecting the two sides of the memorial. In total the LYBA cultural landscape comprises approximately 29 acres owned in fee simple by the National Park Service (NPS) with approximately two additional acres on the Pentagon Reservation, which is owned by the US General Services Administration (GSA) and managed by NPS under permit. The portion of the memorial on the island comprises three areas: the memorial grove, the meadow, and the parking lot adjacent to the Columbia Island Marina. The memorial honoring the 36th president, Lyndon B. Johnson, was authorized under Public Law 93-211 (later amended under Public Law 94-162) and designed by landscape architect M. Meade

Palmer. Sculptor Harold Vogel created the megalith within the memorial grove and the architectural and engineering firm of Mills and Petticord collaborated on the memorial design.

HISTORICAL OVERVIEW

LYBA is located on a portion of a human-made island historically called Columbia Island and constructed of dredged material from the channels of the Potomac River. The United States Army Corps of Engineers (USACE) constructed Columbia Island between the years of 1915 and 1927 partly to accommodate construction of the Arlington Memorial Bridge (completed 1932). The Mount Vernon Memorial Highway (MVMH) (completed 1932 and now part of the GWMP) concludes its journey between the plantation of the country's first president and our nation's capital by traversing the island from its southeastern end to its midpoint and terminating at Arlington Memorial Bridge, a major ceremonial entry into Washington, DC. Although the MVMH predates plans for the GWMP, the older roadway was absorbed into the GWMP system in 1930 under the Capper-Cramton Act (46 Stat 482). The GWMP, which continues north of Arlington Memorial Bridge from Memorial Circle along the Potomac River to the Capital Beltway and American Legion Bridge, was constructed in phases with most of the northern sections being completed between 1935 and 1965, with a final section near the Canal Road-Chain Bridge junction completed in 1970 (Robinson & Associates 2011: 2; Mackintosh 1994: 83).

The memorial is located within present-day Lady Bird Johnson Park. Claudia "Lady Bird" Johnson served as First Lady from 1963 to 1969 and during this time she launched her signature Beautification Program in Washington, DC, which soon became a national model. She founded the Committee for a More Beautiful Capital in 1965, which was a coalition of planners, architects, politicians and their spouses, and private citizens that sought to improve the urban environment through planting floral displays and flowering trees of native varieties and the installation of outdoor public amenities (Smith 1990: 743). Lady Bird Johnson's Beatification Program's efforts were multifaceted and also included historic preservation, pedestrian right-of-way construction, waterfront viewshed protection, lot improvements, playgrounds, and initiatives to decrease pollution (Lady Bird Johnson's Beautification Program Files, National Capital Region). Columbia Island was one of 14 gateways into the capital that Lady Bird Johnson sought to improve and as

such was a highly visible project for the committee. Landscape architect Edward Durell Stone, Jr. (1932-2009) developed a master planting plan for the island in 1967 that included deciduous and evergreen trees including flowering dogwoods (*Cornus florida*) and white pines (*Pinus strobus*), as well as one million daffodils (*Narcissus* sp.) planted in drifts throughout the island, including a group of large drifts within the portion of the site that would later be the location of LYBA's meadow (Kelsch et al. 2009 Vol. 1: 17). On November 12, 1968, Secretary of the Interior Stewart L. Udall formally changed the name of Columbia Island to Lady Bird Johnson Park in recognition of the First Lady's beautification work (Reservation 344, Reservation Files, National Capital Region). Although this ceremony signaled the official end of Lady Bird Johnson's Beautification Program, she continued her efforts into the 1970s and drew on her existing network of partners to propose, design, and fundraise for President Johnson's national memorial after his death on January 22, 1973.

Shortly after President Johnson's death, friends of the presidential couple including Laurance Rockefeller and Brooke Astor approached Lady Bird Johnson with the idea to site his memorial within Lady Bird Johnson Park (Mackintosh 1994: 174). With the approval of staff at NPS, Lady Bird Johnson engaged landscape architect M. Meade Palmer by February 1973 to spearhead the design for the memorial and approved a site for LBYA by April of that year (*The Washington Evening Star* [*TWES*] April 14, 1973: 3).

By September 1973, Palmer developed a conceptual design for the LBJ Memorial Grove (Reservation 344, Reservation Files, National Capital Region). While some of the design details changed by the time the project was built, the essential elements of the final design were already included in this early stage (Palmer 1974: 1-3). Palmer proposed a spiral path leading from the western edge of the site through a grove of pine trees to a plaza with an open vista across the Potomac River. In the center of the plaza there would be a high point accentuated by a carved megalith and inscribed quotations that reflected President Johnson's time in office. This area would be a site for contemplation and reflection and would draw a connection to the other presidential memorials visible across the Potomac, particularly those for George Washington, Thomas Jefferson, and Abraham Lincoln. Lady Bird Johnson described this view poignantly as "a

view that will be engraved on my heart forever" because of her associations seeing the city from the GWMP with President Johnson as they returned to the capital from Texas each year (*TWES* November 6, 1973: 27). A secondary trail system was proposed that would loop through a meadow with picnic tables northwest of the plaza. In contrast to the memorial grove, the meadow area would be inward facing with earthen berms planted with trees to block traffic along the MVMH.

Congress authorized the memorial in December 1973 through Public Law 93-211. This law established the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac, which would work in cooperation with the Society for a More Beautiful National Capital, to raise money and finalize the design. The initial law stated that no public funds would be spent on the memorial, but in December 1975 Congress passed Public Law 94-162 to allow for federal funding not to exceed one million dollars to go towards improvements to vehicular and pedestrian access to the site.

In May 1974, Sculptor Harold Vogel joined Lady Bird Johnson; Nash Castro, the former Regional Director of National Capital Parks and chair of the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac; and Meade Palmer at the Marble Falls Quarry in Johnson City, Texas near the Johnsons' ranch to select a block of "Sunset Red" granite for the megalith that would serve as a focal point in the memorial grove (*TWES* May 7, 1974: 25; *The Washington Post* April 7, 1976: A1). National Capital Parks staff approved the preliminary plans for the megalith in July 1974 and arranged for the 43-ton granite block to be transported by rail and placed in a temporary location on the southern portion of the island near the Columbia Marina where Vogel would carve it before it was moved to its permanent location within the memorial grove (Reservation 344, Reservation Files, National Capital Region).

Lady Bird Johnson; her daughters, Lynda Robb and Luci Turpin (Nugent at the time of the groundbreaking); and two granddaughters, Lucinda and Catherine Robb, attended a public groundbreaking ceremony along with several hundred spectators on September 27, 1974. President Ford spoke in honor of the former president and symbolically turned a shovel of dirt to

mark the spot where the first white pine of the memorial grove would be planted (New York Times September 28, 1974: 30). The President commented on the importance of the views of the other presidential memorials to the design of the memorial grove during his speech (*TWES* September 28, 1974: 5).

Construction of the Memorial Grove continued through 1975 and was formally dedicated on April 6, 1976, as part of the Bicentennial activities in the Washington, DC area (*TWES* September 28, 1974: 5; *TWES* March 14, 1976: 13). Lady Bird Johnson and President Ford both spoke in front of the megalith. The former First Lady encouraged visitors to tour and enjoy the entire site including the meadow area north of the memorial grove. On October 12, 1977, after the completion of the entrance on the Virginia side of the Boundary Channel and the pedestrian bridge, Lady Bird Johnson cut a red ribbon with her daughter Lynda Bird Robb at a final dedication ceremony (*TWES* October 13, 1977: 16, 20). NPS planted most of the daffodils from Palmer's plan in the fall of 1977 (Palmer and the Mills & Petticord Partnership 1984). While there is evidence that the NPS maintained some of the Stone era daffodil beds within LYBA's limits, Palmer's daffodil beds differed substantially from this earlier planting, concentrating the new bulbs near the parkway at the eastern boundary of the site and in the meadow alongside the paths near the Boundary Channel entrance. Palmer's planting design was completed in 1980 when the NPS installed the wildflower beds at the edges of the meadow and among the trees along the western edge of the island (Kelsch et al. 2009 Vol. 2: 340).

SIGNIFICANCE SUMMARY

LYBA was administratively listed on the National Register of Historic Places (NRHP) in 1973 and a nomination form was completed retroactively in 1998. This nomination asserts that the LBJ Memorial Grove meets Criterion A as a presidential memorial at a national level of significance and Criterion C as an example of 20th Century Landscape Architecture designed by Palmer, Vogel, and Mills & Petticord. It is also listed under Criteria Consideration F as a commemorative property and Criteria Consideration G since it is less than 50 years old. The period of significance defined in the NRHP listing begins in 1974, the year Lady Bird Johnson selected the site and extends to 1977 when the NPS completed construction of the entrance on the Pentagon

Reservation including the Palmer-designed pedestrian bridge across the Boundary Channel. This CLI concurs with the NRHP designation both in terms of applicable criteria and the period of significance.

ANALYSIS AND EVALUATION SUMMARY AND CONDITION

The LYBA cultural landscape consists of the following contributing landscape characteristics: natural systems and features, spatial organization, land use, topography, vegetation, circulation, buildings and structures, views and vistas, constructed water features, and small-scale features. This CLI finds that the LYBA cultural landscape retains a high degree of integrity of location, workmanship, feeling, and association. LYBA also retains integrity of design and setting. The design from the period of significance is largely intact, but is somewhat diminished due to loss of some of the vegetation, particularly in understory plantings, as well as the removal of some small-scale features such as several benches, nearly all the tulip-style trash receptacles, and one of the two original wooden entry signs. The integrity of setting is diminished due to an increase in high rise development along the Virginia shore that has altered the character of the views to the northwest, southwest, and south of the cultural landscape. Its integrity of material has been negatively impacted primarily due to changes in vegetation and small-scale features described above. Overall, the integrity of LYBA from its period of significance is intact. Furthermore, this CLI finds the condition of LYBA's cultural landscape to be fair. (See the Condition Assessment section of this CLI for additional information).

Landscape Hierarchy Description

LYBA is the only component landscape within the boundaries of Lady Bird Johnson Park, which in turn is administered by the GWMP. The boundaries of the portion of the memorial on the island match those depicted on the NPS segment map for LYBA (Land Resources Division 1979: sheet 1). The entrance of the memorial on the Pentagon Reservation and the bottom of the Boundary Channel between the entrance and the island are also within the CLI boundary. The NPS has jurisdiction over the bottom of the channel and holds an indefinite permit (GS-PBS-03-79-4) to maintain the LYBA entrance on the Pentagon Reservation (Kelly 2020: email; Reservation 344, Reservation Files, National Capital Region). Palmer intended for the Pentagon Reservation entrance to be the primary entrance to the memorial, with the entrance from the Columbia Island

Marina parking lot serving as a secondary point of access. In the present day, cyclists and pedestrians frequently use the Pentagon Reservation entrance while visitors traveling by car more frequently use the entrance from the marina parking lot. However, the parking lot on the Pentagon Reservation is still open to visitors, who are permitted by the Pentagon police to park in the lot for up to two hours per visit.

Landscape Type

Historic Designed Landscape

Site Plan



#	Resource Name
1	Meadow Path
2	Flagstone Path
3	Pentagon Reservation Parking Lot and Median
4	Pentagon Reservation Sidewalks Bordering the Parking Lot
5	Pentagon Reservation Sidewalk South of the Parking Lot
6	Path at Marina Entrance
7	Exposed Aggregate Sidewalk at Marina Entrance
8	Marina Parking Lot and Medians
9	Asphalt Paths along Shoreline and East of Marina Parking Lot
10	Asphalt Walk adjacent to Entry Drive
11	Retaining Wall and Planters at the Pentagon Reservation Entrance
12	Pedestrian Bridge and Decks
13	Retaining Wall Framing the Memorial Plaza
14	Flagstone Memorial Plaza
15	Rip Rap along Shoreline Installed in 1940 (Approx. Location)
16	Rip Rap along Shoreline Associated with Palmer's Design (Approx. Location)

Site Plan - (Full size graphics are located at the end of this report).

Other Names

Name	Type
Lyndon Baines Johnson Memorial Grove on the Potomac	Both Current and Historic
Columbia Island	Historic
LBJ Memorial Grove	Current

Concurrence Information

Park Superintendent Concurrence

Yes

Park Superintendent Concurrence Date

1/6/2022

United States Department of the Interior

NATIONAL PARK SERVICE
Interior Region 1- National Capital Area
1100 Ohio Drive, S.W.
Washington, D.C. 20242

1.B. (NCA-GWMP)

Memorandum

To: Cultural Landscapes Inventory Coordinator, Region 1 - National Capital Area

From: Superintendent, George Washington Memorial Parkway

Subject: Statement of Concurrence, Lyndon Baines Johnson Memorial Grove on the Potomac

I, Charles Cuvelier, Superintendent of George Washington Memorial Parkway, concur with the findings of the Lyndon Baines Johnson Memorial Grove on the Potomac Cultural Landscapes Inventory, including the following specific components:

PERIOD OF SIGNIFICANCE:	The Lyndon Baines Johnson Memorial Grove on the Potomac cultural landscape retains integrity to the following period of significance: 1974-1977.
INTEGRITY:	The landscape displays all seven aspects of integrity (location, setting, design, materials, workmanship, feeling, and association) as defined by the National Register of Historic Places.
MANAGEMENT CATEGORY:	Must be Preserved and Maintained
CONDITION ASSESSMENT:	Fair

The Cultural Landscapes Inventory for the Lyndon Baines Johnson Memorial Grove on the Potomac is hereby approved and accepted.

Charles Cuvelier Date: 2022.01.06 13:49:05 -05'00'

Superintendent
George Washington Memorial Parkway

January 6, 2022
Date

DC Historic Preservation Office Concurrence

Yes

DC Historic Preservation Office Concurrence Date

03/24/2022

Statement of Concurrence
Lyndon Baines Johnson Memorial Grove on the Potomac Cultural Landscapes Inventory

The preparation of this Cultural Landscape Inventory for the Lyndon Baines Johnson Memorial Grove on the Potomac is part of the National Park Service's efforts to update cultural resource inventories, as required by Section 110 (a) (1) of the National Historic Preservation Act.

- The D.C. Historic Preservation Office (DC HPO) concurs with the findings of the Lyndon Baines Johnson Memorial Grove on the Potomac Cultural Landscape Inventory. The DC HPO further concurs that the cultural landscape resources of the Lyndon Baines Johnson Memorial Grove on the Potomac, as enumerated, retain integrity to the site's periods of significance (1974-1977) and contribute to its historic character.

David Maloney
District of Columbia Historic Preservation Officer

3/24/2022
Date

Please email signed PDF copy to Cortney Gjesfjeld, National Capital Area Cultural Landscape Inventory Coordinator at cortney_c_gjesfjeld@nps.gov.

Virginia State Historic Preservation Office Concurrence

Yes

Virginia State Historic Preservation Office Concurrence Date

04/26/2022

Statement of Concurrence
Lyndon Baines Johnson Memorial Grove on the Potomac Cultural Landscapes Inventory

The preparation of this Cultural Landscapes Inventory for the Lyndon Baines Johnson Memorial Grove on the Potomac is part of the National Park Service's efforts to update cultural resource inventories, as required by Section 110 (a) (1) of the National Historic Preservation Act.

- The VA State Historic Preservation Office (VA SHPO) concurs with the findings of the Lyndon Baines Johnson Memorial Grove on the Potomac Cultural Landscapes Inventory. The VA SHPO further concurs that the cultural landscape resources of the Lyndon Baines Johnson Memorial Grove on the Potomac, as enumerated, retain integrity to the site's period of significance (1974-1977) and contribute to its historic character.

Julie Langan — Date 4/26/2022
Julie Langan
Virginia State Historic Preservation Officer

Please email signed PDF copy to Cortney Gjesfjeld, National Capital Area Cultural Landscapes Inventory Coordinator at cortney_c_gjesfjeld@nps.gov.

Completion Status Explanatory Narrative

Angelina Ribeiro Jones, Cultural Landscape Architect of the National Capital Region (NCR) of the NPS, researched and wrote this CLI. NCR and GWMP staff conducted a series of site visits to support the completion of this CLI in the fall of 2020 and winter and early spring of 2021. This CLI relies on archival resources from both the NPS and local repositories and includes both primary and secondary sources, all detailed in the bibliography. Due to precautions associated with the COVID-19 pandemic, NCR staff were unable to access physical archives including the National Archives and Records Administration Federal Records Center (NARA), the Library of Congress, the Commission of Fine Arts, the Martin Luther King Jr. Memorial Library of the District of Columbia's public library system, Meade Palmer's files at the Albert and Shirley Small Special Collections Library at the University of Virginia, and the Kiplinger Research Library of the DC History Center. NCR staff did study a portion of the archival materials associated with LYBA at the Museum Resource Center (MRCE) for this project but were unable to conduct an extensive review of materials contained in this repository. Future updates to this CLI should visit

the above listed archives to identify materials that will further elucidate the physical history of the site. Archives consulted in previous histories of this site can be found in the bibliographies of the *National Park Service Cultural Landscapes Inventory: Lady Bird Johnson Park* (2005, updated 2016), *Vegetation of the George Washington Memorial Parkway Central Section: Alexandria to Arlington Memorial Bridge Cultural Landscape Report* (2009), the *George Washington Memorial Parkway Administrative History* (1996), and the *George Washington Memorial Parkway Administrative History 1985-2010* (2011).

National Capital Region (NCR) staff surveyed LYBA to record extant above-ground features and make field observations in the fall of 2020 and winter of 2021. Staff used a Trimble Geo 7X to record spatial data and a Canon EOS 6D Mark II DSLR camera to take GPS-referenced photographs. In this CLI, field data are supplemented by existing archival sources and GIS data to create a comprehensive inventory of LYBA's landscape characteristics. This inventory relies on GIS data collected in the field by NCR staff, as well as data sourced from reliable public databases. All GIS data the author of this report used to conduct this Analysis and Evaluation is packaged in a geodatabase with metadata.

Research and editorial assistance was provided by Julie McGilvray, Preservation Services Program Manager, NCR, NPS; Cortney Gjesfjeld, CLI Coordinator, NCR, NPS; Daniel Weldon, Cultural Resources Program Manager, National Capital Parks – East, NPS; Noel López, Regional Cultural Anthropologist, NCR; Sophia Kelley, Memorials Program Manager, NCR, NPS; Catherine Kisluk, Archives Specialist, Technical Information Center, NPS; Laura Anderson, Director, MRCE, NPS; Maureen Joseph, Chief of Resource Management, GWMP, NPS; Matthew Virta, Cultural Resources Program Manager, GWMP, NPS; Suzanne Bouchard, Horticulturist, GWMP, NPS; Megan Bailey, Cultural Resources Specialist, GWMP, NPS; Bahman Moghaddame-Jafari, Civil Engineer, GWMP, NPS; Paul Kelsch, Associate Professor, Landscape Architecture, Virginia Tech; Damien P. Ossi, Wildlife Biologist, Department of Energy and Environment, Government of the District of Columbia; Bryan Kasik, Reference Librarian, University of Virginia Library; Barry Starke, Landscape Architect, Earth Design Associates; Kathryn (Kay) Fanning, Historian, US Commission of Fine Arts; Michaila Musman, GIS Analyst, Casey Trees, and Chris

Banks, Audiovisual Archivist, LBJ Presidential Library. Madeline Laub, GIS Specialist, NCR, NPS, provided support in spatial data collection and management for this project.

Geographic Information

Area (Acres)

Fee simple: Approximately 29 acres (Lady Bird Johnson Park/Columbia Island: 17 acres; Boundary Channel 12 acres)

Under permit: Approximately two acres (Pentagon Reservation GS-PBS-03-79-4)

Land Tract Number(s)

Reservation 344 – Tract 000001 (Lady Bird Johnson Park/Columbia Island only)

Boundary Description

LYBA is located within the southwestern portion of Lady Bird Johnson Park (formerly Columbia Island). It consists of 17 acres on the island bounded by the GWMP on the northeast, continuing approximately 0.40 miles southeast and bounded by the Columbia Island Marina on the southeast. The entrance to the memorial is on the Virginia side of the Boundary Channel. This entrance is approximately two acres in area and is bounded on the northwest and southwest by the Pentagon Reservation. Approximately 12 acres of the Boundary Channel's bed lies within the CLI boundary. The Lady Bird Johnson Park CLI boundary includes both the Boundary Channel and Columbia Lagoon. Therefore, inclusion of the Boundary Channel within the boundaries of the LYBA CLI is consistent with the boundaries established by the Lady Bird Johnson Park parent CLI. (Refer to the Location Map below in the Location Map Graphic Information section of this chapter).

Latitude/Longitude

Geometry	Latitude	Longitude	GeoDatum	Elevation (Meters)	Position Source	Position Accuracy
Point	38.8809463090001	-77.055072513	1983 NAD	N/A	GIS	1 m

Point	38.876439245	-77.0497575379999	1983 NAD	N/A	GIS	1 m
Point	38.875973129	-77.0514568309999	1983 NAD	N/A	GIS	1 m
Point	38.8770695260001	-77.048840193	1983 NAD	N/A	GIS	1 m
Point	38.878258472	-77.049939583	1983 NAD	N/A	GIS	1 m
Point	38.879678502	-77.051688133	1983 NAD	N/A	GIS	1 m
Point	38.8803180130001	-77.0554639599999	1983 NAD	N/A	GIS	1 m
Point	38.878875265	-77.054204296	1983 NAD	N/A	GIS	1 m
Point	38.8772888870001	-77.05261554	1983 NAD	N/A	GIS	1 m
Point	38.876794164	-77.049692407	1983 NAD	N/A	GIS	1 m

Regional Landscape Contexts and Narratives

Physiographic

LYBA is built on a constructed island consisting of fill, primarily dredged from the bottom of the Potomac River, with the entrance located on the Virginia shore on the Pentagon Reservation. The island, currently called Lady Bird Johnson Park and formerly known as Columbia Island, was built between circa 1915 and 1927 south of the fall line (the geological boundary between the upland and the plain) within the physiographic province of the piedmont. The US Department of Agriculture (USDA) identifies LYBA's land on the Pentagon Reservation as containing primarily Udorthents complex typical of fill and the majority of the site on the island as sandy Udifluvents that are likely to flood frequently during normal weather conditions (US Department of Agriculture 2020). USDA soil mapping shows clearly that additional fill of a slightly different make-up was brought in to construct the Columbia Island Marina, including the parking lot within LYBA's boundaries. LYBA is located within the USDA plant hardiness zone 7b, where vegetation is hardy to between five to ten degrees Fahrenheit (US Department of Agriculture 2012).

Inundation mapping conducted by the National Oceanic Atmospheric Administration (NOAA) and the National Weather Service (NWS) provide flood categories (minor, moderate, and major) for flood severity and risk along river channels based on various characteristics such as topography and infrastructure. Their inundation map for the study area indicates that LYBA experiences minor flooding beginning at the 2.7 feet high inundation level, moderate flooding with 3.3 feet of inundation, and major flooding at 4.8 feet of inundation. The record crest for this area is 11.05 feet, which occurred during a flood on October 17, 1942, and during a similar incident in the present day both decks of the pedestrian bridge and most of the Columbia Island Marina parking lot would be submerged (National Weather Service 2019). This area roughly corresponds with the part of the site with a 1% annual chance of flood (the 100-year floodplain) within the Federal Emergency Agency's (FEMA) Special Flood Hazard Area (SFHA) Zone AE. Most of the study area falls into either SFHA Zone AE (the 100-year floodplain) or Other Flood Areas Zone X, which indicates a .2% annual chance of flood. The memorial plaza, a portion of the meadow near the GWMP, and the northernmost portion of the site on the island fall outside of FEMA's 0.2% annual chance floodplain (Federal Emergency Management Agency 2020).

Cultural

LYBA is bounded to the northeast by the George Washington Memorial Parkway (GWMP), first established as the Mount Vernon Memorial Highway (MVMH) in 1926. It was the first federally funded parkway in the country, created to commemorate the 200th anniversary of George Washington's birth. The 15.5-mile roadway connected the Mount Vernon estate to the nation's capital. MVMH was absorbed into plans for the GWMP in 1930 under the Capper-Cramton Act (46 Stat 482). The GWMP travels the entire length of Lady Bird Johnson Park and established recreational driving as one of the uses of the island. (Refer to the Physical History for additional information).

The NPS constructed the GWMP, north of the original MVMH section, over multiple decades as funding became available and they officially completed it in 1970 with the paving of the last section of road near the Canal Road-Chain Bridge junction (Robinson & Associates 2011: 2; Mackintosh 1994: 83). Before completion of the GWMP, particularly in the north section, the primary attraction to visitors was recreational space (Donaldson 2009: 62). NPS provided infrastructure for sanctioned uses of the parkway, which included hiking, parking to enjoy scenic overlooks, and picnicking. However, unsanctioned uses of the parkway have also been documented. The rise in automobile ownership following World War II corresponded with the development of "car culture" in the United States, particularly among teenagers (Cross 2018). Teenagers from the metropolitan area would drive to the GWMP and other capital area parks, including Hains Point and spots along the Tidal Basin, to meet up with friends or to engage in sexual activities in parked cars. The privacy afforded to people in their cars was a well-established part of driving to parks for this purpose, referred to colloquially as going to "watch the submarine races" (Washington Times July 17, 2008; The Baltimore Sun June 5, 2001: B1).

The postwar years also saw an increase in consensual same-sex solicitation along the parkway, primarily by homosexual men, known as "cruising." As early as the late 19th century, present-day Lafayette Park, the National Mall, Lincoln Park, Franklin Park, Judiciary Square, Constitution Gardens, Meridian Hill Park, and Farragut Square were popular cruising spots in the capital (Louis Berger Group 2019: 55). The population boom in the Washington, DC metropolitan area during the New Deal of the 1930s and World War II "created an urban environment that allowed a gay and

lesbian subculture to flourish…" with "…a work environment within federal agencies that turned a blind eye toward employees' private lives" (University of Chicago Press 2004). This somewhat permissive culture altered drastically following the end of World War II when anti-communism and anti-homosexuality policies became bound together as part of the larger political battles of the Cold War.

In 1947, the US Park Police initiated the "Sex Perversion Elimination Campaign," which aimed to intimidate gay men soliciting sex in public parks through harassment and arrests (Adkins 2016). This was followed closely in 1948 by the Miller Act, which codified the criminalization of homosexuality and pathologized it as a mental illness (Louis Berger Group 2019: 14). In April 1953, President Dwight D. Eisenhower issued Executive Order 10450, which banned homosexual federal workers from service and instigated an anti-homosexual campaign within federal agencies now known as the "Lavender Scare" (Federal Register 1953). The inadvertent effect of these policies was to push cruising activities to less visible parts of the city and semi-private venues, including along the GWMP, which contained multiple cruising sites by the second half of the 20th century and into the new millennium (Philadelphia Gay News June 1, 1977: 5; The Washington Post July 19, 2001: B3A).

Political

LYBA occupies land in Washington, DC and the commonwealth of Virginia. The majority of the memorial is located within Lady Bird Johnson Park on the constructed island formerly called "Columbia Island." All of the island associated development and the portion of the Boundary Channel included in the LYBA CLI boundary are situated within the District of Columbia. The entrance on the Pentagon Reservation is in Arlington County, Virginia.

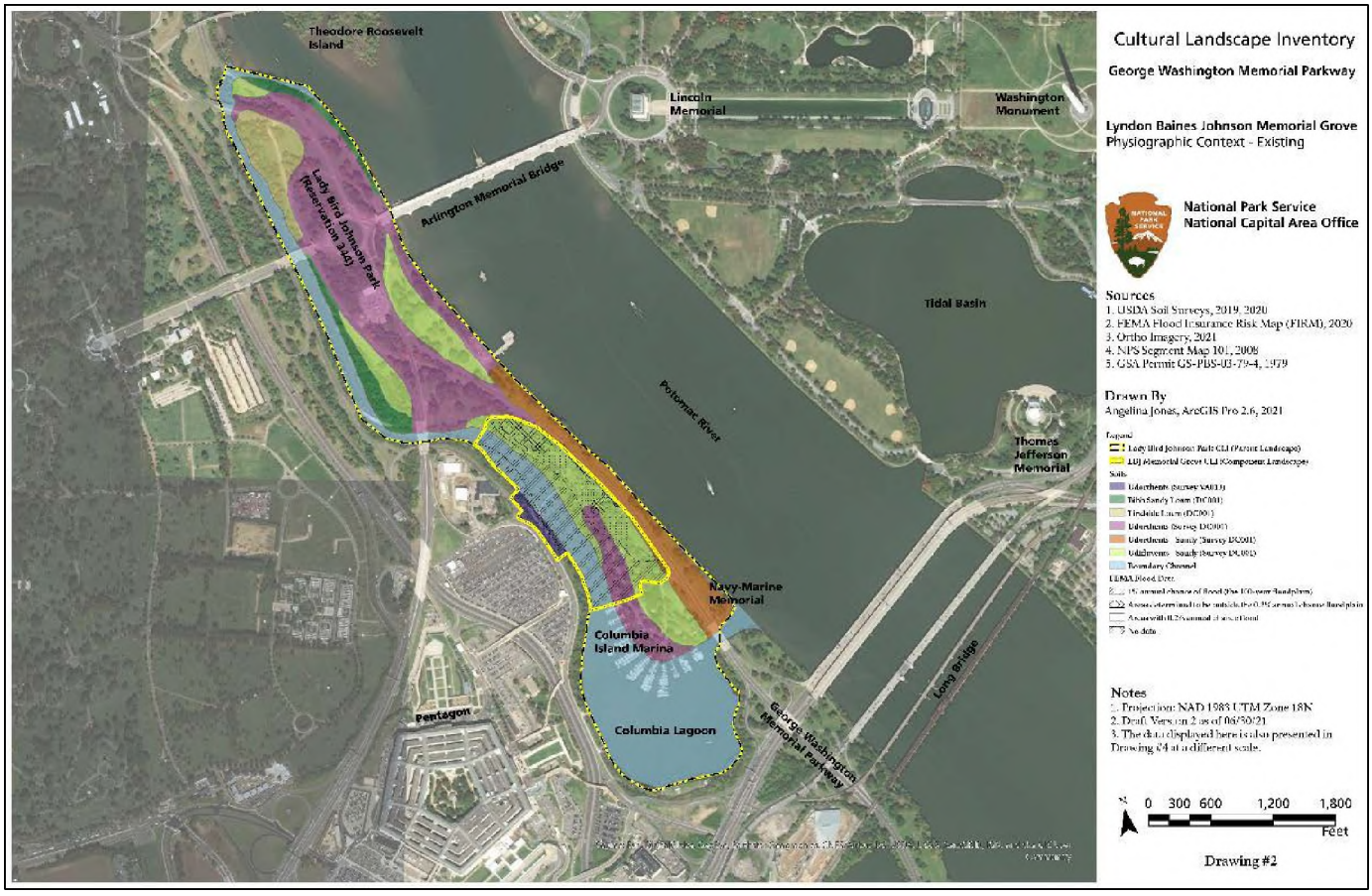
The history of both jurisdictions was shaped by their proximity to the Potomac River and the opportunities for commercial navigation it afforded. Prior to colonization, the land in present-day Northern Virginia near the Potomac River was inhabited by the Powhatan, Doeg, and Manahoac peoples, among other Native American groups (Arlington County Government 2019). In the mid-18th century, English colonists founded two influential port cities near the study area: Alexandria, Virginia (1749) and Georgetown, Maryland (established as a tobacco port in 1751 and incorporated

1789). Most of present-day Alexandria was included in a land grant held by Robert Howson, awarded in 1669 and an overlapping land grant awarded to Dame Margaret Brent in 1654 (City of Alexandria Government 2021). The first land patent in present-day Georgetown was issued to Ninian Beall in 1703 comprising 795 acres near Rock Creek Landing (Elder and Weldon 2018: 39). Over the course of the 18th century, both ports grew in importance and as the towns grew, property ownership atomized. During the 18th and 19th centuries present-day Arlington County (renamed from Alexandria County in 1920) served as an agricultural center sending produce to both Alexandria and Georgetown and later Washington, DC (Arlington County Government 2006: 10). (Refer to the Physical History for additional information).

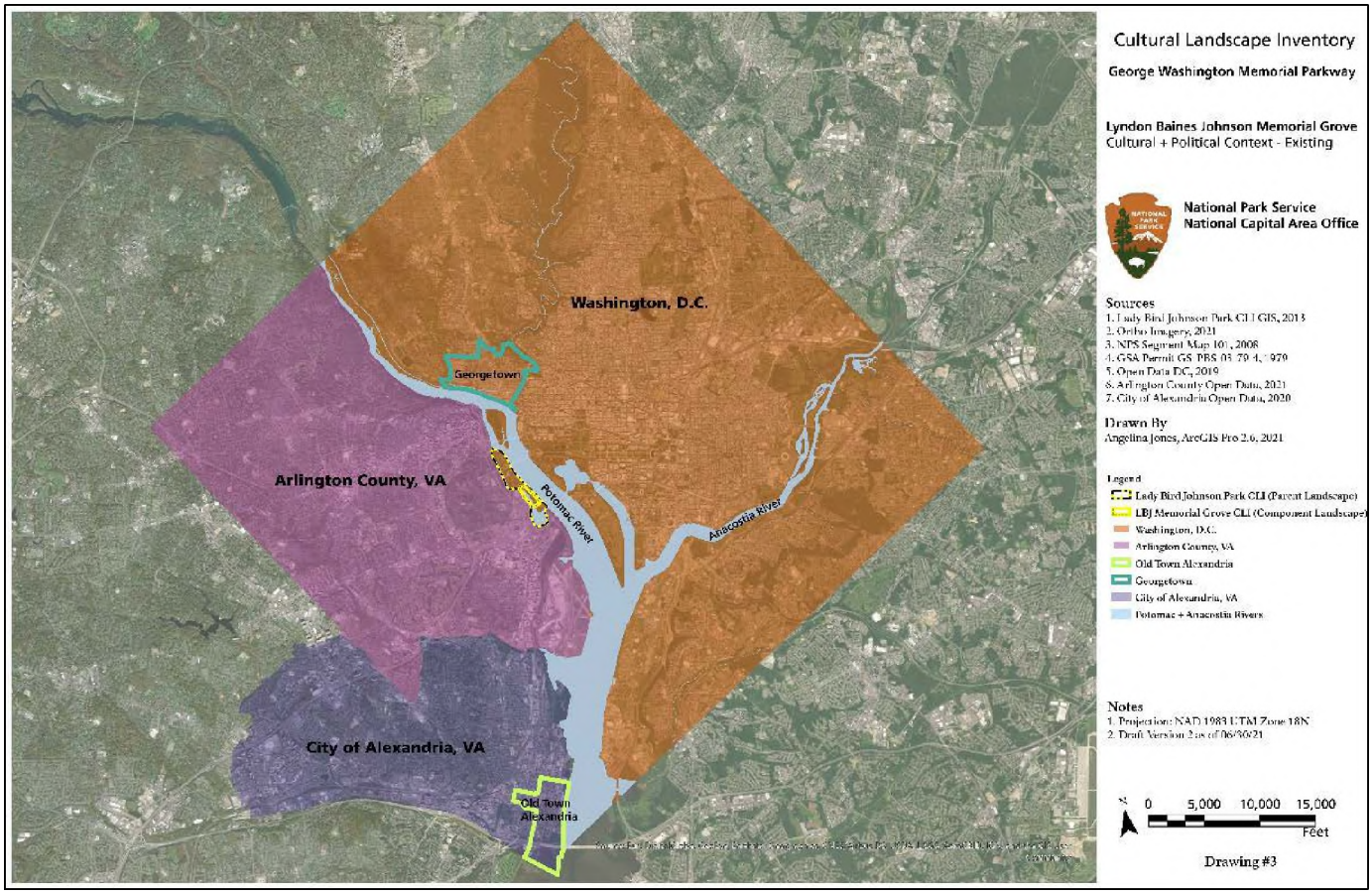
President George Washington selected a 100 square mile area that would become the nation's capital in 1789, encompassing the confluence of the Potomac and Anacostia Rivers. Pierre-Charles L'Enfant designed a plan for the new federal city in 1791 and Andrew Ellicott and Benjamin Banneker created a survey depicting a modified plan in 1792 (Fanning 2001: sect 8, p 33). Washington, DC in the present day consists of 68.3 square miles (in 1846, the Virginia portion of the land that originally constituted the US capital, including present-day Arlington County, retroceded back to the commonwealth). Census estimates for Washington, DC from 2019 project a population of 705,749, a 17.3% increase since the 2010 census (US Census Bureau 2019b). According to the Census Bureau, the city's estimated median household income is $86,420 with 16.2% of the population living below the Federal poverty line. Land within the district immediately adjacent to the study area is federally owned and is therefore classified as "unzoned" by the local jurisdiction (District of Columbia Office of Zoning 2016).

Arlington County, Virginia covers 25.98 square miles and as of 2019 has an estimated population of 236,842, a 14% increase since the 2010 census (US Census Bureau 2019a). The Census Bureau estimates that the county's median household income is $120,071 with 7.6% of the population living below the federal poverty line. Land in the immediate vicinity of the study area is primarily zoned for open space, but areas within the viewshed of the memorial such as Rosslyn, Pentagon City, and Crystal City are zoned for mixed-use, high-rise development including commercial office buildings, retail, and multiple-family dwellings (Arlington County Government 2021).

Regional Landscape Context Graphics

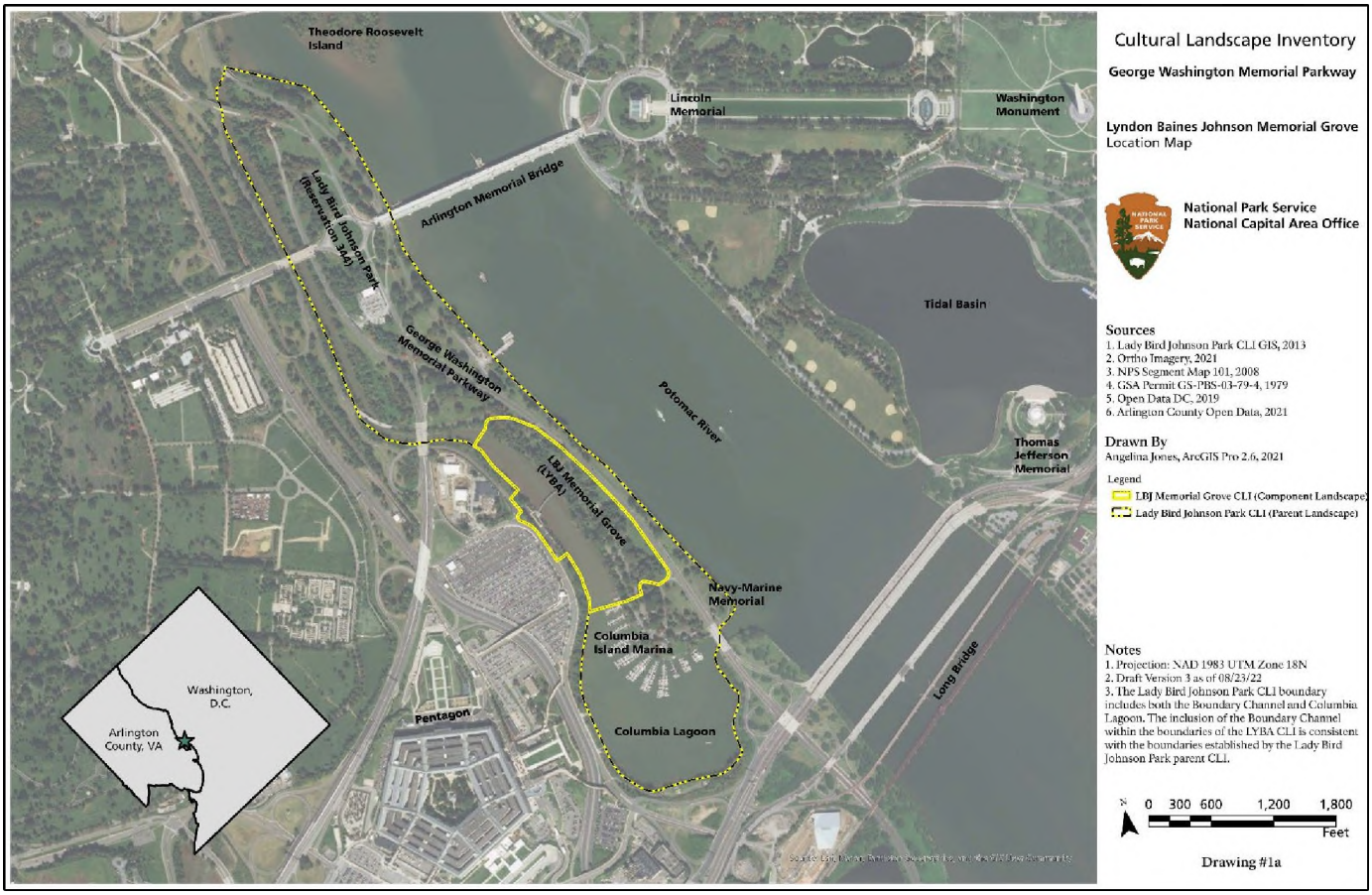


Physiographic Context - (Full size graphics are located at the end of this report).



Cultural + Political Context - (Full size graphics are located at the end of this report).

Location Map Graphic Information



Location Map - (Full size graphics are located at the end of this report).

State and County

State

District of Columbia

Virginia

County

Washington, DC

Arlington County

Management Information

Management Category

Must be Preserved and Maintained

Management Category Date

01/06/2022

Management Category Explanatory Narrative

LYBA, a congressionally legislated national presidential memorial, is listed as nationally significant on the NRHP. LYBA was first listed in 1973 when the memorial received congressional approval and the nomination form was authored retroactively in 1998. LYBA's national significance as a congressionally legislated memorial justifies application of the management category "Must be Preserved and Maintained."

The Management Category Date is the date this CLI was first approved by the park superintendent.

Management Agreements

Management Agreement	Other Management Agreement	Management Agreement Expiration Date	Management Agreement Explanatory Narrative
Interagency Agreement (GS-PBS-03-79-4)		N/A	US General Services Administration (GSA) owns the land beneath the parking area across the Boundary Channel. This perpetual permit allows the NPS to maintain all features associated with the memorial on the Pentagon Reservation, which includes the parking lot and entry deck.

Legal Interests

Legal Interest Type	Fee Simple Reservation Expiration Date	Other Organization/Agency	Legal Interest Narrative
Fee Simple	N/A	None	The memorial development on the island and the bottom of the Boundary Channel are owned in fee simple by the NPS.
None – Other Federal Agency Owned	N/A	GSA	The GSA granted the NPS a perpetual permit in 1979 to allow the latter agency to maintain development associated with LYBA on the Pentagon Reservation indefinitely.

Adjacent Lands Information

Do Adjacent Lands Contribute?

Yes – Adjacent lands do contribute

Narrative

Adjacent lands are lands outside the boundaries of the park that contribute to the site's significance.

The National Mall (NAMA) across the Potomac River from LYBA contributes to the memorial's significance. Lady Bird Johnson stated the importance of the view of Washington, DC from the GWMP as one she shared with her late husband each year when they would return to the capital from Texas, and as such, a view with a great deal of importance to the couple. Proximity to the GWMP and the view of NAMA was a primary reason for the selection of the LYBA site by Lady Bird Johnson and the memorial's design team. Additionally, the Potomac River itself, east of the CLI Boundary, contributes to LYBA's significance both as part of the Palmer designed view towards NAMA and as the water source that feeds the Boundary Channel.

(For additional information, see the Physical History chapter).



View from an underpass below the GWMP across the Potomac River looking northeast towards the Thomas Jefferson Memorial and the National Mall. (NPS 2021)



The Potomac River running along the southern tip of Lady Bird Johnson Park looking northwest from the 14th Street Bridge. (NPS 2020)

Uses Information

Functions and Uses

Major Category	Category	Use/Function	Historic Use	Current Use	Primary Use
Recreation/Culture	Monument (Marker, Plaque)		Yes	Yes	Yes
Landscape	Leisure-Passive (Park)		Yes	Yes	No
Recreation/Culture	Outdoor Sculpture (Statuary)		Yes	Yes	No
Landscape	Scenic Landscape	View	Yes	Yes	No

Public Access

Public Access

Unrestricted

Public Access Narrative

The NPS website for LYBA states that the site is open to the public year-round from 6 AM to 10 PM. Signs posted at the park warn visitors to stay on the lighted paths during evening hours. Visitors that park in the Pentagon Reservation parking lot are only permitted to park for two-hour periods and vehicles in this area are monitored by the Pentagon police. On the island, park visitors are permitted to park for three-hour periods unless they have a Columbia Island Marina permit for long term parking.

Associated Ethnographic Groups

Ethnographic Study Status

No survey conducted

Ethnographic Narrative

N/A

Ethnographic Groups

Ethnographic Group	Type
N/A	N/A

National Register Information

Documentation Status

Entered – Inadequately Documented

Documentation Narrative Description

LYBA was initially administratively listed to the NRHP (NR# 73002097) in 1973 as part of congressional authorization for the memorial under Public Law 93-211 (H.J. Res. 858, 93rd Congress), later amended under Public Law 94-162 (H.R. 9883, 94th Congress). NPS completed construction of LYBA in 1977, so the designation pre-dates the memorial's construction and no documentation was completed as part of the designation. In 1998, Denise Bradley, Landscape Architect, and John C. Howland, Historian, completed a nomination form for the memorial. This form defined the period of significance as 1974 to 1977, with April 6, 1976, and September 2, 1977, listed as significant dates. The site's period of significance begins in 1974 because this is the year that the NPS held a dedication and groundbreaking ceremony on the site. NPS completed construction on the pedestrian bridge across the Boundary Channel in 1977, signaling completion of the creation of the memorial. April 6, 1976, is correctly identified as the date that the NPS dedicated the portion of LYBA on the island. However, the authors incorrectly assert that September 2, 1977, was the date that the NPS dedicated the primary entrance on the Pentagon Reservation and the pedestrian bridge. Research conducted to complete this CLI confirms that this dedication ceremony was actually held on October 12, 1977. The 1998 NRHP nomination applies Criteria A and C and Criteria Considerations F and G. Note that the authors mistakenly checked the line for Criterion B instead of Criterion A on the form, but the narrative statement of significance makes it clear that Criterion A is being applied specifically in relation to the historic pattern of creating presidential memorials and that as such LYBA has a national level of significance under this criterion. This CLI concurs with the 1998 nomination's applicable significance criteria, level of significance, and period of significance.

The 1998 nomination states that LYBA consists of two sections: the associated development on the island and the entrance on the Pentagon Reservation. The nomination specifies that the Columbia Island Marina parking lot is not included within the boundary of the memorial. It

makes no explicit comment on whether the Boundary Channel is part of the memorial's design but does identify it as a boundary of the memorial, implying that it lies outside of the site's boundaries. This CLI follows the delineation of LYBA's associated development on the island depicted in the NPS segment map for the resource, which includes the two northern bays of the marina parking lot (Land Resources Division 1979: sheet 1). This is also in keeping with the boundary for the district found in the draft update to the GWMP NRHP nomination pending as of December 2020, which follows the same boundaries as the NPS segment map does for LYBA (Kuhn et al. 2020). It is clear from Palmer's design that the existing marina parking lot was meant to host visitors to the site and that the entrance from the parking lot provided visitors an additional access point to the memorial, secondary to the entrance from the Pentagon Reservation. Furthermore, this CLI finds that the portion of the Boundary Channel immediately adjacent to the memorial development on the island and the Pentagon Reservation is a significant feature under the landscape characteristics of spatial organization, land use, circulation, and constructed water features. It is also present in a number of significant views identified by this CLI. While the inclusion of the Boundary Channel differs from the boundaries found in the NRHP nominations for the park and for LYBA, both the Boundary Channel and the Columbia Lagoon are within the boundaries of the Lady Bird Johnson Park parent CLI. The inclusion of the Boundary Channel within the LYBA CLI boundary is consistent with the treatment of this constructed water feature as a part of the Lady Bird Johnson Park parent landscape.

The 1998 nomination identified one contributing site (the memorial), one contributing structure (the pedestrian bridge), and one contributing object (the megalith) for a total of three contributing resources. This CLI augments the NRHP nomination's resource count by evaluating additional landscape features associated with the following landscape characteristics in accordance with the *CLI Professional Procedures Guide* (2009): natural systems and features, spatial organization, land use, topography, vegetation, circulation, buildings and structures, views and vistas, constructed water features, and small-scale features. The list of contributing features presented in this CLI builds on those developed for the *Lady Bird Johnson Park Cultural Landscape Inventory* (2005; updated 2016) but evaluates the resources within LYBA's boundaries at a higher resolution than the earlier CLI for the parent landscape did.

Concurrence Eligibility

Status

Eligible – SHPO Consensus Determination

Date

04/26/2022

Narrative

This CLI received consensus from the DC Historic Preservation office on 03/24/2022 and from the Virginia State Historic Preservation Office on 04/26/2022.

National Register Significance Level

National

National Register Significance -- Contributing/Individual

Individual

National Register Classification

District (note that the 1998 NRHP documentation listed LYBA as both a district and a site)

Statement of Significance

The information in this section was largely adapted from the *Lyndon Baines Johnson Memorial Grove on the Potomac (LYBA) National Register of Historic Places* (NRHP) nomination form (1998) and the *Lady Bird Johnson Park Cultural Landscape Inventory* (2005; updated 2016). LYBA is a component landscape within the National Park Service's (NPS) Lady Bird Johnson Park (Reservation 344), which in turn is part of the George Washington Memorial Parkway (GWMP) (see below for further discussion of the LYBA boundaries employed for the purposes of this CLI). Note that Reservation 344 is associated only with NPS lands and the Pentagon Reservation is not included within the boundaries of Reservation 344.

Congress authorized the creation of a memorial to Lyndon Baines Johnson (1908-1973), the 36th President of the United States, on December 28, 1973 (Public Law 93-211, amended under Public Law 94-162 on December 20, 1975). As is customary with presidential memorials, President Johnson's memorial was administratively listed on the NRHP at the same time it was authorized. In 1998, Denise Bradley and John C. Howland retroactively authored a NRHP nomination form to provide documentation and context for the existing listing. The nomination specifies that LYBA is nationally significant in the areas of Politics, Conservation, and Landscape Architecture under Criteria A and C with Criteria Considerations F (Commemorative) and G (less than 50 years old) also applied.

The boundaries for LYBA as described in this CLI deviate from those described in the 1998 NRHP documentation. The 1998 boundary description includes the development associated with the memorial on both the island and on the Virginia side of the Boundary Channel. However, it excludes the Columbia Island Marina parking lot and the Boundary Channel entirely from the nomination, encompassing a total of 6.2 acres on either side of the Boundary Channel. This CLI follows the LYBA boundary on the island defined in the NPS segment map for the park unit, which include the two northernmost bays of the Columbia Island Marina parking lot and the land around them west of the GWMP (Land Resources Division 1979: sheet 1). This portion of the memorial is a total of 17 acres. The additional acreage on the Pentagon Reservation is approximately two acres. This CLI also includes approximately 12 acres of the Boundary Channel within the memorial boundaries. The NPS has jurisdiction over the bottom of the channel, although the District of Columbia controls the water that flows through this feature (Kelly 2020: email).

LYBA is significant under Criterion A as a congressionally authorized presidential memorial and as such, represents the pattern of commemorating presidents through memorials within the nation's capital. It meets Criterion C as an example of 20th Century Landscape Architecture in the Modern style designed by renowned Virginia-based landscape architect M. Meade Palmer (1916– 2001) in collaboration with architecture and engineering firm Mills & Petticord Partnership as well as sculptor and master carver Harold Vogel (1930-2011). Criteria

Consideration F applies since the site's primary function is to commemorate President Johnson and Criteria Consideration G applies because it is less than 50 years old at the time of the writing of this Cultural Landscape Inventory (CLI). The proposed period of significance extends from 1974, the year former First Lady Claudia "Lady Bird" Johnson (1912-2007) and President Gerald Ford (1913-2006) led a ceremonial groundbreaking at the site and planted the first of the white pines (*Pinus strobus*) at the memorial grove, to 1977, the year the design team completed the Pentagon Reservation entrance and pedestrian bridge, finalizing construction of LYBA.

CRITERION A – NATIONAL

Creating Social Institutions and Movements:

The Lyndon Baines Johnson Memorial Grove on the Potomac is nationally significant under Criterion A for being a continuation of a tradition in the United States of commemorating presidents in Washington, DC through congressionally authorized monuments. The first example of this form of commemoration was the Washington Monument (1848-85). In the 20th Century, Congress authorized multiple architectural presidential monuments including the Lincoln Memorial (1914-22) and the Jefferson Memorial (1939-43). Like the Washington Monument, these two monuments relied on the language of architectural elements from the classical western world to commemorate the lives and accomplishments of former presidents.

However, other commemorative presidential monuments authorized in the 20th century broke with this stylistic tradition including Theodore Roosevelt Island (1932-1967), the John F. Kennedy Center for the Performing Arts (1971), the Franklin Delano Roosevelt Memorial (1992), and the Eisenhower Memorial (authorized in 1999 and completed in 2020). These memorials are examples of "living memorials" so named because they perform a civic function beyond commemoration. Living memorials first gained popularity following World War I with proponents arguing for memorials to take the form of useful projects such as community centers, libraries, forests, or highways (Shanken 2002: 130). The move away from figurative memorials in favor of spaces that promoted leisure, recreation, and community "…were formalized, consecrated, and put into practice between the wars and most emphatically after WWII" (Shanken 2002: 132).

LYBA conceptually mirrors the living memorial landscape of nearby Theodore Roosevelt Island. Like Theodore Roosevelt Island, the term "living memorial" in the case of LYBA applies both to the concept of the memorial as a space for passive recreation and commemoration, as well as to the trees and other plantings that define the memorial space. Setting aside a stand of trees to act as a territorial focal point for ritualistic commemoration is connected to the ancient concept of sacred groves, a practice adapted from ancient European traditions in 19th-century America in connection with Christian Evangelical revivalism (Jackson 1980: 79-86). This later iteration of the sacred grove imposed both spatial and temporal restrictions to ritualistic performance. LYBA's memorial grove creates a space for commemoration but is less connected to temporality. The evergreen nature of the plantings creates a similar space for visitors regardless of the time of year, making the grove a space outside of time. However, ritual temporality can be seen in the annual gathering at the grove to observe fireworks on the 4th of July and more importantly to the site's commemorative function, during the Texas State Society's annual wreath laying marking the anniversary of President Johnson's birth each August.

The site is also similar to the Franklin Delano Roosevelt Memorial, its near contemporary, in that Palmer divided the site by its intended use with separate paths leading to the memorial plaza with views over the Potomac River and to the meadow for passive recreation. Palmer described the design of the grove as "a very casual thing, open and welcome to all people" indicating its intended use as a public space (*The Washington Evening Star* September 6, 1973: 30). All these living memorials serve a civic function by providing a gathering place for the public.

Living memorials invite visitor interaction and engagement, which is true of LYBA as it was designed to guide visitors in a proscribed pathway leading towards the megalith at its center and prompting visitors to take in the view of the National Mall and contemplate the accomplishments of President Johnson. The space serves a commemorative function, but in creating the meadow northwest of the memorial plaza, Palmer ensured that the space also fulfilled a civic need by providing areas to picnic and walk a circuit through the park that could ultimately connect to the larger trail system adjacent to the Potomac River. The memorial invites visitors to appreciate the outdoors and to feel a connection to the former president through his and Lady Bird Johnson's

personal attachment to the island, the use of the granite from his ranch in Texas, and to his political legacy of land conservation. LYBA's visual connection to other presidential memorials symbolically connects President Johnson to prominent presidents who served before him making it part of an assemblage or system of memorials organized around this part of the Potomac River.

LYBA reflects the former president's commitment to public parks and the quotations inscribed on four granite pavers arranged around the base of the megalith convey his dedication to promoting racial justice, public education, and environmental quality as well as his views on the responsibilities of the presidential office (the quotations are listed respectively below):

> *The promise of America is a simple promise: Every person shall share in the blessings of this land.*
>
> *I believe that every boy and girl in this great land has a right to all the education he or she can use. I intend to work to make this right a reality.*
>
> *All my life I have drawn sustenance from the rivers and from the hills of my native state. I want no less for all the children of America than what I was privileged to have as a boy.*
>
> *I hope it may be said a hundred years from now, that by working together we helped to make our country more just for all its people. I believe at least it will be said that we tried.*

While in office, President Johnson added 3.6 million acres of NPS land by creating 50 new units and expanding the holdings of existing properties such as Redwood National Park, where another memorial grove, named in honor of Lady Bird Johnson, was dedicated in 1969 (Earley and Fanning 2005: 49). In addition to land conservation, President Johnson promoted education, public health, affordable housing, and civil rights while in office, formally organizing his initiatives as the War on Poverty and the Great Society (Goldfield 2014: 35). Legislation that reflected President Johnson's domestic agenda include the 1964 Wilderness Act, the 1964 Civil Rights Act, the 1965 Land and Water Conservation Fund Act, the 1965 Higher Education Act, and the 1966 National Historic Preservation Act.

CRITERION C – NATIONAL

Expressing Cultural Values:

LYBA is listed as nationally significant under Criterion C as an example of 20th Century Landscape Architecture and is an example of regional Modern landscape architecture. The design of the memorial grove was recognized nationally, winning awards from the American Association of Nurserymen and the American Landscape Contractors Association (1978). It was designed by a regionally acclaimed landscape architect, Milton "Meade" Palmer, in collaboration with the architecture and engineering firm Mills and Petticord and sculptor Harold Vogel. Meade's design team included architect Fred Kines and landscape architect Barry Starke during the early phases of the memorial's development and landscape architect Susan Nelson who was involved in LYBA's construction (Starke 2021: email).

Palmer, based out of Warrenton, Virginia, practiced landscape architecture for over 60 years, primarily in Virginia and Washington, DC and was known as a regionally specific designer focused on the Piedmont (Takahashi 1990: 36). Palmer studied landscape architecture at Cornell in the 1930s corresponding with a rise in Modernist influence in the United States in all areas of design (Hester 1983: 49; Carr 1999: 82). While his training followed the Beaux Arts tradition, Palmer experimented with Modernist ideas and forms in his student work (Takahashi 1990: 4). Palmer's firm executed designs for private estates, public works, and corporate projects (Thompson and Cady 1991: 73). A hallmark of Palmer's work is minimalist interventions intended to augment the context of each site. He embraced the mutability of landscape in his designs observing, "…a landscape is very dynamic and goes through the curve of various stages of maturity. One of the fascinations of a landscape is this evolution" (Thompson and Cady 1991: 71).

Palmer was known for his use of vernacular techniques and materials often incorporating brick, wood, and stone into his designs, but arranging them with a Modern sense of proportion and organization (Takahashi 1990: 4). His work showed Modernist influence in spatial division by intended use or function and in the simplicity of his interventions (Hester 1983: 49). Palmer viewed plants as both sculptural and dynamic elements in his designs, explaining, "I can think of

none of the fine arts that compares with it [planting design] in complexity. You're dealing with an amorphous material. You've got a general idea of what the plant is shaped like, but you don't really know" (Takahashi 1990: 36). He advocated that designers consider a plant's form and color when developing their planting palette and advised against overly complex planting designs. (Takahashi 1990: 37-8).

Palmer became a Fellow of the American Society of Landscape Architects (ASLA) in 1958 and received the society's highest honor, the ASLA Medal, in 1991. Following his death, the Virginia Chapter of the ASLA created the M. Meade Palmer Medal in his honor, which is awarded annually "to an individual who exemplifies the values, sensibility and spirit reflected in [his] life and work," including a dedication to teaching, humility, and "a deep respect for nature and context…dictating a lightness of touch that became his hallmark" (ASLA Virginia 2020).

LYBA reflects Palmer's preference for minimalist designs informed by the existing topography and spatial organization (Bradley and Howland 1998: 12). The memorial grove demonstrates a combination of both Palmer's regional practice based in vernacular materials and the influence of Modernism on his designs. It is characterized by strong spatial organization defined largely through the circulation system that creates well-defined spaces through hard edges and changes in material. He employed minimal grading to elevate the memorial plaza of the grove and he shielded the meadow with berms along the MVMH. These two spaces serve specific and distinct purposes, with the plaza encouraging visitors to reflect on the accomplishments of the President Johnson while the meadow provides them with leisure and recreational opportunities. This spatial division is a hallmark of Modern landscape architecture.

The building materials used throughout the memorial reflect Palmer's preference for vernacular materials: locally sourced micaceous schist; flagstone; and wood juxtaposed with exposed aggregate concrete, a typical Modern material, at the periphery of site (Takahashi 1990: 36) While the stone of the megalith is from Texas, it shows Palmer's sensitivity to the symbolic importance of materials, intending for the megalith to represent President Johnson and his strength of character (Takahashi 1990: 47).

The planting design largely adheres to formal considerations rather than ecological ones. Palmer acknowledged this when he expressed concern over the hardiness of white pines in an urban environment and indicated that the location of LYBA within the flight path of the National Airport made the species a poor choice for the memorial grove (Takahashi 1990: 24). The underplantings in the memorial grove reflect consideration of soil culture to some extent. Many of the shrubs Palmer selected such as azaleas (*Azalea* sp.), rhododendrons (*Rhododendron maximum*) and cherrylaurel (*Prunus laurocerasus*) require acidic soil and Palmer likely anticipated that the needles shed by the white pine overstory would increase the memorial grove's acidity. Furthermore, until around 2014 much of the groundcover throughout LYBA was pine needle mulch purchased from a distributor in North Carolina further increasing the acidity of the soil on site (Bouchard and Willet 2021: personal communication). However, the plants in the memorial grove seem to have been chosen for their evergreen character as they are not well suited to grow in the fill that comprises the island's soil.

The layout of the spiraling flagstone path leading to the plaza and megalith is a prominent formal element and can be viewed as an abstract form of landscape art (Earley and Fanning 2005: 20). The spiral of the primary path is highlighted by surrounding elements, such as the low retaining walls, understory plantings, groupings of white pines, benches, and light posts. The asymmetry and formal geometry of the spiraling path reveals Modernism's influence on Palmer's design vocabulary. Curves are a reoccurring form in Palmer's work, an element that he explained was often a response to a site's topography (Takahashi 1990: 4, 40). LYBA is an illustration of 20th century landscape architectural design and a late example of a Modern designed landscape.

CRITERIA CONSIDERATIONS

Both Criteria Considerations F and G apply to the LYBA cultural landscape. LYBA is a commemorative district that recognizes President Lyndon B. Johnson's service as president and is an example of the significant symbolism that presidential memorials represent as part of a larger cultural practice. Although less than 50 years old at the time of writing this CLI, LYBA is a significant resource of the recent past holding a national level of significance as a presidential memorial within the nation's capital.

HISTORIC CONTEXT

The Washington Monument (1848-85) was the first congressionally approved presidential memorial. Congress originally considered commemorating the first president with a national monument in 1783 and Pierre-Charles L'Enfant reserved a prominent location in his 1791 plan for Washington, DC (Petroski 2012: 16-17). However, Congress took no further action to construct the monument in the 18th century. It was not until the formation of the private Washington National Monument Society in 1833 that the project proceeded. The organization fundraised for over a decade and settled on a design by architect Robert Mills (1781-1855) in 1845 (Savage 2005: 55). Construction of the obelisk commemorating George Washington began in 1848 but was stalled in 1854 when the Society went bankrupt (Petroski 2012: 18). In July 1876, Congress passed a joint resolution to fund the completion of the Monument, a task that was completed by the USACE under direction of Colonel Thomas Lincoln Casey in 1884 and dedicated the following year (Savage 2005: 107). This monument began a tradition of employing the language of classical architectural design elements for architectural presidential commemorations that continued with the Abraham Lincoln Memorial and the Thomas Jefferson Memorial. All three of these memorials are visible across the Potomac River from LYBA. It is also worth noting that the GWMP, where LYBA is sited, is itself a living memorial to the first president of the United States. First conceived of as the Mount Vernon Memorial Highway (MVMH) in 1926, this 15.5-mile parkway was designed both to commemorate the bicentennial of George Washington's birth on February 22, 1932, and to provide recreational infrastructure to users, including scenic views, pleasure drives, and parkland. (Refer to the Physical History for additional information on the development of the MVMH and GWMP).

Frederick Law Olmsted, Jr. (1870-1957) and Henry V. Hubbard (1875-1947) designed Theodore Roosevelt Island (formerly Analostan or Mason's Island), between 1932 and 1947, as an 88-acre wilderness preserve that was easily accessible from the Washington, DC metropolitan area. Architect John Russell Pope (1874-1937) consulted on the overall design until his death in 1937 (Moss 2011: 240). The design called for the space to be open for the public's enjoyment with a series of hiking trails and would also convey the 26th President's commitment to wilderness conservation. Olmsted and Hubbard envisioned that the woodland and its plants would serve as

a literal "living" memorial. Architect Eric Gugler and sculptor Paul Manship created a central plaza and sculpture in 1967 that formally represents the classical Beaux Arts style of earlier presidential memorials, but also employs Modern design elements (JMT 2018: sect 4, p 5). Located in the Potomac River, Theodore Roosevelt Island lies directly north of Lady Bird Johnson Park and is accessible from the Virginia shore via a pedestrian bridge that was part of Olmsted, Jr.'s original design, but was not completed until 1979.

The John F. Kennedy Center for the Performing Arts (1971) is a living memorial serving the public as a theater and cultural gathering place. The plans for the theater pre-date the death of the 35th President, first congressionally authorized in 1958 under the National Cultural Center Act (Public Law 85-874) (Meersman 1980b: 641). The building's architect was Edward Durell Stone (1902-1978), father of Edward Durell Stone, Jr. who created the partially implemented planting plan for Columbia Island. During his presidency, Kennedy actively sought to raise funds for the center and raise visibility of the project so that it could be built. Following President Kennedy's assassination in November 1963, President Johnson signed a bill to rename the center to honor the fallen president (Meersman 1980a: 554). The performing arts center opened in September 1971.

The Franklin Delano Roosevelt (FDR) Memorial is another landscape like Theodore Roosevelt Island that provides visitors both a parklike public space and a contemplative setting to honor a US President. Although the last sculpture was not placed until 2001, Congress first authorized the memorial in 1959 with land set aside in West Potomac Park (Public Law 86-241) (Parsons 2012: 147). Landscape architect Lawrence Halprin (1916-2009), who won the commission through a design competition in 1974, divided the 66-acre site into a "secular area" and a "sacred area" although he considered both components as part of the memorial to the 32nd president (Rainey 2012: 164). The secular area consisted of playing fields fulfilling a civic need in the utilitarian tradition of living memorials and the sacred area was arranged as a 7.5-acre garden comprising a series of outdoor rooms punctuated by a central fountain. The garden landscape communicates a narrative of FDR's presidency through inscriptions and sculptural elements created by multiple sculptors: Leonard Baskin, Neil Estern, Robert Graham, Thomas Hardy, and George Segal.

The Dwight D. Eisenhower Memorial, which post-dates LYBA in both concept and execution, is the most recent living memorial erected in Washington, DC. Congress authorized the memorial and formation of the Eisenhower Memorial Commission in 1999 and granted the commission authority to erect the memorial on public lands in 2002 (Public Law 106-79; Public Law 107-117). The Eisenhower Memorial Commission selected a design by architect Frank Gehry in 2009 which frames a view of the Capitol along Maryland Avenue to the east within a 4-acre site. Though stymied by lack of funding and objections to the selected design by members of the Eisenhower family, the site broke ground in 2017 and was completed in 2020 (*The New York Times* [*TNYT*] July 9, 2015; *TNYT* November 2, 2017; *TNYT* September 13, 2020). The final design was a compromise between the Eisenhower Family and Gehry that provides a parklike plaza with seating amidst turf planted with trees. The memorial combines opportunities for passive recreation with its commemorative function, similar to LYBA. At the center of the memorial are three groups of statues that illustrate the progression of the 34th president's life, from his youth in Kansas, his service as the Supreme Commander of the Allied Expeditionary Force during World War II, and his two terms in the Oval Office. Behind the sculptural grouping is a steel tapestry that depicts the Normandy coastline on D-Day. Sergey Eylanbekov was the sculptor for the project, Tomas Osinski collaborated with Gehry to create the tapestry, and Nick Benson served as the inscription artist. The finished memorial creates a commemorative environment at the base of Capitol Hill that also serves a civic function embedded into the fabric of federal offices along Independence and Maryland Avenues.

National Register Significance Criteria

Criterion A: Event

Criterion C: Design/Construction

National Register Criteria Considerations

Criteria Consideration F: Commemorative Properties

Criteria Consideration G: Properties That Have Achieved Significance Within the Last Fifty Years

National Register Periods of Significance (with Historic Context Themes)

Start Year/Era and End Year/Era	Historic Context Theme	Subtheme	Facet
1974 CE - 1977 CE	Creating Social Institutions and Movements	Recreation	General Recreation
1974 CE - 1977 CE	Expressing Cultural Values	Landscape Architecture	Modern Landscape Design and Site Planning

National Register Areas of Significance

Category	Subcategory (only for Archeology and Ethnic Heritage)	Narrative
Art		
Landscape Architecture		
Politics/Government		

National Historic Landmark

Status

No

World Heritage Site

Status

No

National Natural Landmark

Status

No

NRIS Information (with Other Certifications)

NRIS Name

Lyndon Baines Johnson Memorial Grove On The Potomac

NRIS ID

73002097

Other Name

N/A

Primary Certification Date

12/28/1973

Other Certification

N/A

Other Certification Date

N/A

State Register Documentation

Identification Number

N/A

Name

Lyndon Baines Johnson Memorial Grove

Listed Date

03/03/1979

Chronology & Physical History

Chronology

Start Year	Start Era	End Year	End Era	Major Event	Major Event Description
11000	BCE	9600	BCE	Inhabited	During the earliest period of known settlement of the Potomac Valley, Paleo-Indian peoples were highly mobile and traveled in small groups of no more than around 150 to hunt game and gather other resources.
9600	BCE	7600	BCE	Inhabited	The Early Archaic Period was characterized by increased human settlement and archeological evidence of human habitation during this period has been found in the vicinity of Little Falls and along the Anacostia River.
76000	BCE	3800	BCE	Inhabited	Human use of Analostan Island increased after 6200 BCE and given the increased use of the Potomac River islands during the Middle Archaic Period, it is likely that people were using canoes to navigate the river.
3800	BCE	2400	BCE	Inhabited	Changes in forest composition surrounding the Potomac Valley corresponded with a rise in Late Archaic cultural groups, which suggests that the people around present-day Washington, DC during this time period took advantage of the food sources provided by the oak, hickory, and chestnut-dominated forests, such as edible nuts and game animals.
2400	BCE	1400	BCE	Inhabited	Peoples of the Terminal Archaic Period were less mobile than those of earlier periods, spending more of their year in large riverside encampments and traveling via canoe to Potomac River islands including Analostan Island.
1400	BCE	700	BCE	Inhabited	During the Early Woodland Period, people continued to live in riverside encampments and began to use pottery, sherds of which have been discovered on Analostan Island.
700	BCE	1000	CE	Inhabited	The population on Analostan Island grew during the Middle Woodland Period, despite an overall population decrease in the region and it is possible that the Algonquian

					language was spoken in the region early as 750 CE.
1000	CE	1607	CE	Farmed/Harvested	There were several Algonquian speaking tribes including the Nacotchtanck people in the region during the Late Woodland Period that farmed corn, squash, and beans in communities organized around floodplains and large streams.
1607	CE	1608	CE	Explored	Captain John Smith explored the Potomac River and its Eastern Branch becoming the first European to conduct a voyage within the vicinity of present-day Washington, DC.
1612	CE	1612	CE	Platted	Captain John Smith depicted his journey along the Potomac River in maps published in his General Historie of Virginia.
1620	CE	1639	CE	Explored	Captain Henry Fleet voyaged north of the Potomac falls recording that he encountered Nacotchtanck Native Americans, but did not note their location.
1711	CE	1711	CE	Explored	Swiss explorer Baron Christoph von Graffenried traveled through the Potomac Valley and based on his accounts it is possible, but not certain, that there was still a Native American presence on Analostan Island at this time.
1717	CE	1717	CE	Land Transfer	George Mason III acquired Analostan Island from Margaret and Francis Hammersley and his descendants maintained ownership of the island until 1833.
1791	CE	1791	CE	Land Transfer	On March 30, 1791, President George Washington signed the agreement formally creating the District of Columbia with land ceded from Virginia and Maryland.
1791	CE	1792	CE	Planned	Pierre-Charles L'Enfant designed a plan for the new ten-square-mile federal city, which Andrew Ellicott and Benjamin Banneker surveyed the following year.
1807	CE	1807	CE	Built	Georgetown Common Council built a 380-foot-long dam and causeway, dubbed Mason's Causeway, connecting Virginia's shore to the northwest corner of Analostan Island.

1818	CE	1837	CE	Altered	The silt bar that formed basis of Columbia Island accumulated during this period more than doubling the length of Analostan Island by 1837.
1833	CE	1833	CE	Planned	Engineers hired by the Corporation of Georgetown proposed dredging the Potomac River to a depth of 16 feet.
1846	CE	1847	CE	Land Transfer	In 1846, Alexandria voted to retrocede from Washington, DC back to Virginia and the territory was officially taken back by the Commonwealth in March of 1847.
1857	CE	1857	CE	Planned	Alfred Landon Rives, a civil engineer working under the Secretary of the Interior, made a comprehensive study for Congress of the Potomac River within Washington, DC.
1864	CE	1884	CE	Eroded	A small channel developed between the Analostan Island and the silt bar spit south of the island.
1867	CE	1868	CE	Planned	Congress placed the maintenance of Potomac River navigation and bridges under the oversight of the US Army Engineer Bureau (later renamed the US Army Corps of Engineers) and Major Nathaniel Michler prepared a report for Congress that included recommendations for improving navigability.
1884	CE	1889	CE	Engineered	Major Peter Conover Hains granted Benson & McNee a contract to dredge the Virginia Channel as part of ongoing work constructing the Potomac Flats. Benson & McNee began dredging the Virginia Channel in 1885 and continued until 1889.
1892	CE	1895	CE	Built	Under direction of Major E.L.B. Davis, contractor Frank C. Somers constructed a "training dike" south of Analostan Island, which likely formed the basis for the construction of Columbia Island in the early 20th century.
1902	CE	1902	CE	Planned	Congress established the Senate Park Commission, commonly referred to as the McMillan Commission, in 1901. The following year the Commission published a report detailing plans for redesigning the core of

					Washington, DC and this plan provided for a bridge that would cross the southern portion of Analostan Island (not yet renamed as Columbia Island).
1915	CE	1927	CE	Engineered	The US Army Corps of Engineers shaped Columbia Island using the 1892 training dike and a series of newly constructed dikes and levees beginning around 1915. Engineers built the island out of hydraulic fill and work continued until 1927 when the island was filled to an average elevation of 20 feet above mean low water.
1923	CE	1924	CE	Planned	William Mitchell Kendall, working for the architectural firm McKim, Mead & White, created an initial design for the Arlington Memorial Bridge in 1923 and the Arlington Memorial Bridge Commission presented an iteration of this plan to Congress in May of 1924 after it was reviewed by the Commission of Fine Arts (CFA) and National Capital Park Commission (NCPC; present-day National Capital Planning Commission).
1925	CE	1927	CE	Altered	Between 1925 and 1927, engineers reshaped Columbia Island to accommodate construction of the Arlington Memorial Bridge and widened the channel between Analostan and Columbia Islands.
1929	CE	1932	CE	Built	The federal government funded construction of the Mount Vernon Memorial Highway (MVMH) extending from the Arlington Memorial Bridge to George Washington's estate, Mount Vernon, in honor of the bicentennial of the first president's birth. The first light posts along the MVMH, including within the LYBA boundary, were installed in 1932.
1931	CE	1931	CE	Planned	James L. Greenleaf developed a landscape plan for Columbia Island, which recommended that oaks be the dominant trees on the island amid expanses of green turf. Although Greenleaf's plan was never fully implemented, it did influence future planting plans for the island.

1932	CE	1932	CE	Planted	Wilbur Simonson's planting design for MVMH (built 1929-1932) was implemented during the last phase of construction including 75 ornamental trees some of which were planted within the present-day LYBA boundaries.
1932	CE	1932	CE	Planned	Gilmore Clarke produced a landscape report for Columbia Island in consultation with Henry Nye and Simonson in which he advocated for planting the island with lawn and canopy trees planted in groups or as specimens, with very few shrubs.
1933	CE	1933	CE	Land Transfer	The National Park Service (NPS) took over management of all National Capital Parks from the War Department, including Columbia Island.
1940	CE	1943	CE	Graded	The shoreline of the Boundary Channel was graded so that the Columbia Island and Virginia shores ran smoothly parallel from each other.
1941	CE	1943	CE	Built	The War Department constructed the Pentagon building, designed by George Edwin Bergstrom and David J. Witmer, on a 227-acre site in Arlington, Virginia adjacent to Columbia Island across the Boundary Channel. Columbia Lagoon was enlarged as part of this project.
1950	CE	1959	CE	Altered	NPS replaced most of the light posts installed along the MVMH/GWMP with Cobra-headed standards during the 1950s. It is likely that the light posts along the parkway within LYBA's boundaries were also replaced at this time.
1955	CE	1955	CE	Planned	Horace W. Peaslee, architect and landscape architect, designed the Columbia Island Marina in 1955 with the capacity to store up to 700 motorboats.
1956	CE	1956	CE	Planted	As part of construction of the Columbia Island Marina in 1956, NPS planted around 30 trees including willow oaks in the medians of the original two parking lot bays, as well as maples and some shrubs throughout the marina.

1956	CE	1965	CE	Built	NPS constructed the Columbia Island Marina according to Peaslee's design, which provided ample parking at the southern end of Columbia Island, a snack bar, and an array of piers projecting into the channel and lagoon at the island's southwestern tip. The first two parking lot bays were constructed in 1956 and NPS added a third parking lot bay to the north in 1963. In 1965, NPS installed lighting along the shores of the Boundary Channel and Columbia Lagoon.
1963	CE	1963	CE	Planted	The NPS planted additional willow oaks in the medians of the third parking lot bay at the Columbia Island Marina in 1963.
1966	CE	1966	CE	Engineered	The NPS dredged the Boundary Channel and Columbia Lagoon around 1966 to increase its depth for recreational boating.
1967	CE	1971	CE	Planned	As part of Lady Bird Johnson's Beautification Program, Edward Durell Stone, Jr. created a planting plan for Columbia Island in collaboration with Charles A. Lewis. The plan was installed in phases through the early 2000s.
1967	CE	1968	CE	Planted	Mary Lasker, member of the First Lady's Committee for a More Beautiful National Capital, donated 800,000 daffodil bulbs to be planted on Columbia Island between fall 1967 and spring 1968 according to Stone's plan, which included a large daffodil bed within the present-day LYBA meadow. NPS planted an additional 150,000-200,000 daffodils in the fall of 1968.
1968	CE	1968	CE	Memorialized	On November 4, 1968, Secretary of the Interior Stewart Udall approved changing the name of Columbia Island to "Lady Bird Johnson Park" in honor of the First Lady's beautification efforts and announced the name change during a formal ceremony at the Department of the Interior on November 12, 1968.
1969	CE	1971	CE	Planted	Mary Lasker paid for NPS to plant 2,500 dogwoods throughout Columbia Island, including within the present-day boundaries of LYBA.

1973	CE	1977	CE	Memorialized	Following President Lyndon B. Johnson's death on January 22, 1973, Lady Bird Johnson and friends of the presidential couple formed the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac and worked to receive Congressional approval to build a memorial to the 36th president within Lady Bird Johnson Park. The initial legislation passed in 1973 did not allow public funds to be spent on development of the memorial. In December 1975, Congress amended the original legislation authorizing the NPS to spend up to one-million dollars of federal funding to build infrastructure to increase ease of access for visitors.
1973	CE	1973	CE	Planned	The committee engaged M. Meade Palmer by February 1973 and the NCPC and CFA approved his preliminary plans for the memorial in September.
1973	CE	1975	CE	Established	Congress authorized the memorial's construction on December 28, 1973, under Public Law 93-211 (H.J. Res. 858, 93rd Congress). Congress amended the original legislation authorizing the memorial with Public Law 94-162 (H.R. 9883, 94th Congress) in December 1975.
1974	CE	1974	CE	Planted	Supporters of the memorial held a groundbreaking ceremony on September 27, 1974. President Gerald Ford spoke as part of the event and ceremonially turned a shovel full of dirt on the site where the first white pine of the memorial grove would be planted. Palmer noted the location of this white pine northeast of the Columbia Island Marina parking lot in his Phase I plan set for LYBA's construction.
1974	CE	1975	CE	Built	Liz Carpenter, former press secretary for Lady Bird Johnson, arranged delivery of the granite block that sculptor Harold Vogel had selected to create the memorial's megalith in September 1974. Vogel carved the megalith on site and it was moved to its permanent location in August 1975.
1974	CE	1976	CE	Built	LYBA was constructed in two phases. During the first phase of construction, NPS installed

					the development on the island according to Palmer's design, which included planting trees and shrubs; constructing the paths; sculpting and placing the megalith; and installing benches, lighting, and trash receptacles throughout the site. The NPS held a formal celebration opening the memorial grove at the end of Phase I of construction on April 6, 1976.
1976	CE	1976	CE	Built	NPS started Phase II of construction by October 1976 and completed this phase of construction by fall of 1977. During this period, NPS installed the primary entrance on the Pentagon Reservation, including the parking lot, retaining wall, planters, and plantings, and constructed the pedestrian bridge across the Boundary Channel. NPS held a dedication ceremony on October 12th of that year.
1977	CE	1980	CE	Planned	The wildflower plantings on the island were installed following completion of the memorial's construction between 1977 and 1980.
1979	CE	1979	CE	Built	In 1979, LYBA had eight picnic tables, half the number specified in Palmer's plan for the meadow suggesting that the picnic tables were installed in a different configuration than that specified by construction drawings.
1979	CE	1979	CE	Altered	In 1979, four piers projected from the shoreline along the Boundary Channel within LYBA's boundaries, one fewer than had been present on site prior to LYBA's construction.
1980	CE	1980	CE	Altered	In 1980, NPS reinforced the pedestrian bridge's support structure with wire cables following complaints that it swayed under the weight of visitors to the memorial during the district's annual July fourth fireworks display.
1981	CE	2021	CE	Memorialized	In 1981, the Texas State Society in Washington, DC began the practice of laying a wreath within the memorial grove each year at sunset on the anniversary of President Johnson's birthday on August 27th, a practice that amplifies the property's commemorative use.

1984	CE	1989	CE	Built	The park added an irrigation system to the turf east of the memorial plaza between ca. 1984 and 1989 and used skinner valves in other areas of the site to provide access to water to maintain the memorial plantings.
1989	CE	1989	CE	Altered	The NPS removed about four-thousand square feet of compacted soil within the memorial grove west of the memorial plaza and replaced it with sandy loam before planting around 35 replacement white pines. During this time, NPS also had to replace a total of 50 white pines in-kind throughout the memorial that had died due to drought and pest infestation.
1991	CE	2009	CE	Altered	Between ca. 1991 and 2009, NPS had made substantial changes to the plantings on the Virginia side of the Boundary Channel including removing junipers and grasses from the raised beds on the deck and replacing original azaleas and rhododendrons with daylilies.
1991	CE	2011	CE	Removed	NPS removed the cotoneaster beds from the area in front of the spiral retaining wall and the main entrance between ca. 1991 and 2011.
1995	CE	1995	CE	Rehabilitated	In 1995, the NPS rehabilitated the Columbia Island Marina parking lot, which included resurfacing the existing asphalt pedestrian walkway east of the lot, installing additional accessibility ramps and marked accessible parking spots, and removing the bus shelter and its foundation from LYBA's southern boundary adjacent to the loop of the entry drive.
1995	CE	2000	CE	Planted	NPS initiated a rehabilitation plan for the daffodil beds throughout Lady Bird Johnson Park, including plantings in the LYBA boundaries between ca. 1995 and 2000.
1998	CE	1998	CE	Built	The NPS installed eight Union Metal Standard light posts within LYBA's boundaries along the GWMP as part of a larger project to rehabilitate the lighting along the parkway.
2000	CE	2003	CE	Rehabilitated	John Milner Associates, Inc. (JMA) created and implemented a rehabilitation plan for LYBA to address specific areas of concern including

					treatments for the flagstone walkway, the stone retaining wall on the Virginia side, and the wooden pedestrian bridge and deck. Based on JMA's plan, NPS added parking spots for visitors with disabilities and new accessibility features such as ramps and accessible drinking fountains, and rehabilitated the pedestrian bridge.
2004	CE	2004	CE	Altered	In 2004, GWMP staff painted the pedestrian bridge and wooden decks with a blue-gray colored weather sealer meant to retard the deterioration of the bridge's wooden components, which they reapplied in 2012 and 2017.
2004	CE	2005	CE	Altered	The median of the Pentagon Reservation parking lot was modified between August 2004 and March 2005, jutting west at its northern end apparently as a traffic calming measure along Boundary Channel Drive. The jogging trail that Palmer designed in the middle of the parking lot median was eliminated at this time.
2005	CE	2011	CE	Planned	Federal Highway Administration (FHWA) proposed a new multimodal bridge from the Pentagon reservation across the Boundary Channel to Lady Bird Johnson Park as part of its 14th Street Bridge corridor improvements. The agency dubbed the bridge Alexanders Point Bridge and intended for it to increase access to the island for motorists, cyclists, and pedestrians. The plan was never implemented.
2008	CE	2008	CE	Planted	GWMP restored the perennial flower beds at LYBA using a plant palette that was as close to Palmer's original selection as possible with adjustments to better accommodate light and water conditions for each of the beds.
2011	CE	2011	CE	Built	NPS installed three temporary wayside interpretive panels: two on the deck on the Virginia side and one adjacent to the megalith within the flagstone plaza. The waysides are still in situ in 2021.
2012	CE	2013	CE	Built	A sidewalk was added south of the Pentagon Reservation entrance between October 2012 and October 2013 (within the CLI boundary)

					that connected to the edge of the parking lot sidewalk that was part of Palmer's design.
2013	CE	2013	CE	Planned	GWMP developed a planting restoration plan that called for the removal of English ivy from the bed around the megalith, as well as the planting of seven white pines, about 270 azaleas and summersweet shrubs, 900 daffodils, and 310 orange coneflowers. The plan was only partially implemented. GWMP staff confirmed that the park planted bluebells, azaleas, and pines in accordance with this plan and that some pines were removed during this time. However, the total quantities of these plantings are unknown.
2013	CE	2013	CE	Removed	NPS removed a shed north of the meadow loop that was depicted in a plan created by Palmer in 1975 showing the extent of the project boundaries for LYBA.
2018	CE	2018	CE	Planted	Casey Trees planted 83 trees along LYBA's western shore and a total of 106 tress within Lady Bird Johnson Park during their 2018 work as part of the Potomac Electric Power Plant Company's (PEPCO) Damage Assessment Restoration Plan (DARP) that included restoration work along the Boundary Channel.

Physical History

The following section provides information on the physical development and evolution of the site, organized by time periods.

Physical History Time Periods and Narratives

The physical history for this Cultural Landscape Inventory (CLI) relies extensively on research found in the *Lady Bird Johnson Park Cultural Landscape Inventory* (2005; updated 2016) for history specific to the island and memorial development, and *Analostan: The Archeology of Theodore Roosevelt Island* (2020) for pre-contact contextual history. For additional information on pre-contact and early history of Washington, DC, please reference *Commoners, Tribute, and Chiefs: The Development of Algonquian Culture in the Potomac Valley* by Stephen R. Potter (1994).

PRE-CONTACT HISTORY AND NATIVE AMERICAN SETTLEMENT (11,000 BCE-1607 CE)

The Lyndon Baines Johnson Memorial Grove on the Potomac (LYBA) is located within Lady Bird Johnson Park, which occupies the entire human-made island formerly called Columbia Island and is part of the George Washington Memorial Parkway (GWMP) park unit encompassing 7,749.64 acres in total. Although this island was not constructed until the early 20th century, it shares many aspects of its physical history with the Lower Potomac River, the fall line between the Middle Atlantic Coastal Plain and Piedmont, and Analostan Island (also formerly known as Mason's Island and renamed Theodore Roosevelt Island in 1932). Columbia Island began as a silt bar extending south from the micaceous Wissahickon schist and alluvial deposits of Analostan Island (Thomas 1963:1). For this reason, the physical histories of the two islands are inextricably linked. The discussion below of the Potomac River and Analostan Island provide context for the eventual formation of Columbia Island, Lady Bird Johnson Park, and LYBA.

Humans inhabited the Potomac Valley since 11,000 BCE. While the archeological record shows varying densities of occupation along the Potomac River west of Washington, DC, there is evidence of continual human occupation from this time period. The Potomac River has itself existed in approximately the same location for two million years and the Lower Potomac River has been a tidal estuary for about 8,000 years (Garrison and Lester 2017: 32). LYBA, Lady Bird Johnson Park, and Analostan Island are located at the boundary between the Coastal Plain and the Piedmont; two physiographic regions that extend from New Jersey to Georgia. The Piedmont is characterized by igneous and metamorphic rock that create falls where they meet the clay and silt of the Coastal Plain. For this reason, this junction is known as the fall line and, due to the powerful water velocity generated by the falls, was historically the head of navigation. The first falls on the river are about four miles upstream from LYBA and the navigability of this portion of the river has driven its long history of human habitation (Bedell et al. 2020: 6, 9).

During the earliest period of known settlement of the Potomac Valley, that of the Paleo-Indian peoples (11,000 BCE-9600 BCE), sea levels were around 300 feet lower than in the present day, which created a very different physiographic environment. This time corresponds with a harsh cold period known as the Younger Dryas. There was no Chesapeake Bay and the Potomac and

Susquehanna Rivers converged before entering the Atlantic Ocean as one body of water. The people of this time were highly mobile and traveled in small groups of no more than around 150 to hunt game and gather other resources. While there are no artifacts from this period on Analostan Island, archeologists have found Clovis spear points from this time in other parts of the Potomac Valley (Bedell et al. 2020: 9).

The next period of settlement in the region occurred during the Early Archaic Period (9600 to 7600 BCE), which anthropologists characterize by an increase in human settlement following the end of the Younger Dryas. The new inhabitants differ from the dominant culture prior to and during the Younger Dryas, distinguishable by the relatively small, notched points that they produced, which differ from the Clovis spear points of the previous period. While no Early Archaic Period tools have been found on Analostan Island, several of these smaller points, known as Kirk points, have been found in the vicinity of Little Falls and along the Anacostia River (Bedell et al. 2020: 9, 12).

The Hypsithermal climatic episode marked by increased temperatures and a decrease in rainfall corresponds with the Middle Archaic Period (7600 BCE-3800 BCE). The Potomac Valley at this time was dominated by oak-pine-hemlock forests and the human population grew, including in areas that were not previously inhabited. There is evidence that people visited Analostan Island 9,000 years ago and that the range of these inhabitants extended to Catoctin Mountain in Maryland, based on the rhyolite tools that they used. Human use of Analostan Island increased after 6200 BCE and given the increased use of the Potomac River islands during this period, it is likely that people were using canoes to navigate the river (Bedell et al. 2020: 12, 14).

While a variety of cultures developed throughout Eastern North America during the Late Archaic Period (3800-2400 BCE), the Halifax culture is the most common in the vicinity of present-day Washington, DC. However, it should be noted that the area of the capital city was likely a dividing line between the southeastern Halifax and northeastern Otter Creek/Brewerton cultures and there would have been overlap in the land that these groups occupied (Bedell et al. 2009: 18). Forests in Virginia and Maryland at this time became increasingly characterized by

trees such as oak, hickory, and chestnut, which provided reliable sources of nuts that could be stored through the winter. This change in dominant forest species was the result of the climate becoming warmer and drier between 4000 and 3500 BCE and it coincided with the rise in Late Archaic cultural groups, which suggests that these people took advantage of the newly available food source. Radiocarbon dating for the Halifax culture typically ranges between 4000 to 3000 BCE and there is archeological evidence along the shoreline of the mid-Potomac and Analostan Island of Halifax culture occupation. While there is not conclusive archeological evidence that post-Halifax peoples of the Late Archaic Period occupied Analostan Island, points discovered on the island that likely date to the later part of this period suggest that habitation continued beyond the end of the Halifax tradition (Bedell et al. 2020: 14, 16).

Cultures of the Late Archaic Period lived in widely dispersed settlements in small, highly mobile groups. This pattern of habitation changed around 2400 BCE when the people of the Chesapeake region began living in relatively larger sites most often adjacent to major bodies of water such as the Potomac River. This cultural shift signals the start of the Terminal Archaic Period (2400 BCE-1400 BCE). The people of this period were less mobile than Halifax and similar peoples, spending more of their year at these large riverside encampments, often traveling by canoe. There is evidence of human occupation of Analostan Island at this time, but the island did not host as large of a settlement during this period as other nearby sites. Many of the lifeways of the Terminal Archaic Period continued through the Early Woodland Period (1400 BCE-700 BCE) with people inhabiting large base camps around navigable bodies of water. A major cultural change is the appearance of pottery during this period, sherds of which have been found on Analostan Island (Bedell et al. 2020: 17, 19). There is also evidence that people of the Early Woodland Period selectively encouraged the growth of particular plants, but there is as yet no conclusive evidence of people practicing agriculture during this period (Benson et al 2003: 20; Bedell et al. 2009: 30).

The population on Analostan Island grew during the beginning of the Middle Woodland Period (700 BCE-1000 CE) to the largest it had ever been despite an overall population decrease in the region. The population of the mid-Potomac region began to grow after 1 CE. It was concentrated in riverside communities and they traveled seasonally to Catoctin Mountain for rhyolite and

other resources. It is possible that by 750 CE, cultures that spoke the Algonquian language had arrived in the region. The Algonquian language originated around the Great Lakes and was a common language in the Chesapeake by the 1600s (Bedell et al. 2020: 23, 26).

The people of the region began to farm maize around 1000 CE, marking the beginning of the Late Woodland Period (1000 CE-1607 CE). Sites from this period are concentrated around floodplains and large streams. Fortified settlements appear between 1200 and 1300 CE, suggesting a rise in warfare and corresponding with higher population density within settlements. Despite the overall increase in population during the Late Woodland Period, archeological evidence suggests that the population on Analostan Island decreased during this time. This is consistent with settlement patterns during the early historic period around the James and Rappahannock Rivers as well as the Potomac. Areas around falls along these rivers were sparsely populated during this time and it is likely that these areas were border zones between competing ethnic groups (Bedell et al. 2020: 26, 28). In the final years of the Late Woodland Period prior to European colonization, the Algonquian-speaking tribes around present-day Washington, DC farmed corn, squash, and beans all originally imported from present-day Mexico (Garrison and Lester 2017: 33). By 1607, tribes consolidated behind regional leaders such as the Powhatan in southeastern Virginia, which comprised around thirty tribes in the late 17th and early 18th centuries, and the Piscataway in eastern Maryland (Garrison and Lester 2017: 33; Pliska et al. 2008: 4).

EUROPEAN COLONIZATION AND THE ESTABLISHMENT OF WASHINGTON, DC (1607-1800)

In the early 17th century, two known Native American villages inhabited by Algonquian speakers existed in the vicinity of Analostan Island: Nacotchtanck (alternatively spelled Nacotchtank or Nacotchtant) along the eastern bank of the present-day Anacostia River and Namoraughkend (alternatively spelled Namoraughquend) on the western shore of the Potomac River (Fanning 2001: sect 8, p 32). Although archeological investigations have not definitively determined Namoraughkend's exact location, it was located within the present-day boundaries of Arlington County, Virginia's Potomac River shoreline on or near land managed by the GWMP (Pliska 2008: 130). The living in these villages and likely on Analostan Island itself at this time

were from the Nacotchtanck Native American tribe (a corruption of the Algonquian name; alternatively spelled as Necostin or Anacostin) and were part of the Powhatan chiefdom described above (Pliska et al. 2008: 4). The Nacotchtanck tribe had between 400 and 500 members and the Nacotchtanck village was likely their largest and the name has been translated as "at the trading town" indicating its position as an important node in the network of long-distance trade routes between the Chesapeake Bay and the Appalachian Mountains (Potter 1994: 160; Elder and Weldon 2018: 40). In addition to trade, the Algonquian speaking peoples of this era also hunted, foraged, and grew crops for sustenance (Elder and Weldon 2018: 40).

The English established the Jamestown Colony in present-day Virginia in 1607. Captain John Smith, a member of the Jamestown Colony, was the first European to conduct a voyage up the Potomac River within the vicinity of present-day Washington, DC in 1608. Smith recorded the Namoraughkend and Nacotchtanck villages with others at the mouths of Aquia Creek and the Anacostia River during this journey and depicted them in maps in his 1612 publication General Historie of Virginia. The part of the Potomac River adjacent to these villages sustained a great diversity of aquatic life such as herring, shad, and sturgeon, which supplemented the diets of the Algonquian-speaking tribes of the area who relied on a combination of hunting, foraging, and agriculture for sustenance (Garrison and Lester 2017: 33).



Detail of John Smith's 1608 voyage on the Potomac River from Jamestown, VA. Approximate present-day location of LYBA indicated by a blue arrow. "Virginia," 1624. Library of Congress (http://hdl.loc.gov/loc.gmd/g3880.ct000377, accessed 2020).

Captain Henry Fleet discussed the Nacotchtanck Native Americans in records of his voyage north of the Potomac falls in 1632, although he did not record their location (Pliska et al. 2008: 4). During this expedition, Fleet sent members of his crew upriver and they did not encounter any villages within 140 miles of the falls. This is notable as Native Americans settlements previously lined the shores of this area and these settlements appear to have been abandoned by the 1630s (Bedell et al. 2020: 31).

The socio-cultural dynamics between the Powhatan chiefdom and the European colonists were complex and stymied by periods of armed conflict including the Anglo-Powhatan Wars of 1609 and Native American acts of resistance in 1622 and 1644. In 1646, the Powhatan chiefdom signed

a peace treaty with the English colonists (Bedell et al. 2020: 31). By the 1650s, Native Americans had sold much of the land along the Potomac River's shores to European colonists and by the early 18th century, Europeans had established an economy based on tobacco plantations that lined the river along the fall line (Fanning 2001: sect 8, p 33; Bedell et al. 2020: 31).

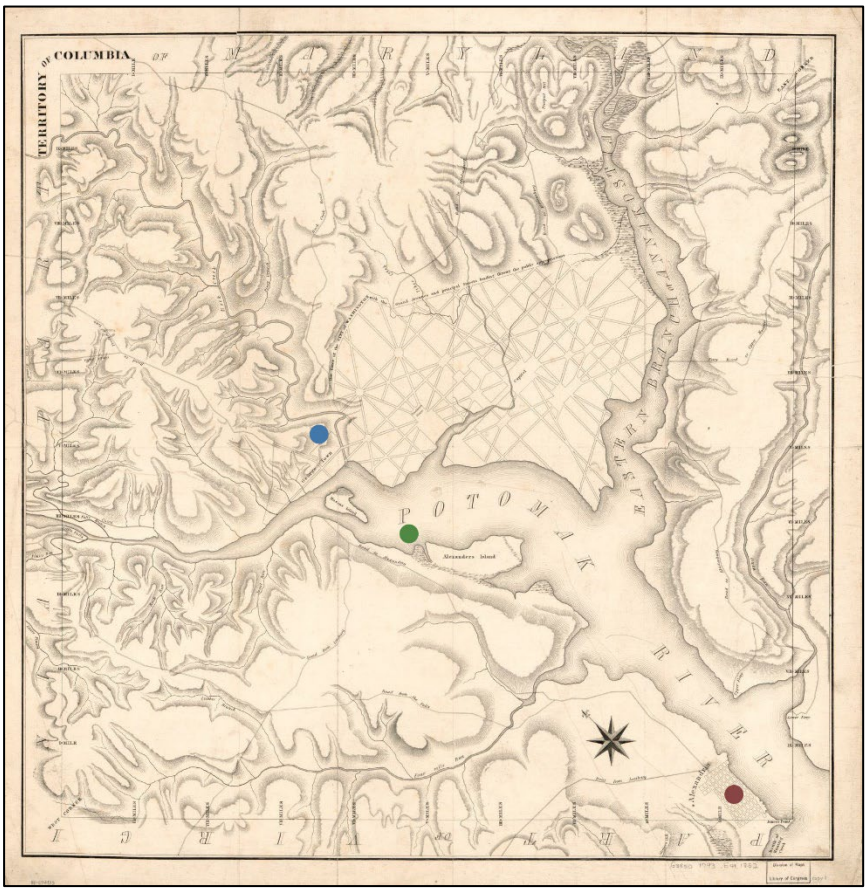
In 1711, the Swiss explorer Baron Christoph von Graffenried traveled through the Potomac Valley and recorded that there were Native Americans still living on Analostan Island (which he referred to as Anacostien Island; both names are variants of Nacocthtank) (Moss 2016: 28; Pliska et al. 2008: 4). However, some researchers have suggested that Graffenried was actually referencing Heater's or Conoy Island rather than Analostan Island (Bedell et al. 2020: 33). It is therefore possible, but not certain, that there was still a Native American presence on Analostan Island and its vicinity during this period.

English colonists founded two important port cities near the fall line of the Potomac River in the mid-18th century. South of the study area, Alexandria, Virginia (also known as Belhaven during its early history) was established in 1749 on the crescent bay of the river just below its confluence with the Anacostia River. Alexandria sent their produce of tobacco and wheat to England and other colonies (Chappell 1973: 3). Northwest of the study area, Georgetown, Maryland was established as a tobacco port in 1751 and incorporated in 1789. The ports of these cities flourished capitalizing on the Potomac River's importance as a commercial navigation route in the region and eventually as a gateway to the interior lands of the Ohio Valley via the Ohio River.

South of Little Falls, the Potomac is a tidal river fluctuating with the tides of the Atlantic Ocean and characterized by large areas of shoal water cut through by deep channels (Garrison and Lester 2017: 34). Immediately adjacent to Washington, DC between Georgetown and the Anacostia River, it originally had three navigable channels called the Washington Channel (also known as the City Channel), the Virginia Channel, and the Georgetown Channel. The Virginia Channel is located between Analostan Island and the Virginia shore following the western bank of the Potomac River; the Georgetown Channel runs from that city's shore along the eastern side of Analostan Island before merging with the Virginia Channel; and the Washington Channel runs

along the eastern bank of the Potomac River. As the development and agricultural activity around the Potomac River increased in the early 19th century, so did the sediment load from the approximately 20,000 square mile watershed that feeds the river just above Little Falls (Chappell 1973: 1). The siltation would occasionally create bars of sediment in the river's channels that blocked shipping routes.

In 1789, President George Washington selected a ten-square-mile area that encompassed the confluence of the Potomac and Anacostia Rivers as the site for the nation's new capital, including the area northwest of this confluence where LYBA is sited in the present-day along the Potomac River adjacent to the Virginia shore. Washington partially based his selection of this site for the capital due to the Potomac River's potential to serve as a nautical connection between the Chesapeake Bay and the Ohio Valley (Elder and Weldon 2018: 24). He hired Pierre-Charles L'Enfant to design a plan for the city. L'Enfant submitted his plan for the "Territory of Columbia" as it was called in March of 1791 and Andrew Ellicott and Benjamin Banneker completed a survey reflecting this plan the following year (Fanning 2001: sect 8, p 33). Both Virginia and Maryland ceded land to form the federal city including the valuable port cities of Alexandria and Georgetown. Ellicott's 1792 plan depicts rock clusters at the northern terminus of Analostan Island, which were likely used as ferry landings during this period (Bedell et al. 2020: 35). Although Analostan Island and the area of the river where Columbia Island is now located were included within the city's new boundaries, the study area was not included in L'Enfant or Ellicott's detailed plans for improvements.



Andrew Ellicott's survey of the area dedicated to the federal city, including a depiction of Pierre-Charles L'Enfant's plan. The blue dot shows the location of Georgetown, the red dot Alexandria, and the green dot the approximate location of LYBA in the present day south of Analostan Island. "Territory of Columbia," ca. 1852 facsimile of 1793 survey. Library of Congress (http://hdl.loc.gov/loc.gmd/g3850.ct004346, accessed 2020).

The Potomac River's use as a commercial corridor increased in importance in the 19th century with the official move of the capital from Philadelphia to Washington, DC in 1800 (Garrison and Lester 2017: 33; Bedell et al. 2020: 35). A canal system was first envisioned for the river in 1784 when George Washington supported the formation of the Potowmack Company. Five canal sections were completed by 1802 and they carried freight in the federal city's early years (Chappell 1973: 3; Elder and Weldon 2018: 42). In 1828, construction of the Chesapeake & Ohio Canal (C&O) began on the eastern shore of the river and was open to barge traffic in 1831

operating from Georgetown north to Cumberland, Maryland. This canal system succeeded the earlier network of the Potowmack Company and increased the use of the Potomac River for trade.

THE CONSTRUCTION OF MASON'S CAUSEWAY AND THE LONG BRIDGE (1800-1867)

George Mason III acquired Analostan Island in 1717 from Margaret and Francis Hammersley and his descendants maintained ownership of the island until 1833 (Moss 2016: 23). In 1748, George Mason IV first licensed a ferry that operated until around 1867 and connected the northside of Analoston Island to Maryland, with a wharf in Georgetown following its founding (Moss 2016: 40). Mason's Ferry was one of three in the mid-18th century that linked the Virginia and Maryland shores, a connection of vital importance since there were no bridges across the waterway at this time. Passengers were dependent upon private charters to cross between Analostan Island and the Virginia shore until 1807 when the Georgetown Common Council built a 380-foot-long dam and causeway with Congressional approval, dubbed Mason's Causeway, connecting Virginia's shore to the northwest corner of Analostan Island (Pliska et al. 2008: 11).

Mason's Causeway not only served as a road connecting Virginia to Mason's Ferry landing, but its dam also closed off that part of the Virginia Channel to navigation. By the early 1800s, the silt bar that would 100 years later form the basis of Columbia Island had already formed south of Analostan Island and grown to a size that impeded navigation (Chappell 1973: 5). Nautical craft instead would transfer from the Virginia Channel to the Georgetown Channel just below Analostan Island, effectively merging the two channels. Congress approved erection of the dam in the hopes that redirecting the Potomac River's flow would increase the scouring effect and clear the silt that was accumulating in all three channels around the federal city (Chappell 1973: 6; Pliska et al. 2008: 11). This approach to clearing the channels proved to be ineffective and likely increased the rate of sediment accumulation south of Analostan Island.

On February 8, 1808, Congress authorized the construction of Long Bridge increasing connectivity across the Potomac River. The bridge was 4,984 feet in length and located about a mile south of Analostan Island. Long Bridge opened to traffic on May 1, 1809, and was the first

bridge spanning the Potomac River. Long Bridge impacted the dynamics of the Potomac River's flow and led to accelerated silt accumulation in its channels (Chappell 1973: i). In 1831, a flood destroyed a section of the Long Bridge and in June 1834, Congress authorized the construction of earthen causeways to repair the damaged structure (Garrison and Lester 2017: 34; Chappell 1973: 8). The Secretary of the Treasury appointed civil engineer George W. Hughes to oversee this work (Scott 2012: 32). The completed structure only increased the siltation problem and led to the formation of extensive shoals, which became to be known as the "Potomac Flats" (Earley and Fanning 2005: 29). Despite the repairs, Long Bridge continued to be periodically damaged in flooding events throughout the 19th century (Chappell 1973: 8).

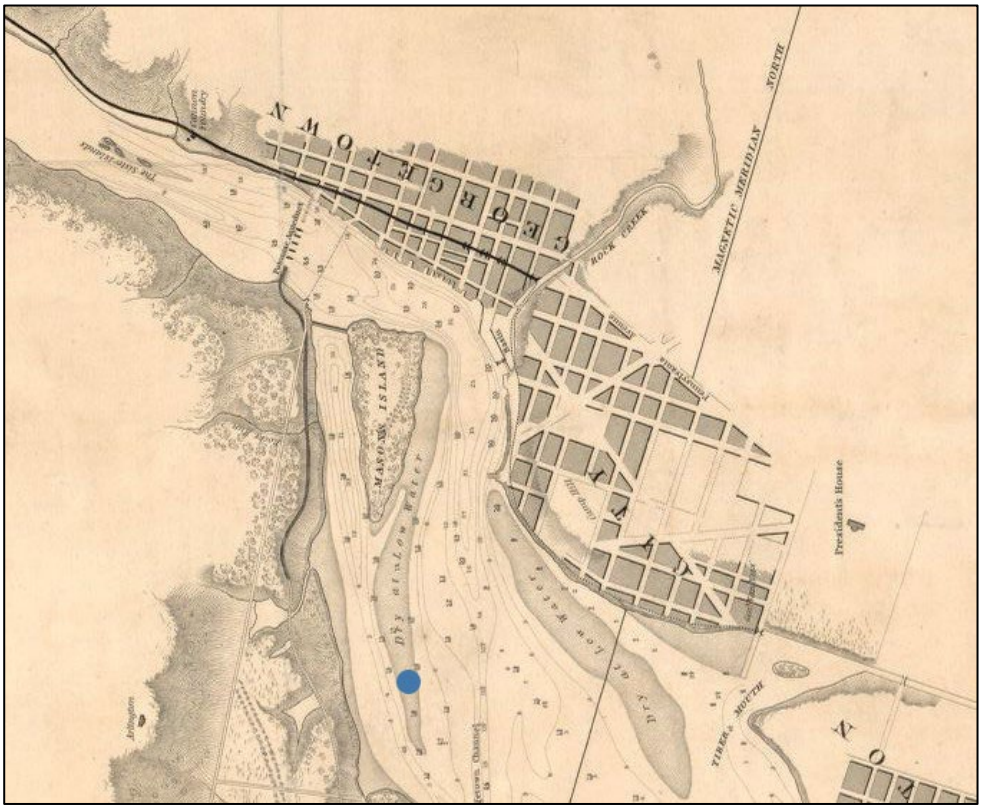


Detail of Robert King's map showing the location of Analostan Island, denoted by the orange dot, and Mason's Causeway, highlighted by the blue dot in proximity to Long Bridge, designated by the red dot. The approximate location of LYBA in the present day is denoted by the green dot. "A Map of the City of Washington in the District of Columbia Established as the Permanent Seat of the Government of the United States of America," 1818. Library of Congress (http://hdl.loc.gov/loc.pnp/cph.3a17420, accessed 2020).

By the second quarter of the 19th century, the siltation of the Potomac River's channels was a serious threat to the navigability of the river and its dependent commercial activities. Congress appropriated funding in March 1833 for Georgetown to maintain navigability to their port. Later that month commissioners from the Corporation of Georgetown hired an engineer to survey the riverbed and make recommendations for dredging the river to a depth of 16 feet (Chappell 1973: 7). The engineer's efforts focused on the navigability of the Georgetown Channel while the formation of the silt bar south of Analostan Island continued unimpeded, since that portion of the Virginia Channel was no longer in use for commercial navigation. By 1837, the silt bar had more than doubled the length of the island and a map from the period notes that the bar was dry at low tide.



Detail of Maskell C. Ewing's map showing Analostan (i.e., Mason's) Island with the silt bar depicted, highlighted by the blue dot. This silt bar later formed the basis of Columbia Island. "Chart of the Potomac River and Eastern Branch from the Sister Islands to Geesboro Point," 1837. Library of Congress (http://hdl.loc.gov/loc.gmd/g3851p.ct005046, accessed 2020).



Detail of William Stone's map showing Analostan (i.e., Mason's) Island with the silt bar that later formed the basis of Columbia Island depicted and annotated as being dry at low water. Area indicated above with a blue dot. "Chart of the Head of Navigation of the Potomac River Shewing [sic] the route of the Alexandria Canal," 1838. Library of Congress (http://hdl.loc.gov/loc.gmd/g3851p.ct004881, accessed 2020).

In 1846, Alexandria voted to retrocede from Washington, DC back to Virginia and the territory was officially taken back by the Commonwealth in March of 1847. Although the mainland was returned to Virginia, the Potomac River and its islands remained within Washington, DC's boundaries and continued to be controlled by the federal government. In 1857, Alfred Landon Rives, a civil engineer working under the Secretary of the Interior, made a comprehensive study for Congress of the Potomac River within Washington, DC (Chappell 1973: 8). Along with structural improvements to Long Bridge, Rives suggested filling the mud flats along the Washington Channel's shoals with fill from the grading of the city's streets. While Rives's study called for the reclamation of marshland through fill, it did not recommend extensive dredging of

the river's channels, but rather only limited dredging to create a short channel across part of the Potomac flats (Rives 1857: 3). Instead, the report advocated for the natural scouring effect of the Potomac River and its tidal action to keep the channels free of debris and silt (Chappell 1973: 8). Rives described his plan in his report to Congress, stating:

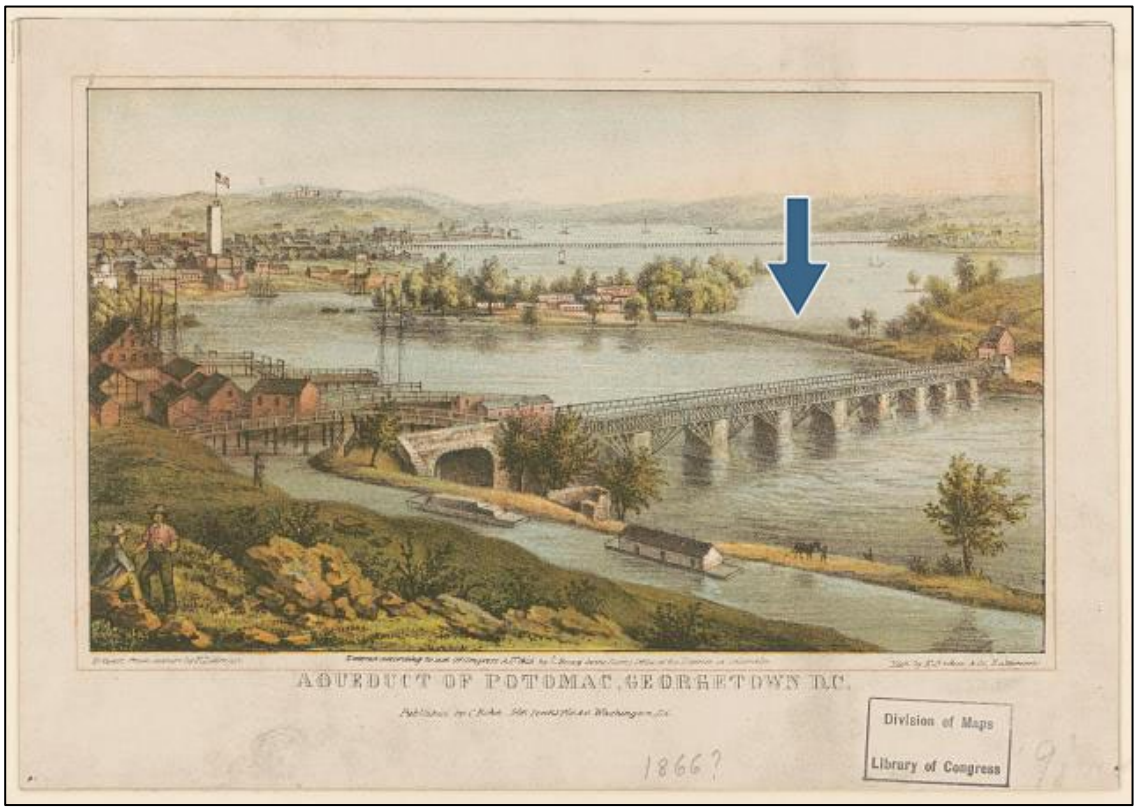
> *Here [the Potomac River] the volume of water is amply sufficient, when properly directed by one initial expenditure, to insure good and lasting navigation. So long, however, as its energies are wasted by diffusion over a large surface, we must expect a changeable and insufficient channel (Rives 1857: 3).*

Flooding damaged Mason's Causeway in 1852 and it was repaired at a cost of several thousand dollars of public funding (Pliska et al. 2008: 15). When it was damaged again by a freshet in 1877, the government did not allocate funds to repair the damage although people still used it to access the island by foot (Pliska et al. 2008: 40). By 1902, the causeway was completely impassible (Fanning 2001: sect 7, p 3).



Detail of Albert Boschke's map showing Analostan Island with the silt bar depicted that later formed the basis of Columbia Island. Approximate location of the study area indicated by a blue dot. "Topographical Map of the District of Columbia," 1861. Library of Congress (http://hdl.loc.gov/loc.gmd/g3850.cw0678500, accessed 2020).

The US Army controlled both Long Bridge and Analostan Island during the Civil War, laying railroad tracks across the bridge by 1862 (Earley and Fanning 2005: 29; Chappell 1973: 9). In 1863, Congress approved construction of a second bridge 75 feet downstream from Long Bridge for use by the Washington, Georgetown & Alexandria Railroad (WG&A), which the railroad company constructed between 1863 and 1864 (Chappell 1973: 9). The completed rail bridge running parallel to the Long Bridge further decreased the navigability of the river and altered its hydrology accelerating sedimentation of the riverbed. The duplicate bridge stood until 1870, when Congress permitted the Baltimore & Potomac Railroad (successor of the WG&A) to take control of Long Bridge, provided that the company maintain it in good repair (Chappell 1973: 11).

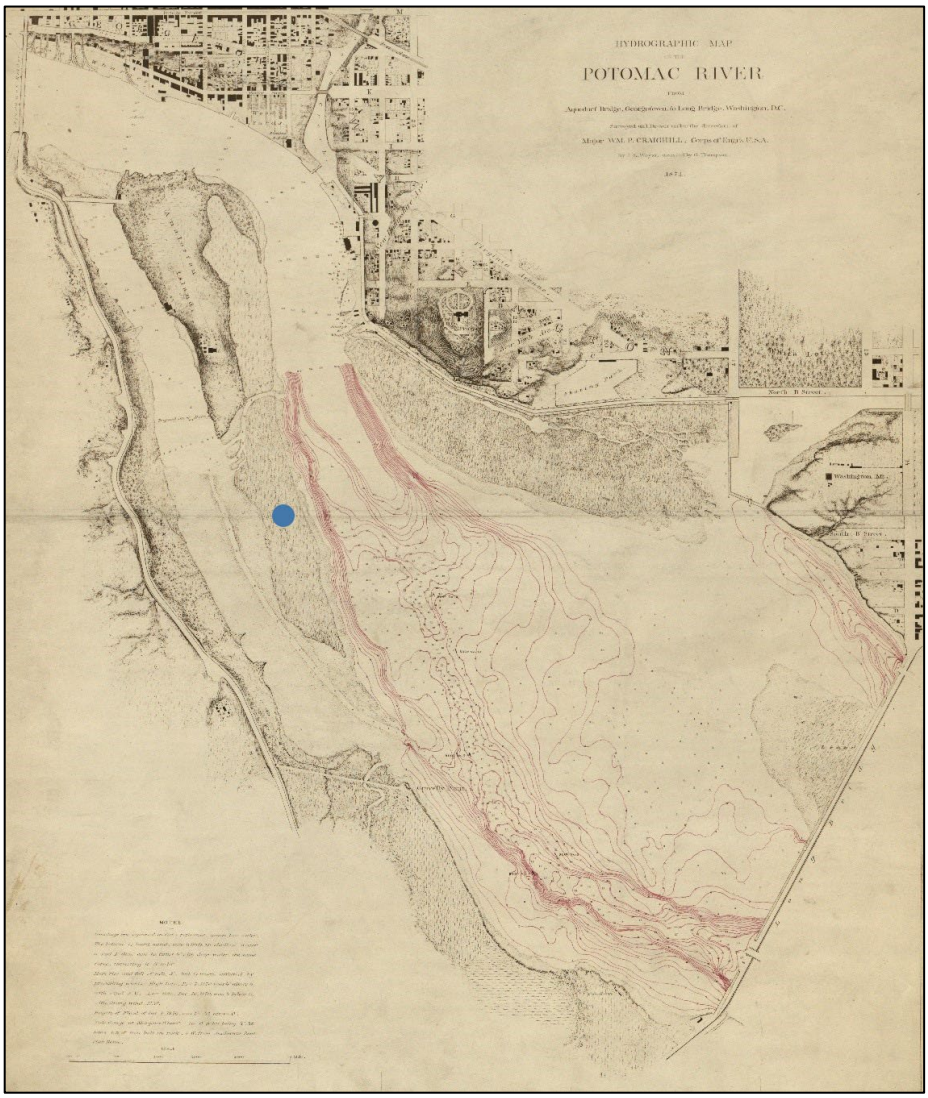


Print looking southeast from the Potomac Aqueduct in Georgetown toward Analostan Island and Mason's Causeway. The causeway is indicated by the blue arrow. "Aqueduct of Potomac, Georgetown, D.C," 1865. Library of Congress (http://hdl.loc.gov/loc.pnp/pga.12473, accessed 2020).

DREDGING OF THE POTOMAC RIVER AND LAND RECLAMATION (1867-1901)

In March of 1867, Congress placed the maintenance of Potomac River navigation and bridges, previously managed by the Commissioner of Public Buildings, under the oversight of the US Army Engineer Bureau (later renamed the US Army Corps of Engineers) (Earley and Fanning 2005: 29; Chappell 1973: 10). In July of that same year, Major Nathaniel Michler as the Officer-in-Charge of Public Buildings and Grounds prepared a report that included a new survey of the river bottom and made recommendations for improving navigability. Michler submitted his report to Congress in April 1868. In it, he advocated confining the river's flow within a narrower area either by dredging a new channel or by dredging the existing Virginia Channel to increase the water's velocity (Chappell 1973: 11).

Congress allocated money in July of 1870 to allow Michler to begin implementing the recommendations of his earlier report. He began directing the clearing of the channels through dredging that summer but did not yet have an adequate plan for disposal of the dredge material (Chappell 1973: 16). In October of that year, Michler suggested depositing the fill material on the Potomac Flats in the Washington Channel. Michler proposed permanently filling the flats with dredge material both to narrow the width of the river channel thereby increasing its rate of flow and to create a space to deposit dredged material (Chappell 1973: 16).



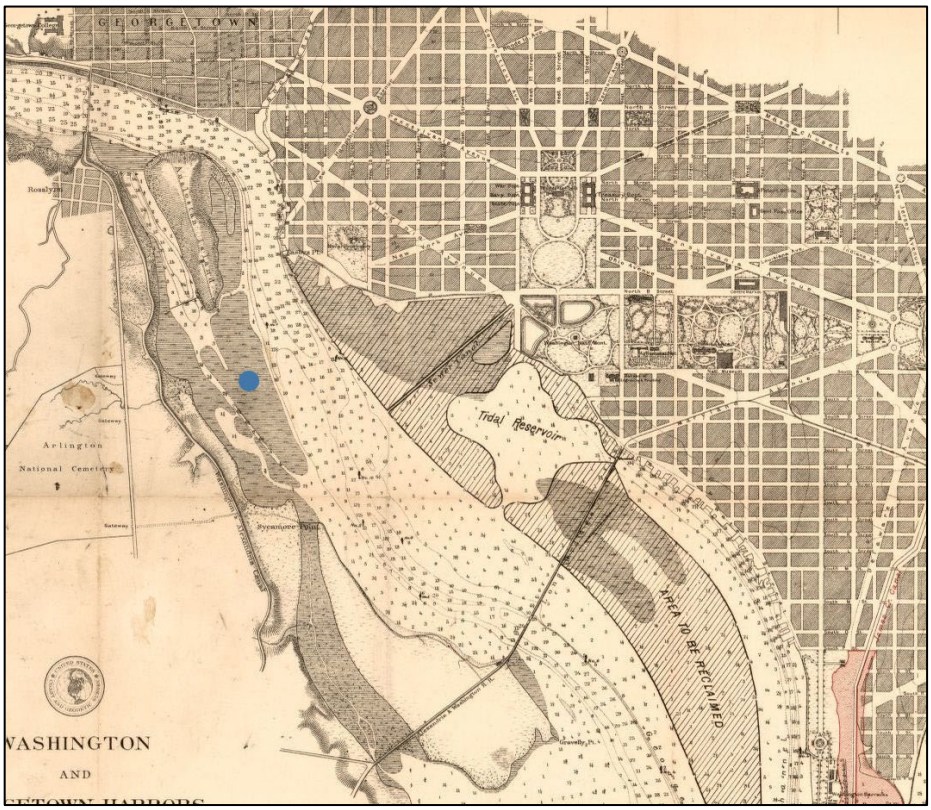
Detail of USACE map showing the bathymetry of the Potomac River between Analostan Island and the Long Bridge. Note the silt bar that later formed the basis of Columbia Island is depicted in the image denoted by a blue dot. "Hydrographic Map of the Potomac River from Aqueduct Bridge, Georgetown, to Long Bridge, Washington, D.C.," 1871. Library of Congress (http://hdl.loc.gov/loc.gmd/g3851p.ct004247, accessed 2021).

The US Army Corps of Engineers (USACE) formed a Board of Survey to oversee the first coordinated effort to dredge the Potomac in 1872. The Board produced a report entitled Reclamation Plan for the Potomac Flats and the work outlined in the plan was directed by USACE civil engineers and conducted by a series of private contractors between 1872 and 1911

(Earley and Fanning 2005: 30). The primary goal of the project was originally to increase navigability, but in 1897 Senate Bill 3307 provided that the reclaimed land adjacent to the western end of the National Mall would form the basis for public parkland now known as East and West Potomac Parks (Bobeczko and Robinson 1999: sect 7, p 3).

A small channel developed between the schist of Analostan Island and the alluvial soils of the silt bar spit south of the island by 1864. This channel continued to grow through natural erosion and was well-defined by 1884 (Thomas 1963:49). That same year, Major Peter Conover Hains granted Benson & McNee a contract to dredge the Virginia Channel as part of ongoing work the USACE was doing to construct the Potomac Flats. Benson & McNee began dredging the Virginia Channel in 1885 and work continued until 1889 when the project was hindered by severe flooding (Chappell 1973: 41, 44).

Major E.L.B. Davis succeeded Major Hains in directing the Potomac Flats reclamation project in 1892. That same year, under the direction of Major Davis, contractor Frank C. Somers began to build a "training dike" along the eastern edge of Analostan Island's sand bar (Chappell 1973: 53-56). Somers formed the dike by depositing dredged material from the Virginia Channel along the silt bar's ridge and securing it with earthen levees and rip rap. Davis lengthened the dike in 1895 using day labor with rip rap stone purchased from E.G. Gummel (Chappell 1973: 64). The intent was to narrow the Virginia Channel to increase its natural scouring effect on the main channel, but ultimately the dike did not achieve this purpose (Chappell 1973: 56). However, it did change the profile of the silt bar's shore and a circa 1893 map labels the silt bar as part of Analostan Island, demonstrating that some surveyors had started to perceive this area as land and a fully incorporated portion of the island.



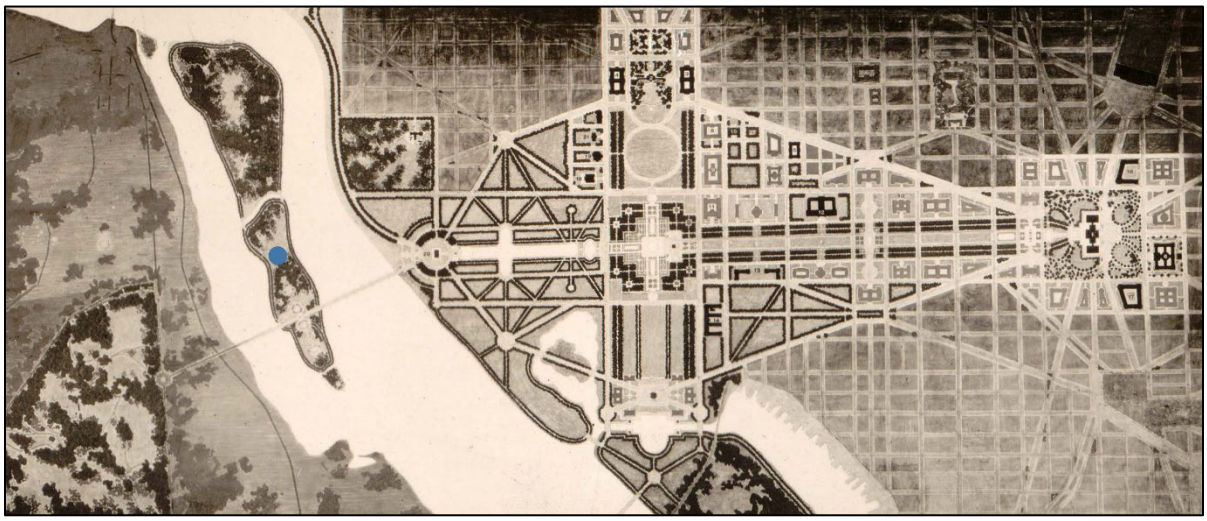
Detail of Peter Hains's map depicting a well-defined marshland south of Analostan Island and the silt bar that later formed the basis of Columbia Island (denoted by the blue dot). "Proposed Improvement of James Creek Canal," 1887. Library of Congress (http://hdl.loc.gov/loc.gmd/g3852j.ct004988, accessed 2020).



Detail of Matthews-Northrup Co. map labeling the silt bar that later formed the basis of Columbia Island as part of Analostan Island (denoted by the blue dot). "Map of Washington, D.C.," ca. 1893. Library of Congress (http://hdl.loc.gov/loc.gmd/g3850.ct004454, accessed 2020).

THE MCMILLAN COMMISSION AND FORMATION OF COLUMBIA ISLAND (1901-1927)

Congress established the Senate Park Commission, commonly referred to as the McMillan Commission, in 1901. The following year the Commission published a report detailing plans for redesigning the core of Washington, DC according to the principles of the City Beautiful Movement and incorporating aspects of L'Enfant's 18th-century proposal for the National Mall. The McMillan Commission's plan provided for a bridge between Virginia and Washington, DC that would cross the southern portion of Analostan Island (not yet renamed as Columbia Island). Since the two portions of the island were separated by a narrow channel, the plan allowed for a scenic carriageway linking the two segments (Earley and Fanning 2005: 32).

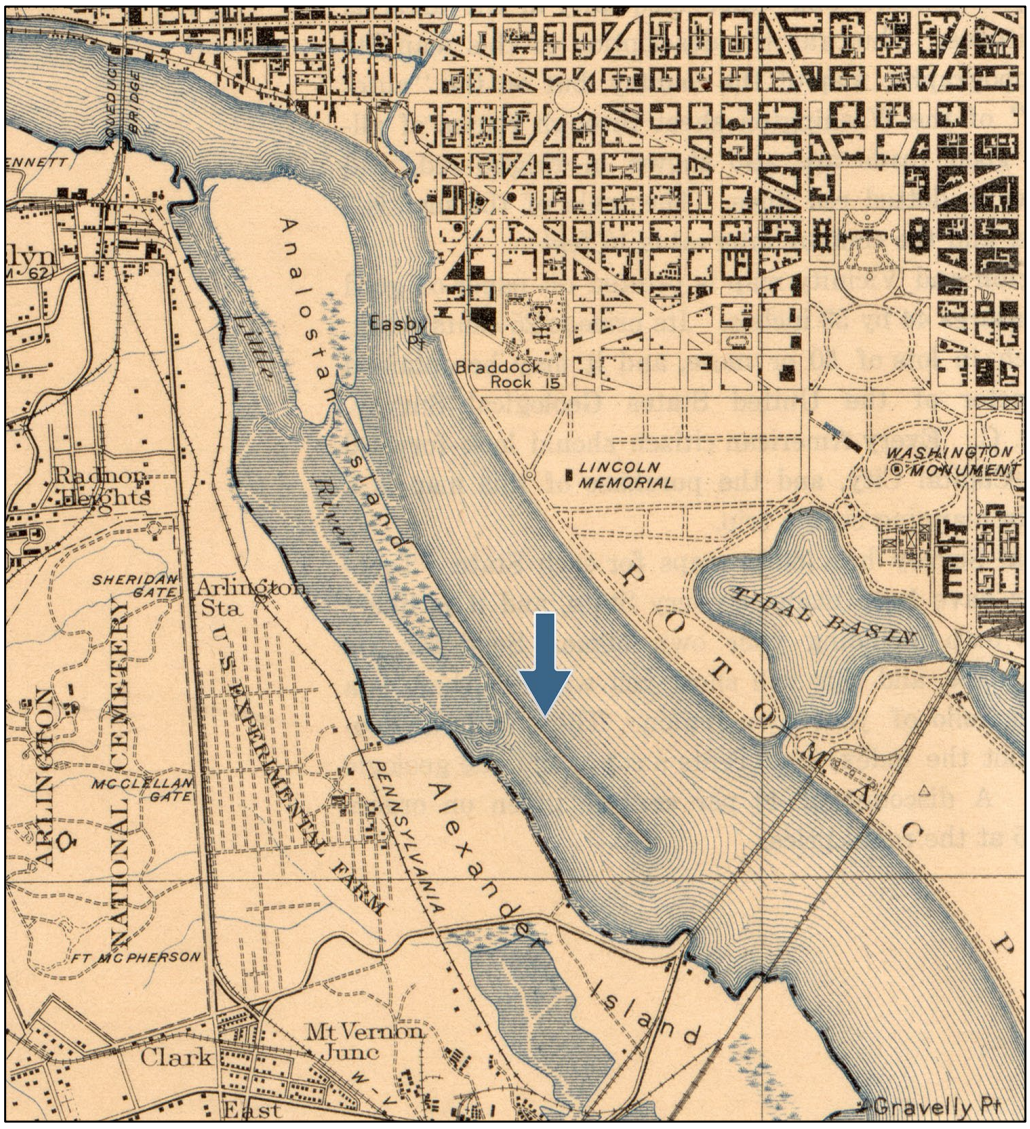


Plan showing the Senate Park Commission's (i.e., McMillan Plan) recommendation for a bridge crossing the southern portion of Analostan Island (not yet renamed as Columbia Island), denoted by the blue dot. "The Mall, Washington, D.C.: Plan Showing Development to 1914 in Accordance with the Recommendations of the Park Commission of 1901," ca. 1914. Library of Congress (http://hdl.loc.gov/loc.gmd/g3852m.ct005014, accessed 2020).

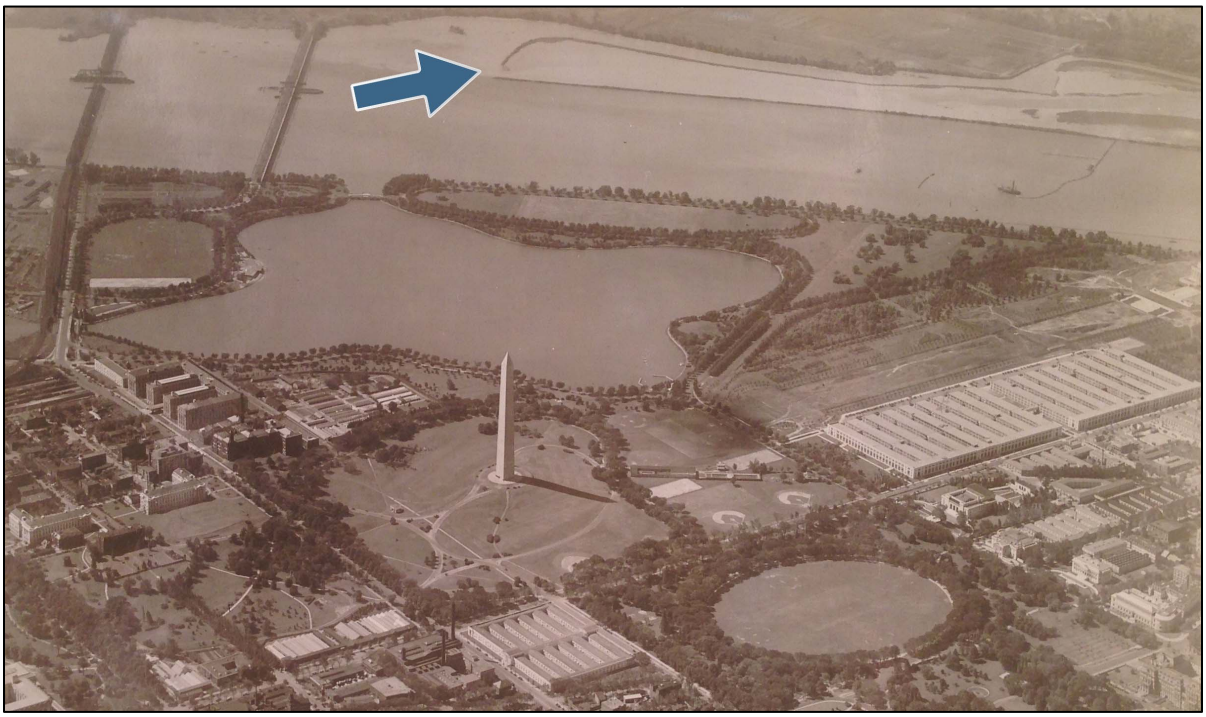
In addition to the McMillan Commission, the US Commission of Fine Arts (CFA) (established in 1910), the Arlington Memorial Bridge Commission (AMBC; established in 1913), and the National Capital Planning Commission (NCPC; established in 1924 as the National Capital Park Commission and called the National Capital Park and Planning Commission from 1926-1952) would all serve to inform the transformation of Columbia Island between 1915 and 1927. The bridge was designed to symbolically unify the post-Civil War North and South by connecting Arlington House (designated as a memorial to Robert E. Lee) to the site of the anticipated Lincoln Memorial at the western end of the mall (completed in 1922) (Earley and Fanning 2005: 33). These commissions led the transformation of Columbia Island so that it would be structurally capable of supporting the bridge and also be an appropriate environment to convey the gravity of the bridge's memorial function.

Following the model of land reclamation used to create East and West Potomac Parks, USACE shaped Columbia Island using the 1892 training dike and a series of newly constructed dikes and

levees beginning around 1915 (Earley and Fanning 2005: 33). The dikes surrounded the existing silt bar, forming the desired footprint for the finished island. Using derricks, engineers built the island up behind the dikes with hydraulic fill (Thomas 1963:48). In September 1919, Major General W.M. Black from USACE wrote to Dr. C. Hart Merriam, Chairman of the United States Geographic Board, to request that the landform be officially designated "Columbia Island" (Reservation 344, Reservation Files, National Capital Region). Black explained that his engineers had started referring to the island by this name in reports to distinguish it from Analostan Island and that they called the channel west of Columbia Island "Boundary Run." By the time Black wrote this letter, only a portion of Columbia Island had been filled above the mean high water mark, but Black explained that the finished island would stretch more than one quarter mile in length at high tide once complete. The Geographic Board voted in January 1920 to approve the naming of Columbia Island as a land feature separate from Analostan Island and to adopt the name Boundary Channel for the waterway between the Virginia shore and the island (Reservation 344, Reservation Files, National Capital Region).



US Geological Survey plan showing the 1892 "training dike" east of Analostan Island, indicated by the blue arrow. "Your National Capital," 1917. Library of Congress (http://hdl.loc.gov/loc.gmd/g3850.ct004472, accessed 2020).

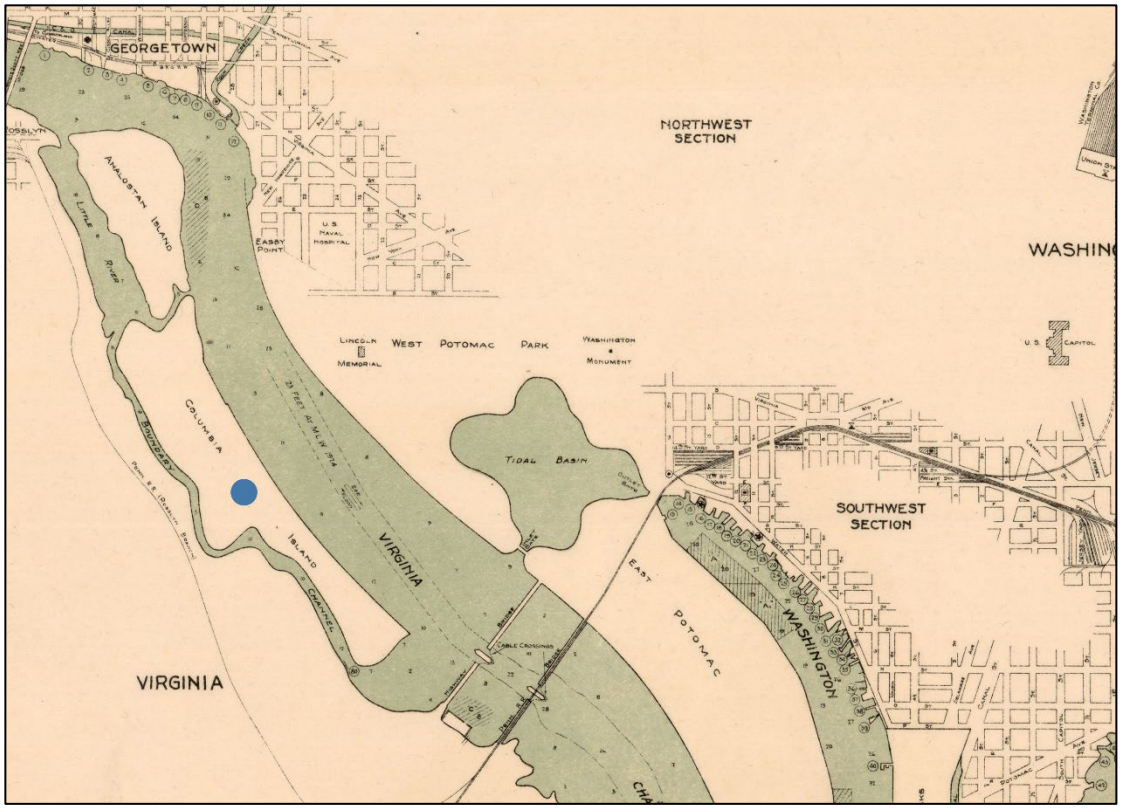


Aerial view taken while USACE constructed Columbia Island. The dikes surrounding the silt bar that would form the footprint of the new island can be seen clearly. The present-day location of LYBA is indicated by the blue arrow. Ca 1920. National Archives and Records Administration photo no. unavailable due to COVID-19 related closure of the archive (photo is filed within 18-AA).

In August of that year, a newspaper article announced that the entire profile of Columbia Island was filled to an average elevation of four feet above mean low water and that the island would be added to the Capital's park system upon completion (*The Washington Evening Star* [*TWES*] August 19, 1920: 1). USACE continued to deposit hydraulic fill and in 1922 Columbia Island had achieved an average three-foot elevation at high tide and the Boundary Channel was five feet deep and about fifty feet wide (*TWES* August 23, 1922: 26). Columbia Island was added to the Capital's park system that same year under the auspices of the Department of War (Earley and Fanning 2005: 33).

In 1922 and 1923, the federal government proposed use of the island as a public bathing beach accessible by public ferry and outfitted with a large pavilion, tennis courts, and baseball diamonds (*TWES* May 13, 1922: 1). The proposed public beach would be racially segregated with

a 400-foot-wide section at the southern tip open to people of color while the rest of the island would be reserved for use by white visitors (*TWES* June 24, 1922: 2). There is no evidence that the improvements for the bathing beach were ever constructed. Instead, in 1923 the island remained unimproved except for the levees and dikes used to hold fill in place and three waste weirs (*TWES* August 24, 1923: 1).

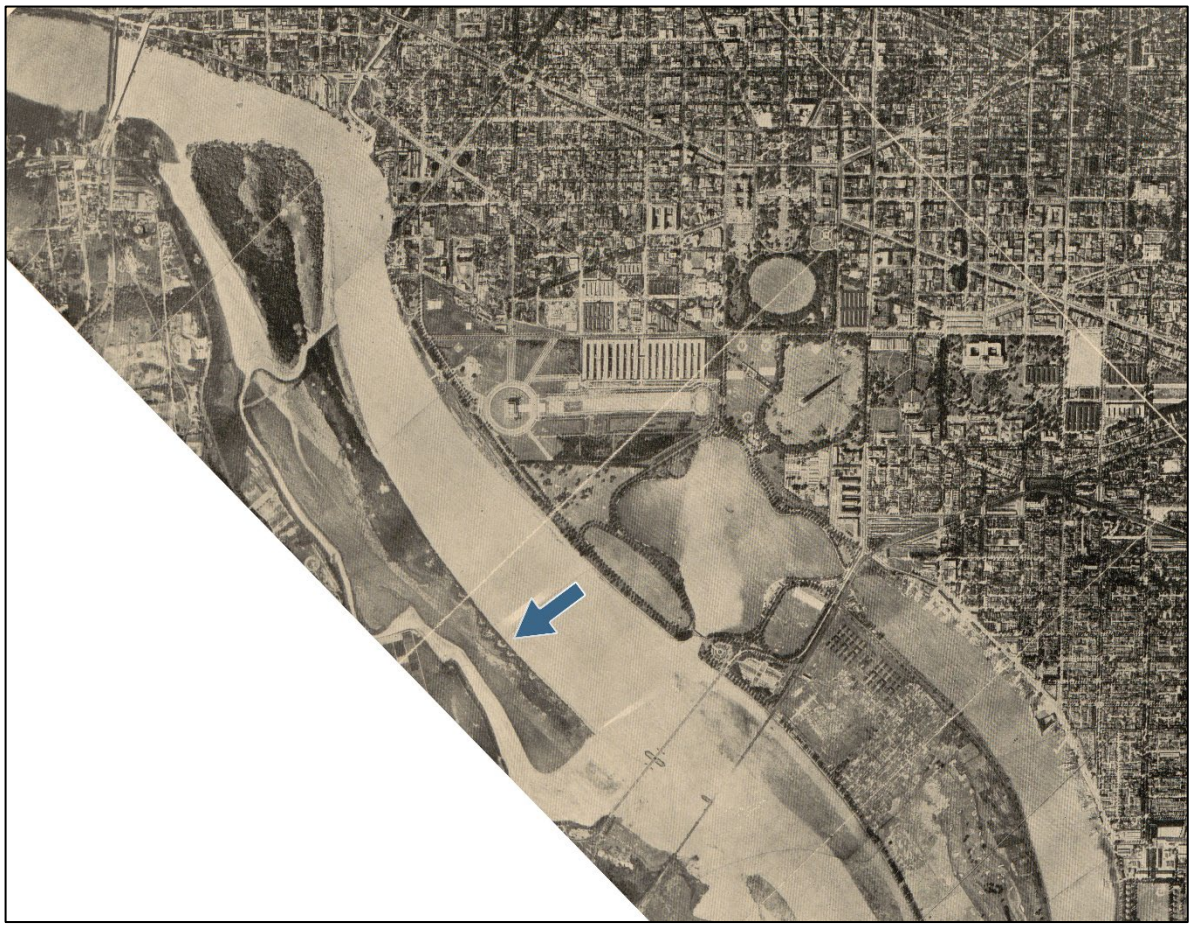


Detail of a USACE plan showing the profile of Columbia Island before the USACE widened the channel between Analostan and Columbia Islands (denoted by the blue dot). "Port Facilities at Washington, D.C. & Alexandria, Virginia," 1923. Library of Congress (http://hdl.loc.gov/loc.gmd/g3851p.ct004877, accessed 2020).

In 1924, the Secretary of War asked the Department of Agriculture to convert the island's marshy fill into productive soil and prepare it for use as a public park (*TWES* May 3, 1924: 16). Aerial images from this period demonstrate that these plans were never realized either, but that instead

Columbia Island was characterized by a patchy combination of fill and natural siltation spotted with large volunteer trees.

William Mitchell Kendall working for the architectural firm McKim, Mead & White created an initial design for the Arlington Memorial Bridge in 1923 and the AMBC presented an iteration of this plan to Congress in May of 1924 after it was reviewed by the CFA and NCPC (Earley and Fanning 2005: 34). By 1925, Columbia Island's elevation ranged between seven and 12 feet above mean low water and USACE was tasked with raising the elevation another 20 feet to accommodate construction of the Arlington Memorial Bridge (*TWES* April 10, 1925: 45).



Detail of a US Army aerial mosaic showing the profile of Columbia Island before the USACE reshaped it to accommodate construction of the Arlington Memorial Bridge. The present-day location of LYBA is indicated by the blue arrow. "Mosaic Composed of Aerial Photographs, Washington, D.C.," ca. 1922. Library of Congress (http://hdl.loc.gov/loc.gmd/g3851a.ct004531, accessed 2020).

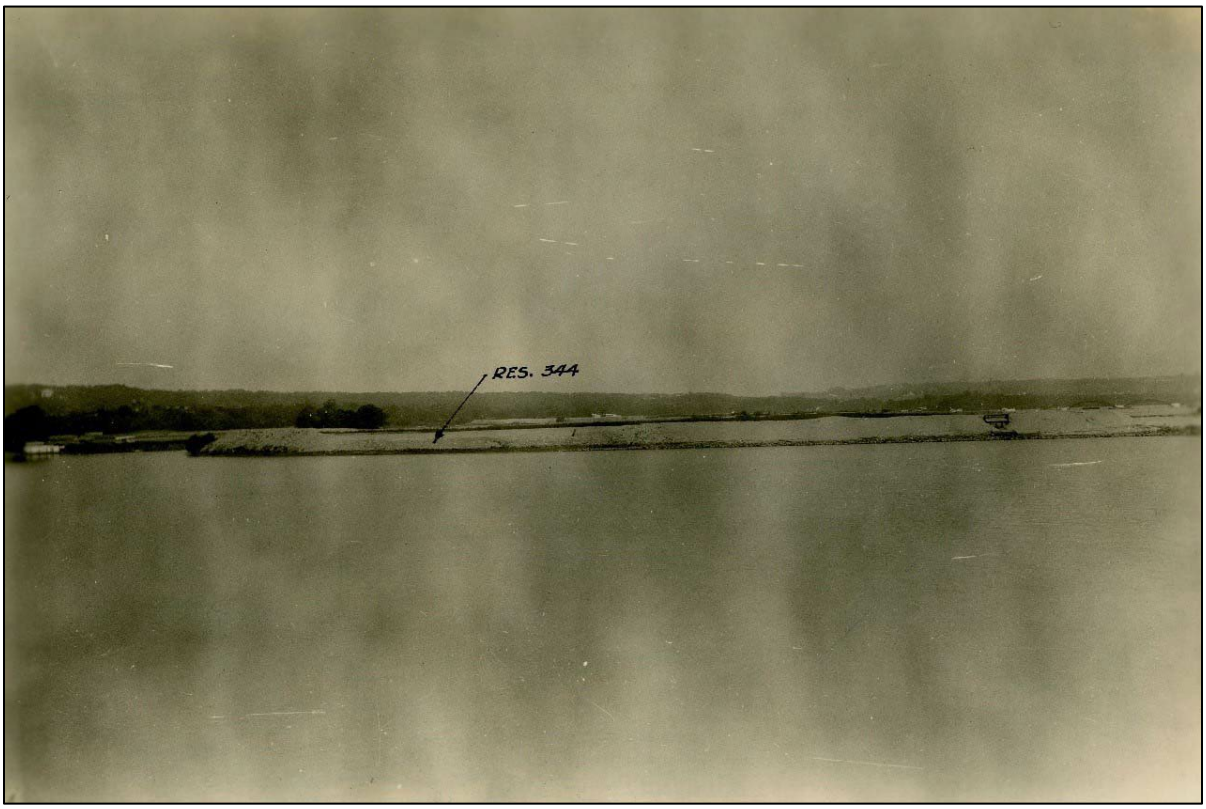
While formation of Columbia Island continued, construction of the Arlington Memorial Bridge began in 1926 and would continue until 1932. The contractor H.P. Converse and Company poured the bridge's concrete foundations in September of that year and the navigation channel was newly dredged to ensure that ships could pass under the bridge once it was completed (Chappell 1973: 130). Engineers had to reshape the contours of the island to accommodate the caissons of the bridge. Between 1925 and 1927, engineers widened the channel between Analostan and Columbia Islands by cutting away the northern shoreline of Columbia Island to improve the flow of the channel and offset the area of the Arlington Memorial Bridge's piers,

thereby avoiding additional water displacement (*TWES* April 10, 1925: 45; *TWES* May 8, 1925: 39).

Engineers constructed a 20-foot levee around the reformed footprint of Columbia Island and used two derricks to pump dredge material onto the island achieving an average elevation of 20 feet above the mean low water by August 1927 (*TWES* April 18, 1926: 2; *TWES* August 15, 1927: 1). Portions of the island were filled as high as 35 feet above mean low water to be consistent with the finished elevation of the Lincoln Memorial site across the river. The finished island was approximately 113 acres in area and the southwestern portion of the island was bordered by a large basin, dubbed Columbia Lagoon (also known as Columbia Basin or Pentagon Lagoon), fed by the Boundary Channel before it flowed back into the Potomac River (Land Resources Division 2004: sheet 11). Volunteer vegetation established particularly along Columbia Island's shores. Species included cottonwoods (*Populus deltoides*), willows (*Salix* spp.), sycamores (*Platanus occidentalis*), elms (*Ulmus* sp.), red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), and box elder (*Acer negundo*) (Earley and Fanning 2005: 34).



Detail of a US Army aerial mosaic showing the profile of Columbia Island after the USACE reshaped it to accommodate construction of the Arlington Memorial Bridge. The present-day location of LYBA is indicated by the blue arrow. "Photographic Mosaic Map, Washington, D.C.," 1928. Library of Congress (http://hdl.loc.gov/loc.gmd/g3851a.ct004530, accessed 2020).



Photograph looking northwest at Columbia Island taken May 1928. "Columbia Island Bet. Potomac River & Boundary Channel." 1928. Reservation 344, Reservation Files, National Capital Area.



Aerial view of Columbia Island prior to the completion of construction of the Mount Vernon Memorial Highway. The present-day location of LYBA is indicated by the blue arrow. Ca. 1930. National Archives and Records Administration photo no. 18-AA-141-35.

Joseph Leiter, president of the Washington Gas Light Company purchased Analostan Island from the Analostan Improvement Company in 1913 with the intention to build a gasworks there (Pliska et al. 2008: 47). In 1927, the government's Office of Public Buildings and Parks began negotiations with the company to purchase the island amid concerns that the potential industrial use would negatively impact their ongoing improvements to Columbia Island and plans for the Arlington Memorial Bridge, although they did not ultimately finalize a deal (Fanning 2001: sect 8, p 46; *TWES* April 13, 1927: 6). During this time, the CFA and NCPC considered proposals to connect the south end of Analostan Island to Columbia Island via a bridge (Fanning 2001: sect 8, p 46). Although this bridge was never constructed, the intention to incorporate Analostan Island into the Capital's park system was realized in 1932 when the Theodore Roosevelt Memorial Association purchased the property for $364,000 (Moss 2016: 23). The Association donated the

island to the federal government as "Theodore Roosevelt Island" so that it could serve as a memorial to the 26th president. To honor Roosevelt's conservation legacy, the firm Olmsted Brothers created a landscape plan for the island that would evoke a primeval woodland (Earley and Fanning 2005: 14).

MOUNT VERNON MEMORIAL HIGHWAY AND EARLY LANDSCAPE PLANS FOR COLUMBIA ISLAND (1926-1933)

The federal government began planning construction of the Mount Vernon Memorial Highway (MVMH) in 1926. This 15.5-mile roadway, the first federally funded parkway in the country, was designed to commemorate the 200th anniversary of the birth of George Washington on February 22, 1932, by connecting his estate, Mount Vernon, to the nation's capital. Congress authorized construction of the roadway in 1928 and the Bureau of Public Roads began construction the following year. The bureau commissioned three consultants for the project from the Westchester County Park Authority who had experience designing New York Parkways, such as the Bronx River Parkway: landscape architect Gilmore Clarke, engineer Jay Downer, and horticulturist Henry Nye (Chenot et al. 1992, Vol. 1: Appendix D sect 8, p 2).

The parkway's design followed the Virginia shoreline parallel to the river and was designed to highlight views of sites that were associated with George Washington's life. The design incorporated divided lanes, grade separations, and gentle curves to encourage drivers to appreciate the landscape and views afforded by the highway (Earley and Fanning 2005: 35). MVMH was initially designed to terminate at the northern end of Columbia Island, but the parkway was absorbed into plans for the GWMP in 1930 under the Capper-Cramton Act (46 Stat 482), which also authorized funding for land acquisition associated with development of the GWMP. The GWMP would span both sides of the Potomac River and carry travelers from Great Falls south to Mount Vernon in Virginia and Fort Washington in Maryland.

At the insistence of Clarke and Downer, the bureau hired landscape architect Wilbur Simonson as project manager, who developed the planting design for the parkway. Simonson's plantings on Columbia Island were concentrated along the roadway on the southern portion of the island.

In his final report from 1932, Simonson preserved the mature cottonwoods near the roadway and called for planting Virginia rose (*Rosa virginiana*) and multiflora rose (*Rosa multiflora*) along the Boundary Channel's shore as a method of slope stabilization, although the shoreline plantings were likely never implemented (Kelsch et al. 2009 Vol. 1: 150, 168; Earley and Fanning 2005: 36). His design called for 200 ornamental trees including crabapple (*Malus* sp.), pear (*Pyrus* sp.), goldenrain trees (*Koelreuteria paniculata*), cherry (*Prunus* sp.), and sophoras (*Styphnolobium japoniccum*) to be distributed along the finished highway. Columbia Lagoon doubled in size as the result of fill material deposited during the parkway's construction (Earley and Fanning 2005: 132). During the last phase of MVMH construction, Simonson's planting design was implemented, however only 75 ornamental trees were planted of the 200 he had proposed (Earley and Fanning 2005: 36, 168).

During this time, work on the Arlington Memorial Bridge continued and because of its proximity to the MVMH, the bridge as well as the improvements to Columbia Island would need to be completed in time for the grand opening of the parkway and the bicentennial of the birth of the first president (*The Washington Post* [*TWP*] August 16, 1927: 20). The AMBC appointed James L. Greenleaf to develop a landscape plan for Columbia Island in 1931. Greenleaf was a member of the CFA and had served as consultant for both the Lincoln Memorial Grounds and in the development of Arlington National Cemetery. Greenleaf submitted his report to the CFA and AMBC in August of that year and received approval for his plan, which dictated formal plantings around Memorial Circle and naturalistic treatment elsewhere in the park and along the shoreline. Greenleaf was generally against the idea of planting ornamental trees on the island and recommended that white oaks (*Quercus alba*) and other species of oak be the dominant trees on the island amid expanses of green turf (Earley and Fanning 2005: 35, 37). Greenleaf died in 1933 and his plans for the island were never fully implemented.

Arlington Memorial Bridge and MVMH both opened for limited use in January of 1932, however the bridge did not open for public use until May of that year. The MVMH was formally dedicated on November 15, 1932, to allow Simonson's plantings made in the summer to mature (Earley and Fanning 2005: 36).



Photograph taken on June 23, 1932, shortly after installation of the Simonson plantings along the Mount Vernon Memorial Highway looking west. 1932. Office of Public Buildings and Parks, held by National Archives and Records Administration photo no. 42-PR-5-18.



Photograph taken on June 23, 1932, shortly after installation of the Simonson plantings along the Mount Vernon Memorial Highway looking south. The Highway and Long Bridges can be seen in the background. 1932. Office of Public Buildings and Parks, held by National Archives and Records Administration photo no. 42-PR-5-16.

In 1932, Clarke succeeded Greenleaf as the landscape architect on the CFA and in May of that year he submitted a report for landscape treatment of Columbia Island that expanded on the ideas proposed by Greenleaf. Both Nye and Simonson consulted with Clarke as he developed his recommendations, with Simonson preparing a study of the southern portion of Columbia Island. Clarke advocated for planting the island with turf and canopy trees planted in groups or as specimens, with very few shrubs (Earley and Fanning 2005: 37).

In July 1932, management of the completed portion of the GWMP (formerly called MVMH) was transferred from the Bureau of Public Roads to the Office of Public Buildings and Public Parks of the National Capital (Kelsch et al. 2009 Vol. 1: 15). In October 1933, both the parkway and

Columbia Island moved from the jurisdiction of the War Department to that of the National Park Service (NPS) when authority of all National Capital Parks were transferred to the latter agency. At this time, the AMBC was disbanded, but the CFA and NCPC continued to have review authority over the development of Columbia Island (Earley and Fanning 2005: 38).



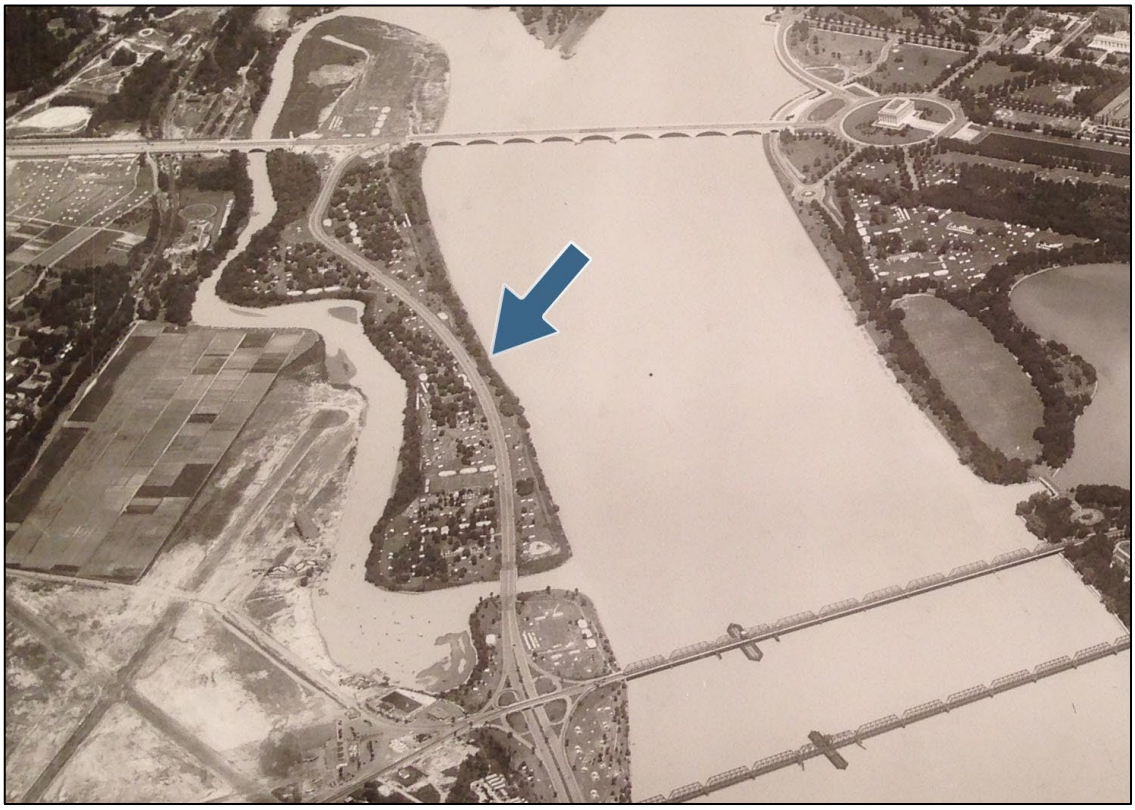
Aerial photograph of Columbia Island taken January 11, 1934, two years after the MVMH and Arlington Memorial Bridge first opened and the Simonson plantings were installed along the MVMH. The lower right side of the image contains the northernmost portion of the present-day location of LYBA, indicated by the blue arrow. "Aerial Photographic Map of Arlington County, Virginia," 1934. Arlington County, Virginia Maps (https://gis.arlingtonva.us, Accessed 2020).

THE NAVY AND MARINE MEMORIAL DEDICATED TO AMERICANS LOST AT SEA AND DEVELOPMENT AROUND COLUMBIA ISLAND (1934-1943)

The Navy and Marine Memorial Dedicated to Americans Lost at Sea (also referred to colloquially as the Navy-Marine Memorial) was relocated from Hains Point to the southeast of Columbia Island in 1934, immediately southeast of the present-day LYBA boundaries. The aluminum sculpture of seven seagulls flying over a cresting wave was designed by Harvey Wiley Corbett and sculpted by Ernesto Begni del Piatta in 1922. The memorial was dedicated on Memorial Day in 1935, despite the landscape design on the island being incomplete (*TWES* May 21, 1935: 19). In 1942, the Civilian Conservation Corps completed the landscape design around the memorial created by architect George William Beatty (Earley and Fanning 2005: 38).

From 1935-1938, the Bureau of Public Roads and the NPS continued to develop plans for the GWMP and vehicular roadways on the northern portion of Columbia Island. Work included the cross-axial roads north of the present-day location of Memorial Circle completed in 1937 and a bridge connecting the island's north end to the Virginia shore over the Boundary Channel completed in 1938. NPS landscape architect Donald L. Kline created a plan for the roadways and landscape of the central portion of Columbia Island and presented it to the CFA in 1939 (Earley and Fanning 2005: 38). Kline's plan led to the completion of Memorial Circle and construction of the parallel roadways south of the circle.

The Boy Scouts of America used Columbia Island along with other Washington, DC area parks for camping during their 1937 National Scout Jamboree gathering. The organization planned for a gathering of 10,000 scouts for their jamboree in August 1935, but the event had to be canceled due to a polio outbreak and fears of spreading the disease during the event. The rescheduled 1937 jamboree drew Boy Scouts internationally and participants camped along the MVMH on Columbia Island, including within the present-day boundaries of LYBA (*TWP* August 4, 1936: 23). Camping along the Potomac River's shore was a common summer activity in the Washington, DC area before 1950 and this formal camping event suggests that Columbia Island may have been a destination for causal visitors looking for riverside campgrounds in the summers (Brown 2020: 33).



Aerial photograph showing tents erected on Columbia Island and other National Capital Parks as part of the 1937 National Scout Jamboree. The blue arrow points to the present-day location of LYBA. 1937. National Archives and Records Administration photo no. 18-AA-141-13.

The Washington National Airport (renamed Ronald Reagan Washington National Airport in 1998), overseen by the joint Congressional Airport Commission, was constructed in 1940 and in operation by 1941. The airport is approximately one and a half miles southeast of the study area within the airports flight paths. The Gravelly Point site was selected as early as 1927 and at this time planners even suggested that Columbia Island could serve as an emergency landing site (*TWES* June 21, 1927: 2). Prior to construction, project manager Samuel J. Solomon proposed filling in the Boundary Channel to provide more land for designing the airport and relocating a portion of the MVMH, but this plan was rejected by the NCPC (*TWES* September 24, 1936: 23).

In 1941, the federal government began construction of the Pentagon building in Arlington County, Virginia southwest of Columbia Island and approximately one and a half miles from the present-day location of LYBA. The 227-acre site had been part of the Custis-Lee Estate prior to the Civil War. By 1941, a portion of the Pentagon Reservation land was occupied by African American residents of Arlington County in the settlements of Queen City and East Arlington (Perry et al. 2013: 419). The federal government exercised eminent domain evicting 220 families from their homes with less than 30 days' notice to construct the Pentagon and its associated road network. The immense structure designed by architects George Edwin Bergstrom and David J. Witmer was erected in 16 months and opened in January 1943. The Pentagon spurred new roadway development between Columbia Island, the GWMP, and the governmental facilities and required alterations to Arlington Memorial Bridge to accommodate increased traffic patterns (Earley and Fanning 2005: 39; Kelsch et al. 2009 Vol. 1: 16).



Aerial photograph taken November 5, 1941, during construction of the Pentagon. The present-day location of LYBA is visible in the background, indicated by the blue arrow. "Pentagon Begins to Take Shape on a Plot of Land in Arlington, Virginia," 1941. Department of Defense (https://www.defense.gov/Explore/Features/Story/Article/1867440/, accessed 2020).



Aerial photograph taken during construction of the Pentagon on February 29, 1942, showing Columbia Island in the background. The volunteer vegetation along the Boundary Channel is clearly visible as is the present-day location of LYBA, indicated by the blue arrow. "Pentagon Begins to Take Shape on a Plot of Land in Arlington, Virginia," 1941. Department of Defense (https://www.defense.gov/Explore/Features/Story/Article/1867440/, accessed 2020).

The Boundary Channel and Columbia Lagoon underwent modifications during this period as part of the adjacent Pentagon development. Dredge material from the lagoon was used in the construction of the Pentagon for concrete aggregate and grading (Koski-Karell 1992: 11). This work coupled with grading on both sides of the Boundary Channel between 1940 and 1943 led to a smoother profile along both sides of the shoreline and around the lagoon. During the early 1940s, the Works Progress Administration (WPA) installed large boulders as rip rap along the southern end of the island, including within LYBA's boundaries (Earley and Fanning 2005: 110). Beyond changes to the shoreline, the character of the study area remained unimproved with the only formal plantings dating to the 1932 MVMH plantings. Aerial imagery shows that on the island there was a cluster of canopy trees on the northern portion of the site and dense volunteer vegetation along both sides of the Boundary Channel (US Coast and Geodetic Survey 1946).

While there may have been informal mooring or docking structures at this time, they are not visible in the aerial imagery (Chenot et al. 1992 Vol. 1: 24-26). Changes to the road network south of the island created space for Columbia Lagoon to expand west, doubling its size. The profile of Columbia Lagoon was altered again in the early 1970s to accommodate new construction associated with the 14th Street Bridge (Earley and Fanning 2005: 39, 52).



Detail of an aerial photograph showing the graded shoreline of the Boundary Channel and the enlarged Columbia Lagoon. The present-day location of LYBA is indicated by the blue arrow. "Photomap of Central Washington, D.C. and Adjacent Part of Arlington," 1946. Library of Congress (http://hdl.loc.gov/loc.gmd/g3851a.ct004517, accessed 2020).

COLUMBIA ISLAND MARINA (1955-1965)

As early as the 1930s, there were informal docking locations along the Boundary Channel (Chenot et al. 1992 Vol. 1: 24-26). A 1943 plan noted a row of piles within the present-day boundaries of LYBA that may have been associated with this type of informal docking (US Army Corps of Engineers 1943: sheet 1). In the mid-1950s, architect and landscape architect Horace W. Peaslee designed a formal marina primarily for motorized vessels in 1955, constructed in two phases between 1956 and 1965 (National Capital Region 1965). Named the Columbia Island Marina, the finished facility provided ample parking at the southern end of Columbia Island, a snack bar, and an array of piers projecting into the channel and lagoon at the island's southwestern tip. NPS constructed a bus shelter at the western side of the entry drive's vehicular loop from the parkway in 1957 (National Park Service 1995; Arlington County Government 1957). During construction, NPS planted maples and some shrubs throughout the marina area in the 1950s and installed willow oaks (*Quercus phellos*) in the medians of the parking lot in the 1950s or 1960s (Earley and Fanning 2005: 40; Kelsch et al. 2009 Vol. 1: 16). These Columbia Island Marina plantings included the southernmost portion of the present-day LYBA site. In 1965, NPS installed lighting along the shores of the Boundary Channel and Columbia Lagoon, including pier mounted light post that illuminated the floating docks along the marina within present-day LYBA's boundaries (National Capital Region 1965: sheet 3). The NPS dredged the Boundary Channel and Columbia Lagoon around 1966 to increase the depth of these recreational waterways (Washington Service Center 1966). Although plans from the period indicate that both waterways would be dredged adjacent to the marina, a newspaper article from 1966 indicated that the NPS had not allocated funding for the entire project. It is therefore uncertain how much of the plan was implemented (*TWP* July 12, 1966: B1).

The marina's three-bay parking lot accommodated visitors to other attractions on the southern portion of Columbia Island including the Navy and Marine Memorial Dedicated to Americans Lost at Sea (also known as the Navy-Marine Memorial) and to the open space just north of the marina, where George Washington University's football team may have held practice, likely on informal athletic fields (*TWP* July 12, 1966: B1). This open space corresponds to the present-day site of the memorial plaza and a portion of the meadow area. In the 1960s, Columbia Island

visitors would catch catfish, carp, and perch from the Potomac River, and it is likely that marina boaters were fishing while out on the water (*TWP* July 12, 1966: B1). The NPS added a comfort station to the marina in 1972 (Biderman 1971: sheet 1).



Detail of an aerial photograph taken March 4, 1949, depicting the southern end of Columbia Island. The image shows a dock and mooring structure projecting into the Columbia Lagoon from the southwestern corner of the island. This pre-dates construction of the Columbia Island Marina. The blue arrow indicates the present-day location of LYBA. "Aerial Photographic Map of Arlington County, Virginia," 1949. Arlington County, Virginia Maps (https://gis.arlingtonva.us, accessed 2020).



Detail of an aerial photograph showing the completed Columbia Island Marina facilities, including the parking lot located within the present-day boundaries of LYBA, indicated by the blue arrow. "Aerial Photographic Map of Arlington County, Virginia," 1967. Arlington County, Virginia Maps (https://gis.arlingtonva.us, accessed 2020).

LADY BIRD JOHNSON AND THE BEAUTIFICATION PROGRAM (1963-1968)

Following the assassination of President John F. Kennedy, Vice President Lyndon B. Johnson took office as the 36th President of the United States on November 22, 1963. During his time in office, President Johnson continued the civil rights work championed by his predecessor. As part of these efforts, President Johnson joined Martin Luther King, Jr. to advocate for passage of the Civil Rights Act in the wake of President Kennedy's assassination. President Johnson signed this act, an important milestone in the struggles of primarily African American activists, on July 2, 1964, with civil rights leaders in attendance including King, Dorothy Height, and John Lewis. President Johnson also enacted programs that sought to eliminate the impacts of structural racism in education, environmental justice, housing, and income through his War on Poverty and Great

Society initiatives (Goldfield 2014: 35). Land conservation became a pillar of the Johnson Administration's environmental justice work, which included the passage of such notable legislation as the 1964 Wilderness Act and the 1965 Land and Water Conservation Fund Act, as well as the inclusion of an additional 3.6 million acres of NPS land through the creation of 50 new park units and the expansion of existing sites. President Johnson's wife, Claudia "Lady Bird" Johnson, was integral to the administration's work on improving the urban environment through her involvement in its Task Force on Natural Beauty established in 1964. Charles M. Hoor chaired the task force and Lady Bird Johnson attended meetings on behalf of the president acting as his liaison (Koman 2001: 31).

Shortly after the 1964 election, Lady Bird Johnson solicited suggestions from policy makers and others on ideas to focus her national beautification efforts. Secretary of the Interior Stewart L. Udall suggested that the first lady could use Washington, DC as a national model for urban beautification and transform it into a "garden city" through decorative plantings (Gould 1999: 47). In response, Lady Bird Johnson formed the First Lady's Committee for a More Beautiful National Capital in February 1965. This committee was made up of planners, architects, politicians and their spouses, and private citizens including Washington, DC government officials Walter E. Washington and Polly Shackleton, philanthropists Mary Lasker and Laurance Rockefeller, and the Assistant Regional Director of National Capital Parks, Nash Castro (Earley and Fanning 2005: 50). The First Lady also relied on her White House aides, Elizabeth "Liz" Carpenter and Bess Abell, to manage and promote the committee's efforts (Gould 1986: 77).

Lady Bird Johnson's Beautification Program focused on a variety of projects that impacted the quality of the urban environment. These included planting appealing floral displays and flowering trees in heavily visited areas of the city such as monuments, government properties, and roadways; making improvements to inner-city neighborhoods through clean-up projects, plantings, and installing amenities such as playground equipment, benches, and trash receptacles; protecting waterfront viewsheds through fee simple land and easement acquisition; preserving historic sites and initiating historic preservation codes; and introducing projects to control air and water pollution throughout the District (Lady Bird Johnson's Beautification

Program Files, National Capital Region). Lady Bird Johnson was the face of the Beautification Program, promoting the work through speaking engagements, press conferences, and interviews (Earley and Fanning 2005: 49). Castro later recalled the First Lady's practical approach to her beautification work and her insistence on seeing results, relating that she would contact him about a site listing the exact number of trees that required replacement and that she stressed the need for the NPS to use plant materials that could be adequately maintained by the agency (Smith 1990: 743).

To help fund the ongoing work of the committee, Lady Bird Johnson and Lasker organized a group of six trustees to form the non-profit group Society for a More Beautiful National Capital to accept donations. The group fundraised about $2.5 million dollars, the majority of this money went to plantings in the monumental core, but some portion was spent on the committee's inner-city program. This group operated from 1965 and continued after the official end of the Beautification Program in January 1969 until President Richard Nixon cut funding in 1972 (Earley and Fanning 2005: 50).

COLUMBIA ISLAND BEAUTIFICATION PROJECT AND THE STONE PLAN (1967-1968)

Columbia Island was a favorite recreational destination of the Johnsons during their 35 years of residency in Washington, DC and Lady Bird Johnson had an appreciation of the island's importance as a gateway to the city. She later said of the island that she remembered returning to the federal city by car each year from their annual visits to Texas and that when she viewed the city from Columbia Island driving along the GWMP that she'd be "filled with a sense of heady excitement…I hope that every young person who approaches this town looks at those monuments across that dark ribbon of the Potomac River with the same sense of pride and love and desire to be a part of it that we felt all those years" (*TWES* November 6, 1973: 28).

In April 1967, Lady Bird Johnson visited the island with Mary Lasker and Nash Castro with the intention of planning out one of her Beautification Program's projects. The committee had decided to plant over one-million daffodil (*Narcissus* spp.) bulbs in mass drifts and one-thousand flowering dogwoods (*Cornus florida*) throughout the island. Lasker committed to donate $65,000

to help fund the efforts (Earley and Fanning 2005: 94). Floral plantings would include daffodils arranged around the parkway in clusters and annuals planted in highly visible locations including the entrance to Arlington Memorial Bridge (Chenot et al. 1992 Vol. 1: 25).

By that summer, the committee engaged Edward Durell Stone, Jr. to create a master plan for the tree plantings on the island. He worked with horticulturist Charles A. Lewis who was hired to design the island's planting beds. The design team conducted an existing conditions assessment in September 1967 which formed the basis for subsequent planting plans they created for Columbia Island. The existing conditions survey recorded that the Boundary Channel was predominately wooded with red and silver maples, box elders, sycamores, elms, willows, cottonwoods, and possibly alders (*Alnus* sp.). The team identified extant trees from the 1932 Simonson Plan tree planting along the MVMH. The plan specified that there were 30 crabapple trees, 12 pear trees, two goldenrain trees, and four sophora trees (Earley and Fanning 2005: 94).

Lasker consulted with the designers on their preliminary plans and the NCPC approved initial designs for the island in July 1967. Stone's plan for the island included 800 deciduous shade trees such as scarlet oaks (*Quercus coccinea*) and sugar maples (*Acer saccharum*) interspersed with 1,400 evergreens, primarily white pines (*Pinus strobus*), and thickly underplanted with between 2,500 and 2,700 dogwoods (Earley and Fanning 2005: 94; Kelsch et al. 2009 Vol. 1: 17). Stone's plan called for the removal of about 100 volunteer trees but preserved all of the Simonson-era plantings.

Since there was not adequate funding to implement the entire planting plan in a single season, Stone divided his plan into phases, with the first phase carried out primarily around Memorial Circle. Later phases focused on providing shade for the dogwoods that would be planted throughout the island. The committee held a meeting in October 1967 where Stone presented his planting design and Lasker announced that she would fund the planting of the first 800,000 daffodil bulbs, which took place later that fall (Johnson 1970: 582). President Johnson's 1964 Inaugural Committee (gifted prior to the Inaugural Committee's dissolution in 1965), the Society for a More Beautiful National Capital, and the NPS provided additional funding to complete the

plantings around Memorial Circle (Earley and Fanning 2005: 51; Lady Bird Johnson's Beautification Program Files, National Capital Region). In December 1967, Castro succeeded T. Sutton Jett as the Regional Director of National Capital Parks.

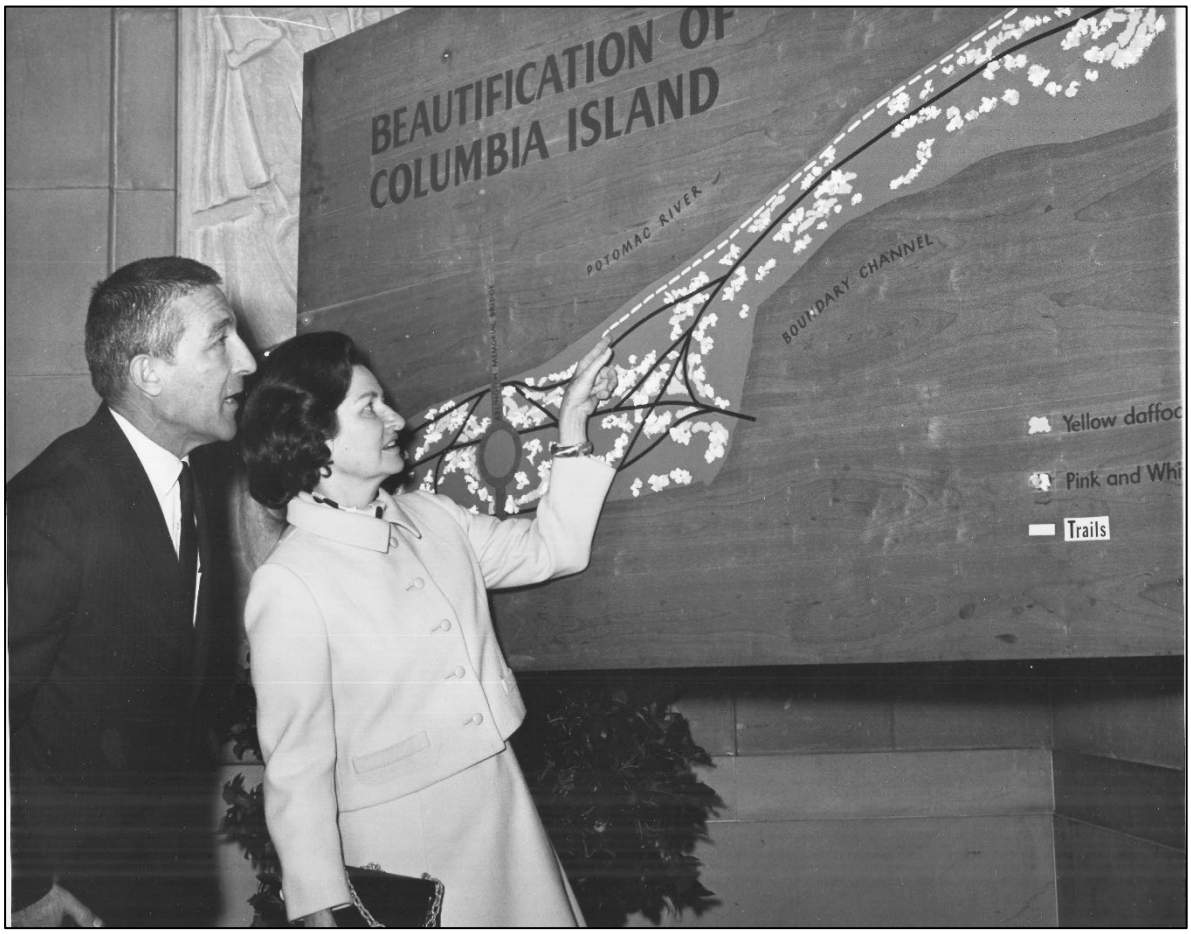
In the spring of 1968, the NPS implemented the first phase of Stone's tree planting design, installing 209 dogwoods, 38 white pines, and 18 scarlet oaks in the vicinity of Memorial Circle. Lasker paid for all the dogwoods planted on Columbia Island and she requested that the dogwoods be placed within 100 feet of roads on the island to ensure that the flowering trees would contribute to drivers' experience of the park (Earley and Fanning 2005: 51-52).



Lady Bird Johnson and Nash Castro posing among a daffodil drift on Columbia Island. "C9276-3A," March 30, 1968. LBJ Presidential Library photo by Robert Knudsen (http://www.lbjlibrary.net/collections/photo-archive/photolab-detail.html?id=1342, accessed 2021).



Lady Bird Johnson on Columbia Island with view of Washington Monument across the Potomac River. This is the view that she and the design team would later highlight at LYBA. "C9269-4A," March 30, 1968. LBJ Presidential Library photo by Robert Knudsen.

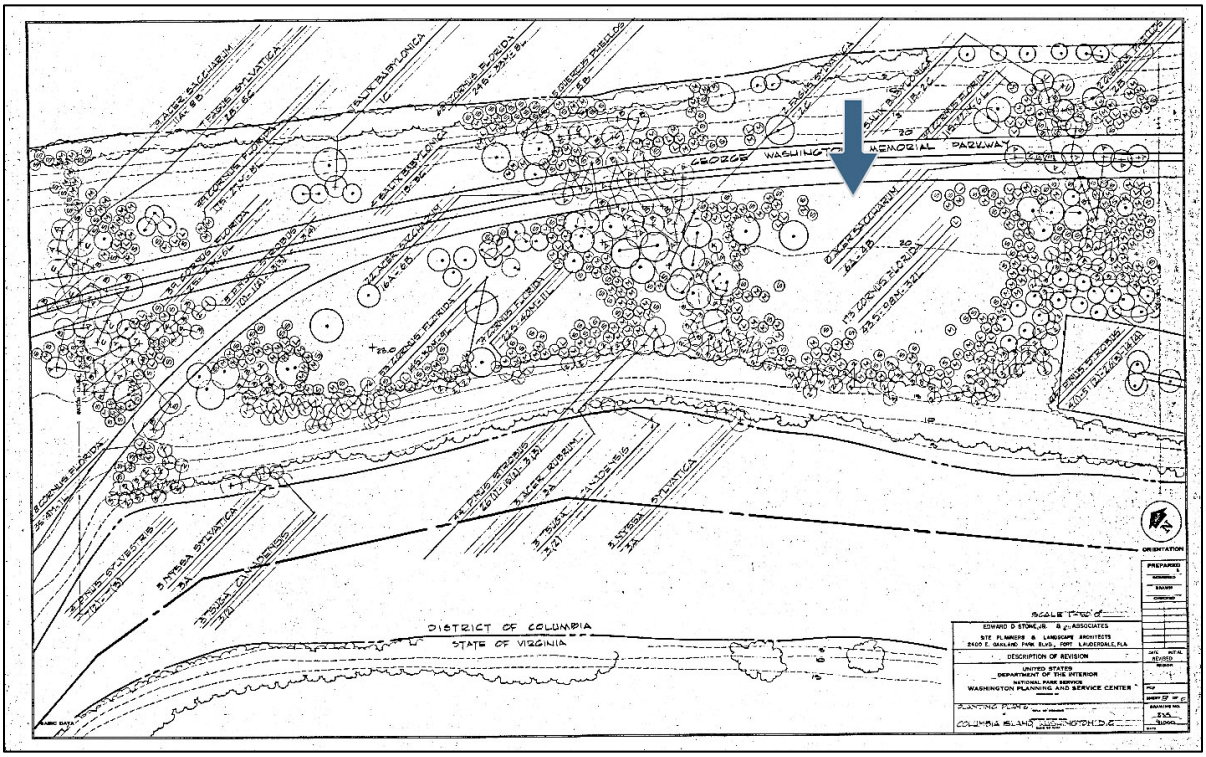


Lady Bird Johnson and Secretary Udall viewing a proposal for the placement of trails and plantings as part of the beautification of Columbia Island. "Lady Bird Johnson with Park Plan Sign A," 1968. NCR Museum Resources Center (MRCE) (http://npgallery.nps.gov/AssetDetail/e9d192c0-119c-4fbe-9a2e-51068bfb059a, accessed 2020).

Lewis prepared flower beds for the NPS to plant between 150,000 and 200,000 additional daffodils in the fall of 1968 and the agency promoted the island as having over one-million daffodils. The committee preferred large yellow daffodils over smaller, white varieties in order to maximize the visual impact of the blooms (Kelsch et al. 2009 Vol. 1: 164).

Lasker paid for a total of around 2,500 more dogwoods to be planted on Columbia Island between 1969 and 1971 following the Stone Plan. Limited funding did not permit the NPS to plant enough deciduous and evergreen overstory trees to protect the dogwoods from sun exposure and subsequently many of these trees died within a few years of planting (Earley and

Fanning 2005: 52, 96). While Stone's plan was never fully implemented, it became the guiding document for plantings throughout Columbia Island and guided the NPS's maintenance for much of the park's landscape beginning in the 1980s and into the 2000s (Kelsch et al. 2009 Vol. 1: 88).



Edward Durell Stone's planting plan for the portion of Columbia Island in the same location as present-day LYBA. The dogwoods and daffodils were the only aspects of the Stone Plan implemented in this area of the island. The Blue arrow shows the approximate present-day location of LYBA's memorial plaza. "Columbia Island Planting Plan," 1968. NPS Electronic Technical Information Center (eTIC) (https://pubs.etic.nps.gov/eTIC/LAMR-MANA/LYBA_835_41000.pdf, accessed 2020).

LADY BIRD JOHNSON PARK: RENAMING COLUMBIA ISLAND (1968)

On March 31, 1968, President Johnson announced that he would not seek re-election in that year's presidential contest. Johnson had made this decision due in part to the strain of waging the Vietnam War and the belief that a new administration might be better able to resolve the conflict (Scanlon 2008: 46). The pending change in administration would mean that Lady Bird Johnson's

Beautification Program was coming to an end. In early April 1968, Castro wrote to NPS Director George B. Hartzog, Jr. to propose changing the name of Columbia Island to "Lady Bird Park" in recognition of the impact of her Beautification Program on the built environment of Washington, DC Castro referred to Lady Bird Johnson's waning tenure as First Lady in his rationale to Hartzog for the renaming and explained his site selection stating that:

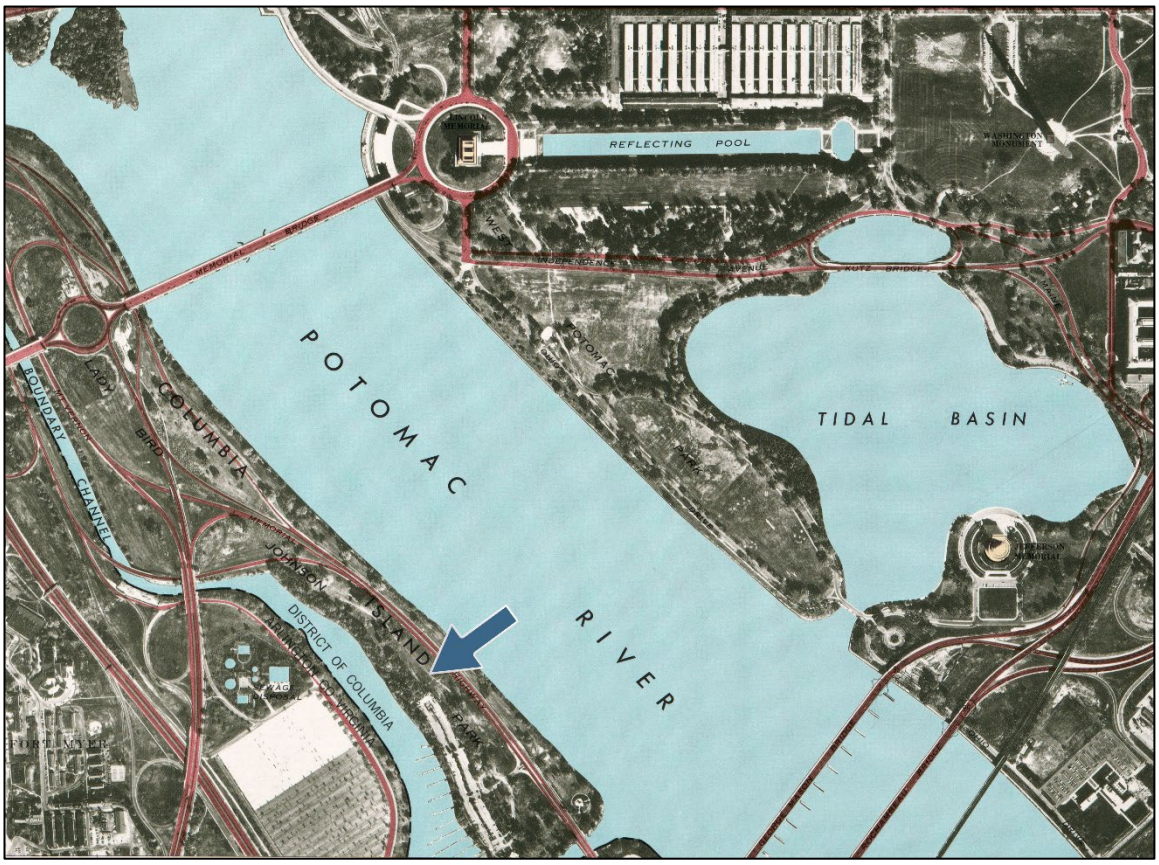
> *1) it contains her [Lady Bird Johnson's] favorite sculpture, the Navy-Marine Memorial [Navy and Marine Memorial Dedicated to Americans Lost at Sea]; 2) it is one not likely to undergo major physical changes; 3) she has worked so avidly in the interests of landscaping the whole of Columbia Island, which is now assured; and 4) it constitutes a major gateway into the National Capital (Reservation 344, Reservation Files, National Capital Region).*

Hartzog agreed to pursue the renaming and in an October correspondence to the Executive Secretary of Domestic Geographic Names reasoned that, "while persons should not as a general rule, be so honored during their lifetime, this is an unusual situation in which an exception is justified," due to the importance of the First Lady's contributions to beautification in Washington, DC and the particular impact they had on Columbia Island's landscape (Reservation 344, Reservation Files, National Capital Region). Secretary Udall approved the new name of "Lady Bird Johnson Park" through a Secretarial Order on November 4, 1968, the day before the presidential election when voters would decide on President Johnson's successor. Prior to the approval, Udall's staff ascertained that it was outside of the jurisdiction of the Board of Geographic Names to enact the name change, since Columbia Island was originally named through administrative action in 1920 rather than through statute (Reservation 344, Reservation Files, National Capital Region).

On November 12, 1968, Secretary Udall formally announced the name change at a ceremony held at the Department of the Interior that also marked the official end of the First Lady's Beautification Program. In reality, the Society for a More Beautiful National Capital continued to fundraise and sponsor projects into the 1970s (Earley and Fanning 2005: 50). During the proceedings Udall praised the Committee for a More Beautiful Capital on successfully planting more than one-million daffodils on the island in 1967 and 1968 (detailed above).



Lady Bird Johnson at the ceremony held at the Department of the Interior to commemorate the renaming of Columbia Island to Lady Bird Johnson Park. Secretary of the Interior Udall stands between two unidentified presenters with a plaque commemorating the name change to be placed at the park. "B2410-18A," November 12, 1968. LBJ Presidential Library photo by Robert Knudsen.



Detail of an aerial photograph with Columbia Island bearing the name Lady Bird Johnson Park as a second label. The Columbia Island Marina parking lot at the southern end of the island extends into the present-day location of LYBA, indicated by the blue arrow. "Washington West (F) Quadrangle, District of Columbia – Maryland – Virginia, 2.5x3.75 Minute Series Orthophotomap," 1968. Library of Congress (http://hdl.loc.gov/loc.gmd/g3851a.ct004558, accessed 2020).

PLANNING THE LYNDON BAINES JOHNSON MEMORIAL GROVE ON THE POTOMAC (1973-1974)

President Johnson died on January 22, 1973, of a heart attack at the family's ranch in Stonewall known as the Texas White House or the LBJ Ranch. Nash Castro, Laurance Rockefeller, and Brooke Astor flew together from New York to President Johnson's funeral later that week and during the flight discussed ideas for memorializing the 36th President (*TWES* April 14, 1973: 3). Astor proposed the concept of a memorial grove and a group of Lady Bird Johnson's friends who had been involved in the Beautification Program, including Mary Lasker, approached the former First Lady with the idea following the funeral services (Mackintosh 1994: 174). The memorial's

supporters later identified Lady Bird Johnson Park as an ideal location for the grove, as the island was named for the wife of the former President and the couple had enjoyed visiting the island together recreationally (Earley and Fanning 2005: 58). Lady Bird Johnson agreed that a memorial grove would be a fitting tribute to her husband and later described its appeal observing: "It's low-key and I think it suits the time and the man. Much as I love the great memorials here in Washington – for Washington and Lincoln and Jefferson – perhaps the time for that sort of thing has passed (Reservation 344, Reservation Files, National Capital Region)".

Soon after President Johnson's funeral, the memorial's supporters organized the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac with Lady Bird Johnson serving as honorary chair, Castro as chair, and Rockefeller as executive committee chair (Mackintosh 1994: 175). The committee put Lady Bird Johnson's former press secretary Liz Carpenter in charge of fundraising for the project and had already hired M. Meade Palmer by February 1973 to design the memorial grove (Earley and Fanning 2005: 58). Palmer's design team for LYBA included architect Fred Kines and landscape architect Barry Starke for the initial stages of development. Landscape architect Susan Nelson worked on later phases of the project included its construction (Starke 2021: email).

Born in Washington, DC, M. Meade Palmer received his training in landscape architecture at Cornell University in the 1930s and while he was trained in the Beaux Arts tradition, his student work foreshadowed the Modernist style that characterized his work in private practice. In 1948, Palmer opened an office in Warrenton, Virginia after serving in the Navy as a photographer during World War II and he was made a Fellow of the American Society of Landscape Architects in 1958. His office became known for minimalist interventions that highlighted the existing physical properties of project sites as well as their historical contexts. His designs often focused on planting designs, a subject that he taught in the University of Virginia's landscape architecture program for more than 30 years (*TWP* July 19, 2001: B 7A). Palmer garnered awards for his planting plans including the American Association of Nurserymen Merit Award for his work at Lake Anne Village in Reston, Virginia (1963-1967) and the American Association of Nurserymen National Landscape Awards for his work at LYBA and at the Marriott Corporation headquarters

in Bethesda, Maryland (completed ca. 1981) (Takahashi 1990: 5). He also won the National Award for Design Excellence from the US Department of Transportation and the National Endowment for the Arts for his work on Carter's Grove Country Road, which included designing the roadway, bridges, and surrounding vegetation along the 300-foot right-of-way between Williamsburg and the Carter's Grove Plantation (completed ca. 1979).

Palmer's work encompassed public parks, private residences, and gardens. He prepared the master plan for Bull Run Park in Manassas, Virginia (completed 1967) which included campgrounds, stables, and picnic shelters that evoked Civil War-era tents in their form (Takahashi 1990: 13). Many of his residential projects lasted multiple years as his team refined their design over multiple seasons. This was the case with the Bell Residence in Aldie, Virginia where Palmer worked for over a decade introducing multiple interventions including a new entry drive and plantings (Takahashi 1990: 14). Palmer's office also took on smaller design projects including two gardens on the grounds of National Cathedral (completed ca. 1975) and the courtyard of the Washington, DC office of the Organization of American States (1982 and 1984) (Takahashi 1990: 26). A consistent component of Palmer's work was his regional focus in the Piedmont and his use of vernacular materials such as brick, wood, and stone. Palmer said of his work, "I don't think I set out to be a regionalist. I think it just sort of grew… When somebody says, 'What is your style?,' I can't describe it. I think if I tried to verbalize it, it would just simply confuse you. I think that's sort of the way with regionalism" (Takahashi 1990: 36).

Palmer's practice and regional mode of design was well established by 1973 when the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac hired him to design LYBA. He and the Committee selected a location at Lady Bird Johnson Park for the memorial grove by April of that year and the group formally proposed the idea to Secretary of the Interior Rogers Morton in June (*TWES* April 14, 1973: 3; Bradley and Howland 1998: 5). NCPC and CFA approved the location and conceptual design that September (Reservation 344, Reservation Files, National Capital Region).

In October, the Acting Director of the National Capital Parks (later confirmed as Director), Manus J. Fish, Jr., recommended that the agency approach the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac to request funds for maintenance of the memorial as well as its construction. A subsequent letter from Fish's office to Rockefeller expressed that the design for the memorial was, "consistent with recent development in Lady Bird Johnson Park, which provided an extensive spring flowering display of 2,700 dogwoods and one-million daffodils" and that the agency would work with the committee to faithfully implement Palmer's design (Reservation 344, Reservation Files, National Capital Region). However, since the NPS would be responsible for ongoing maintenance of the grove, the agency requested that the committee increase their fundraising efforts to provide money to start an endowment that would allow for, "a more superior standard of maintenance for the grove" (Reservation 344, Reservation Files, National Capital Region).

Congress authorized the memorial's construction on December 28, 1973, under Public Law 93-211 (H.J. Res. 858, 93rd Congress). The joint resolution specified that the United States would not pay any portion of the cost for the creation of the memorial, but instead the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac and the Society for a more Beautiful National Capital would raise the anticipated $1.5 million needed for development and installation of the grove and an additional $500,000 for a maintenance fund.

With congressional authorization, the committee and the design team began to promote their concept for the memorial to amplify their fundraising efforts. In January 1974, Palmer produced a narrative report to accompany his conceptual design that described the components of the memorial grove and the desired visitor experience. The initial planting plan, which Palmer described as "informal," called for a mix of white pines and loblolly pines (*Pinus taeda*) underplanted with rhododendrons (*Rhododendron maximum*), azaleas (*Azalea* sp.), and dogwoods (Palmer 1974: 2). A wooden pedestrian bridge would lead from a parking area on the Virginia shore across the Boundary Channel to a spiral flagstone walkway that terminated at a circular flagstone plaza surrounded by pines to the north, west, and south. The highlight of the grove would be a megalith placed on a mound in the plaza with a view of the Capital and Washington,

DC's monumental core to the east as a backdrop. Palmer introduced the concept of the megalith to reference ancient forms of memorialization and to symbolize President Johnson's strength of character (Takahashi 1990: 47). The design team graded the plaza to increase the total elevation approximately six feet to improve visitors' vantage point over the MVMH and across the Potomac River (*TWES* November 6, 1973: 27). This view across the river was a departure from both Simonson's and Stone's planting plans; an entirely new design component to this part of Lady Bird Johnson Park (Kelsch et al. 2009 Vol. 2: 194). Palmer described a secondary path leading from the footbridge into an "irregular" meadow clearing surrounded by "towering pines" intended for passive recreation such as picnicking and walking (Palmer 1974: 2). Another secondary path led from the plaza to the marina parking lot connecting the existing recreational facilities to the memorial grove. Palmer said of his design:

> *The overriding concept has been the creation of a simple, unpretentious memorial of great charm and dignity. The materials used are elements of the natural world – stone and living plants. Unlike memorials of the past it will be dynamic, changing from year to year as the plans grow and mature. It should be a place for spiritual and physical refreshment whether one is a pedestrian within the grove, a motorist passing on the Parkway or an aerial passenger flying overhead (Palmer 1974: 3).*

In May 1974, Lady Bird Johnson, Castro, Palmer, and sculptor Harold Vogel traveled to Johnson City, Texas to visit the Marble Falls quarry located near the Johnson Family ranch (*TWES* May 7, 1974: 25; *TWP* April 7, 1976: A1). The team was looking for granite that Vogel would sculpt into the megalith for the memorial grove. They selected a boulder that weighed 43 tons and measured over 19 feet in height and was seven feet across at its base (Reservation 344, Reservation Files, National Capital Region). The boulder was the same variety used to construct the Texas State Capitol (1882-1888) dubbed "Sunset Red" because of its pink hue streaked with gray quartz and shining flecks of mica (*TWP* April 7, 1976: A1).

At the time of the trip, the design team intended to carve quotations from President Johnson's time in office directly into the megalith, although the final design moved the quotations to separate stone plaques surrounding the megalith (*TWES* November 6, 1973: 28). Castro explained that the boulder needed to be large enough so that it would not be dwarfed by the white pines

around it that would eventually be as tall as 90 feet high, although Lady Bird Johnson observed that the trees would not reach that height in either her or Castro's lifetime (*TWES* May 7, 1974: 25). NPS Director Fish noted in a memorandum later that month that Carpenter was coordinating the move of the megalith to the island. She anticipated that it would be delivered by truck in early September and installed in a temporary location where Vogel would sculpt it as close to its final site as possible (Reservation 344, Reservation Files, National Capital Region).

The Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac and the Society for a More Beautiful National Capital organized a September 27, 1974, dedication and groundbreaking ceremony at the site in collaboration with the NPS. It was estimated that approximately 1,000 people attended the ceremony (*TWP* September 28, 1974: A1). At the event, President Gerald Ford spoke, acknowledging Lady Bird Johnson's beautification efforts and lauding President Johnsons accomplishments. He concluded his remarks stating:

> *For those of us who knew him personally, this will always be a very special place. But for millions of Americans of this and future generations, who never knew him in life, this grove will also be a place of pleasure, rest, and comfort – a place where they can pay silent respect to the memory of a President who served his country and his countrymen well (Reservation 344, Reservation Files, National Capital Region).*

President Ford's comments communicate that this would be a living memorial with multiple meanings and functions for visitors. This sentiment was echoed in the speech that Secretary Morton gave when he encouraged attendees to return "to watch the progress of the memorial but also… to use it, not as a shrine from which you maintain a respectful distance, but as a park, a live place, a place of pleasure as well as remembrance" (Reservation 344, Reservation Files, National Capital Region). During her address, Lady Bird Johnson observed that the ceremony felt like a family reunion attended by so many friends from their white house years including Senator Hubert H. Humphrey, who served as Vice President under Johnson, and former Secretary Udall.

After the speeches, Lady Bird Johnson, President Ford, and President Johnson and Lady Bird Johnson's daughters, Lynda Robb and Luci Turpin (Nugent at the time of the groundbreaking), and two granddaughters, Lucinda and Catherine Robb, posed for photographers with shovels poised, symbolically breaking ground for the memorial (*TWP* September 28, 1974: A1). President

Ford turned earth where the first tree would be planted in the memorial grove, a 22-foot pine, while the Marine band played "America the Beautiful (*The New York Times* [*TNYT*] September 28, 1974: 30; Mackintosh 1996: 174).



Lady Bird Johnson and President Ford hold shovels in the center of the image, while President Johnson and Lady Bird Johnson's daughters, Lynda Robb and Luci Nugent look on. The Johnson's two granddaughters, Lucinda and Catherine Robb, are seen at the left side of the photo helping to shovel. 1974. The Evening Star. Reprinted with permission of the DC Public Library, Star Collection © Washington Post.

After the NCPC reviewed the conceptual design in September 1973, the commission made a number of recommendations to the NPS including that they limit the amount of impervious paving used for the memorial, align the placement of the megalith with the Maryland Avenue axis to the Capitol and that they assure the continuity between the new memorial design and the existing parkway, trails, and open space on the island (Reservation 344, Reservation Files, National Capital Region). The NPS asked the design team to incorporate many of the NCPC's suggestions and subsequently submitted a revised plan set to the commission in January 1975,

which was in turn submitted to the CFA with recommendations. The design team made final revisions according to the commission's recommendations that included retaining the existing alignment of the parkway and Mount Vernon trail and planting additional pines between the parkway and the river outside of the memorial's boundaries (Earley and Fanning 2005: 59). The NCPC approved the revised plans in February 1975.

CONSTRUCTING THE LYNDON BAINES JOHNSON MEMORIAL GROVE (1974-1977)

Under Carpenter's direction, the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac and the Society for a More Beautiful National Capital had already raised one-million dollars to fund construction of the memorial grove by the time of the groundbreaking in 1974 and were estimating that they would need two-million dollars total (*TWES* September 22, 1974: 52; *TNYT* September 28, 1974: 30). In February 1975, the committee released for sale gold and silver medals produced by Hamilton Mint with all proceeds benefitting the memorial grove. The medals featured a likeness of President Johnson on one side with a quotation from his time in office in support of land conservation on the other side (*TWES* February 4, 1975: 22).

Lady Bird Johnson selected four quotations to be carved on pavers made of the same granite as the megalith and laid around its base. Castro, Palmer, Vogel, Carpenter, as well as Harry Middleton, Director of the Lyndon Baines Johnson Presidential Library, and Jack Valenti, President of the Motion Picture Association, helped to identify and select the final four quotations (*TNYT* May 4, 1975: 52). The group intended for their selections to convey the President's policies regarding civil rights, education, and the environment, as well as his views on his role as president.

Vogel began carving the megalith, which was temporarily installed 100 yards north of its permanent site, in the summer of 1975 using a mallet and acetylene torch. The artist described that he intended his work to enhance the naturally rough surface of the stone, observing that "LBJ wasn't a smooth character… we don't want this thing for him to be too polished. When I went down to Texas and saw his home ground and talked to the people he dealt with, I knew that he was a very human character" (*TWES* June 25, 1975: 39).

The NPS moved the megalith to its permanent location on August 13, 1975, after Vogel had finished sculpting it. Contractors used a crane to place it on top of the mound at the center of the flagstone plaza (*TWES* August 14, 1975: C2). The paving stones inscribed with President Johnson's words were placed in October of that year (*TWES* October 22, 1975: 22).

Prior to installation of the memorial grove plantings between fall of 1974 and winter of 1976, the eastern and central portions of the site were predominately open turf with some trees scattered throughout. There were several volunteer trees along the parkway, including cottonwood, willow, black locust (*Robinia pseudoacacia*), and possibly black walnut (*Juglans nigra*) as well as daffodil beds from the Beautification Program plantings (Earley and Fanning 2005: 97). The western edge of the island along the Boundary Channel was characterized by a substantial stand of volunteer trees and shrubs and the eastern edge of the Virginia shore was similarly bordered by a band of volunteer vegetation. There was manicured turf and allée of trees along Boundary Channel Drive on the Pentagon Reservation.



Detail of an aerial photograph taken in 1974 prior to the groundbreaking ceremony at LYBA. The landscape at this time was characterized with open expanses of turf to the east and volunteer vegetation on the western shore along the Boundary Channel. Daffodil beds planted as part of the Beautification Program's project can be seen in the northern portion of the present-day location of the LYBA meadow, indicated by the blue arrow. The allée along Boundary Channel Drive is highlighted by the red arrow. "Aerial Photographic Map of Arlington County, Virginia," 1974. Arlington County, Virginia Maps (https://gis.arlingtonva.us, accessed 2020).

The final iteration of LYBA that the NPS installed closely follows Palmer's early conceptual plans. The memorial consisted of the grove of white pines framing a 12-foot-wide, 700-foot-long spiraling flagstone walk that leads to a plaza with the 19-foot-tall megalith at its center. From this vantage, visitors have a view of the monumental core of Washington, DC. Palmer designed the meadow north of the plaza to be a place for passive recreation and he retained a portion of the Columbia Island Marina's existing parking lot to the south (Earley and Fanning 2005: 60).

The NPS installed the entrance at the Pentagon Reservation including the pedestrian bridge across the Boundary Channel between 1976 and 1977, described below in more detail (Mackintosh 1994: 176). The addition of this feature effectively established the Boundary Channel as a key element of the memorial's design both as a recreational feature and as a scenic element of the views from the Virginia side of LYBA towards the island.

The design team phased construction of the LYBA memorial grove into two major phases. Phase I (1974-1976) consisted of development on the island including planting trees and shrubs; constructing the paths; sculpting and placing the megalith; and installing benches, lighting, and trash receptacles throughout the site (Palmer and the Mills & Petticord Partnership 1975). While the secondary entrance at the Columbia Island Marina parking lot was included in Phase I of construction, most of the parking lot and the marina facilities were outside of Palmer's project boundaries. Therefore, Palmer did not alter the existing design elements such as vegetation, walkways, piers, and lighting beyond partial demolition of the northern parking lot bay to accommodate LYBA's entrance from the marina (Palmer 1975). During Phase II (1976-1977), the NPS installed the primary entrance on the Pentagon Reservation, including the parking lot, retaining wall, planters, and plantings, and constructed the pedestrian bridge across the Boundary Channel (Palmer and the Mills & Petticord Partnership 1976). Project subcontractors Mills & Petticord Partnership consulted on engineering and architectural aspects of the design. Strickler and Associates managed the electrical plans for Phase I of the project and Syska & Hennessey Incorporated consulted on the electrical plans during Phase II.

Between 1977 and 1979, following the two major phases of construction, NPS planted wildflowers and daffodils according to Palmer's design. They continued to update the plantings periodically with Palmer's guidance at least through 1991 (Kelsch et al. 2009 Vol. 1: 170; Palmer and the Mills & Petticord Partnership 1975: P1-P5; Palmer and the Mills & Petticord Partnership 1984: P1-P7; Palmer and the Mills & Petticord Partnership 1990: P1-P5; Palmer and the Mills & Petticord Partnership 1991: P1, P3-P5).

When grading the property, Palmer took the existing topography into consideration, employing a light touch throughout much of the site but making targeted changes to elevation to define the spaces of the memorial grove and meadow. During Phase I of construction within the memorial grove, Palmer framed the entrance from the bridge over the Boundary Channel with earthen berms planted with white pines and other vegetation to envelope the flagstone pathway. The spiral of this path took visitors from an elevation of 17 feet to the platform of the memorial plaza, which Palmer graded to over 24 feet in elevation to highlight the view across the Potomac River. He included several berms along the parkway in his design to shield the memorial plaza and the meadow from the traffic along the GWMP. Within the meadow area, Palmer planted the berms with white pines and shrubs to give a feeling of insularity to the meadow, which he graded as a bowl (Palmer and the Mills & Petticord Partnership 1975). The design team graded the Virginia shore of the Pentagon Reservation during Phase II of construction to accommodate a 34-car parking lot and the entry deck of LYBA's Pentagon Reservation entrance (Palmer and the Mills & Petticord Partnership 1976).

Palmer's plan necessitated modifications to the Columbia Island Marina, which were executed during Phase I of construction. His design eliminated the northernmost section of the parking lot and established LYBA's entrance from the marina parking lot. Although this was intended to be the secondary entrance, it was constructed before the entrance on the Pentagon Reservation due to how the project was phased. The memorial grove extended into much of this area, which was planted with white pine. The vegetation at this entrance acted as a buffer between the parking lot and the flagstone plaza at the center of the grove (Earley and Fanning 2005: 59). Palmer designed a new boat storage area and additional parking at the south end of the island near Humpback Bridge to offset the loss of these amenities within the memorial's boundaries. Palmer retained in situ the existing willow oaks from the removed parking area's medians as well as the existing willow oaks in the remaining parking area at the site (Kelsch et al. 2009 Vol. 1: 176).

Two gravel-topped asphalt spurs connected the marina entrance to the spiral flagstone pathway that led to the memorial plaza and the heart of the grove. The meadow area featured two interconnecting, gravel-topped asphalt loops lined with benches and dotted with picnic tables.

The purpose of these were to promote leisurely strolls and spots for rest. The picnic tables were not included in the Phase I contract, although Palmer suggested locations in the 1975 plan set (Palmer and the Mills & Petticord Partnership 1975). It is likely that the NPS installed the picnic tables prior to the 1976 dedication ceremony. The Pentagon Reservation featured a pedestrian bridge over the Boundary Channel, constructed during Phase II, that connected to the flagstone pathway on the island (Palmer and the Mills & Petticord Partnership 1976). Except for the landing deck of the bridge, NPS constructed all of the island's circulation during Phase I of the project (Palmer and the Mills & Petticord Partnership 1975).

Palmer included two different bench types in his design for LYBA. Within the memorial grove, he specified a custom-made bench with a base made of the same "Sunset Red" granite of the megalith and wooden plank seating. In the meadow and the Pentagon Reservation, Palmer used a steel frame bench with wooden plank seat and back. He paired the benches at the marina entrance and throughout the meadow with "tulip-style" trash receptacles during Phase I and included four trash receptacles of the same style at the Pentagon Reservation parking lot during Phase II (Takahashi 1990: 23). Within the memorial grove, meadow, and the Pentagon Reservation, Palmer installed various lighting fixtures, the dominant type being a steel light post with a square box light mounted perpendicularly to a square post with a black-painted finish. Both entrances featured wooden signs designed by Palmer with routed letters announcing the full name of the memorial. (For a complete list of light fixtures and other small-scale features, refer to the Analysis and Evaluation chapter of this report). NPS installed these small-scale features on the island during Phase I of construction and at the Pentagon Reservation during Phase II (Palmer and the Mills & Petticord Partnership 1975; Palmer and the Mills & Petticord Partnership 1976). As much of the marina parking lot was outside of Palmer's project boundary, he did not make any changes to the existing lighting or other small-scale features associated with the marina.

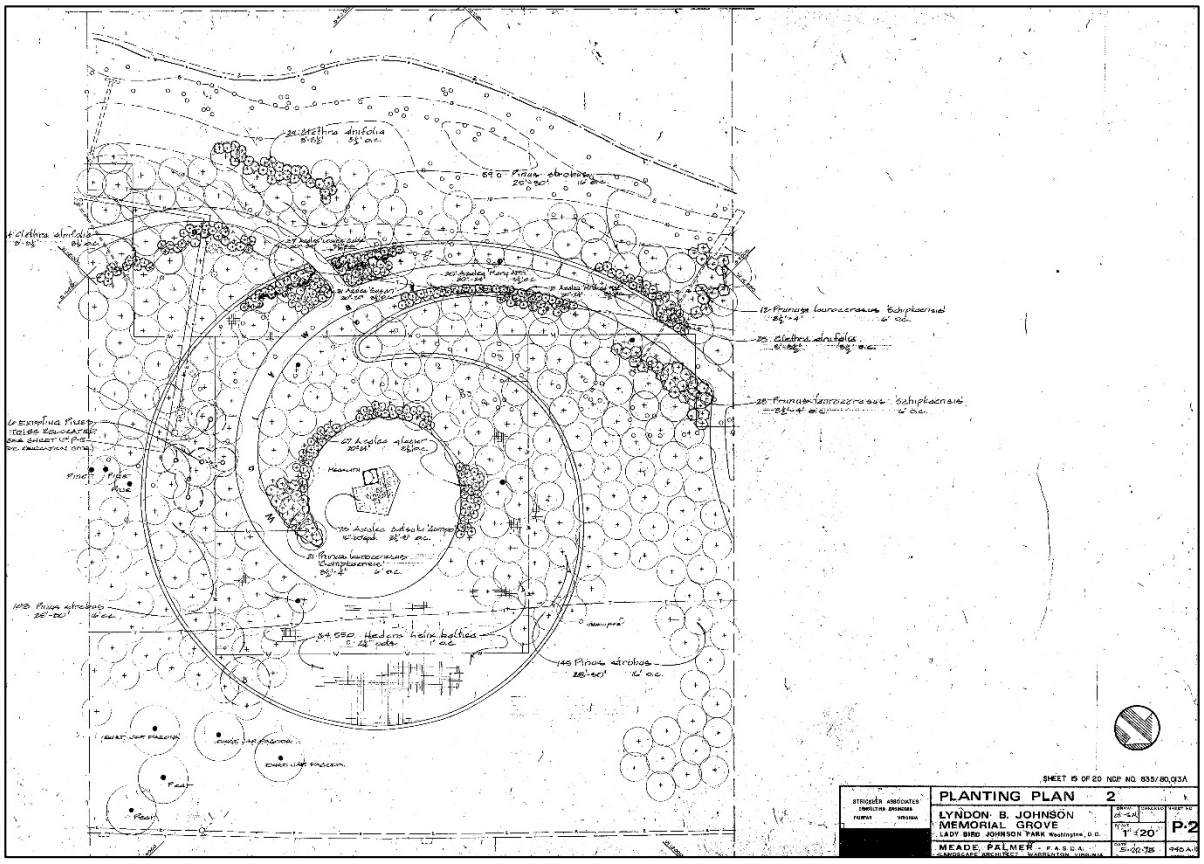
Palmer's planting plan for LYBA superseded Stone's plan (Kelsch et al. 2009 Vol. 2: 277). Palmer retained many of the existing mature trees, including the large volunteer cottonwoods likely dating to the creation of the island preserved through Simonson's and Stone's planting

campaigns, but he did remove some of Simonson's 1932 flowering trees to accommodate installation of the white pine grove (Kelsch et al. 2009 Vol. 1: 158). Palmer also cleared a swath of vegetation west of the memorial plaza site and megalith to open the panoramic view of Washington, DC across the Potomac River (Palmer and the Mills & Petticord Partnership 1975: C5). He framed this new view with white pines extending out from the grove on either side of the MVMH. Palmer preserved about 17 of the 1932 flowering ornamentals along the western side of the parkway as part of his design: seven sophoras, one goldenrain tree, and several flowering pears, cherries and crabapples (Earley and Fanning 2005: 97; Kelsch et al. 2009 Vol. 1: 170; Palmer and the Mills & Petticord Partnership 1975). The extant Simonson-era trees were unevenly distributed over approximately 1,200 linear-feet following the course of the parkway. Palmer preserved more of the mature trees in the meadow area then he did in the memorial grove but did selectively clear vegetation to accommodate the construction of the berms along the GWMP.

In early phases of his design proposal, Palmer included both white and loblolly pine in his plans for the memorial grove. However, Lady Bird Johnson later objected to the use of loblolly pines, observing that the species was only used for pulp in East Texas. Ultimately, white pine was the sole species planted in the grove despite Palmer's misgivings about their hardiness in urban environments (*TWP* April 7, 1976: A1; Takahashi 1990: 24). Palmer highlighted the megalith at the center of the grove surrounding it with a bed of cotoneaster (*Cotoneaster horizontalis*). He also placed cotoneaster on the slope between the spiraling retaining wall and the parkway and at the Columbia Island Marina parking lot entrance (Kelsch et al. 2009 Vol. 1: 178).

While white pine was predominant in Palmer's design for the memorial grove itself, he included a greater diversity of species through the site's underplanting. These included azalea, rhododendron, cherrylaurel (*Prunus laurocerasus*), and English ivy (*Hedera helix*) throughout the island, summersweet (*Clethra alnifolia*) near the Columbia Island Marina entrance; dogwood clustered around the meadow with Viburnum (*Viburnum plicatum* var. 'Mariesii') and witch hazel (*Hamamelis* x *intermedia* 'Arnold Promise') interplanted with the white pines lining the berms along the parkway (*TWP* April 7, 1976: A1; Palmer and the Mills & Petticord Partnership 1975).

Palmer featured evergreen plants within the memorial grove, such as cherrylaurel and English ivy, to mirror the character of the white pine overstory throughout the seasons.



Meade Palmer planting plan for the spiral path and memorial plaza. "Lyndon B. Johnson Memorial Grove," 1975, Revised 1979-1984. NPS Electronic Technical Information Center (eTIC) (https://pubs.etic.nps.gov/eTIC/LAMR-MANA/LYBA_835_80020_A.pdf, accessed 2020).

Palmer treated the western edge of the memorial as a woodland and specified azalea, rhododendron, cherrylaurel, fern (*Osmunda* spp.), and shade-tolerant wildflowers for the understory in this area (Kelsch et al. 2009 Vol. 1: 174). He did not specify additional tree planting here apart from the addition of a few red maples near the Boundary Channel entrance, which were added between 1975 and 1976 (Palmer and the Mills & Petticord Partnership 1984: P3).

Palmer's intention was for the western edge's overstory to naturalize with volunteer species, which matches Stone's plan for this portion of the site (Kelsch et al. 2009 Vol. 1: 172).

The eastern edge of the site is sunnier, and Palmer planted this area of the meadow with viburnum, witch hazel, and wildflowers such as orange coneflower (*Rudbeckia fulgida* var. *speciosa* 'Goldsturm'), purple coneflower (*Echinacea purpurea*), and Virginia Bluebells (*Mertensia virginica*) (Kelsch et al. 2009 Vol. 1: 174-178). Palmer designed the wildflower palette to create interest in the spring, summer, and fall (Bradley and Howland 1998: 5). The NPS did not plant the wildflowers throughout the site until after they completed construction on both sides of the Boundary Channel (Kelsch et al. 2009 Vol. 2: 340). Palmer recorded locations of the wildflower and daffodil beds in subsequent versions of the 1975 planting plan, the earliest of which was revised between 1979 and 1984 (Palmer and the Mills & Petticord Partnership 1984). Palmer concentrated wildflower plantings around the edges of the meadow turf and throughout the woodland along the Boundary Channel.

He included new berms along the parkway to reduce the view and noise of traffic and planted these with white pines and shrubs in the meadow area. Palmer designed eleven daffodil beds to be planted with four species (Kelsch et al. 2009 Vol. 1: 174). The revised planting plan set noted that the NPS planted most of the daffodil bulbs in fall 1977 (Palmer and the Mills & Petticord Partnership 1984). He positioned the daffodils primarily near the parkway at the eastern boundary of the site and in the meadow alongside the paths near the Boundary Channel entrance. He also maintained some of Lady Bird Johnson's Beautification Program era daffodils as evidenced by his later reflection on the finished meadow:

> *I like to think of this as essentially a rather nice lawn with a walk that encircles it. Mrs. Johnson had planted lots of daffodils down there before it became a park. Many of them continue to come up and then they've added to them, and when the daffodils are in bloom, it's quite a sight (Takahashi 1990: 24).*

Gustin Gardens based out of Gaithersburg, Maryland, served as the landscape contractor for installation of LYBA's vegetation and were later awarded the Environmental Grand Award from the Associated Landscape Contractors of America for their work at the site (*TWES* March 4, 1978:

56). Gustin completed installation of the memorial grove of white pines by January 1976 (*TWES* January 14, 1976: 21). The finished grove was planted with about 900 white pines, around 700 of those concentrated around the memorial plaza (Earley and Fanning 2005: 60; Kelsch et al. 2009 Vol. 1: 170; Takahashi 1990: 24).



Gustin Gardens installing white pines at LYBA. "LBJ Grove Completed," 1976. The Evening Star. Reprinted with permission of the DC Public Library, Star Collection © Washington Post.

DEDICATION OF THE LYNDON BAINES JOHNSON MEMORIAL GROVE ON THE POTOMAC: APRIL 6, 1976

The NPS formally dedicated LYBA on April 6, 1976. The dedication was one of eight Washington, DC programs that the American Revolution Bicentennial Administration included in their official roster of activities celebrating the 200th anniversary of the United States' founding (*TWES* September 28, 1974: 5; *TWES* March 14, 1976: 13). The Director of the NPS, Gary Everhardt, welcomed attendees following a performance by the US Navy Band and Chorus (Reservation

344, Reservation Files, National Capital Region). Speakers that day were Representative George Mahon of the 19th Congressional District in Texas, Laurance Rockefeller, Nash Castro, Secretary of the Interior Thomas S. Kleppe, Vice-President Nelson Rockefeller, President Ford, and Lady Bird Johnson. During his speech, President Ford shared that it was:

> *Entirely appropriate in this city of stone and marble that we should honor [President Johnson] with this grove of pines… a lot of his indomitable spirit never left Washington. Now it has a home in this beautiful setting overlooking the Potomac (TWP April 7, 1976: A1).*

During the formal ceremony, speakers were periodically interrupted by the planes flying overhead to and from the National Airport adjacent to the memorial. Lady Bird Johnson concluded the program observing that the white pines of the memorial grove would stand as a reminder of her husband's 37 years of public service in Washington, DC (*TWP* April 7, 1976: A1). She then invited attendees to enjoy refreshments provided by the Texas State Society (Reservation 344, Reservation Files, National Capital Region).

PENTAGON RESERVATION ENTRANCE AND PEDESTRIAN BRIDGE (1976-1977)

Although Palmer included the pedestrian bridge across the Boundary Channel in his earliest conceptual designs for the project and it would become the primary entrance to the site, it was not built until after the April 1976 dedication. Palmer was enthusiastic about how the bridge would enhance the experience of entering the site, later reflecting on the pedestrian bridge at LYBA, he stated, "I love bridges; I would spend all my time just doing bridges if I could… A bridge spanning even a little area can be an experience versus just going there" (Takahashi 1990: 21).

In December 1975, Congress amended the original legislation authorizing the memorial with Public Law 94-162 (H.R. 9883, 94th Congress). While the initial legislation did not allow public funds to be spent on the memorial, this amendment allowed the NPS to spend up to one-million dollars of federal funding for development that increased visitors' ability to access the site. This amendment allowed the NPS to request appropriations to fund construction of the pedestrian bridge and the parking lot on the Pentagon Reservation (Mackintosh 1994: 176).

NPS staff planned to spend additional 1976 Fiscal Year appropriations to construct the Pentagon Reservation entrance prior to the passage of the amendment. In November 1975, an office memorandum directed to Director Fish describes that one-million dollars of that year's budget had been earmarked for LYBA and that staff member Joe Ronsisvalle was in discussions with a representative from the US General Services Administration (GSA) to transfer the land needed for the Virginia parking lot to the NPS (Reservation 344, Reservation Files, National Capital Region). Ronsisvalle pursued a permit for the interim period before the land transfer was completed. However, the land transfer was never realized, and the property is still maintained by the NPS under a GSA permit.

In April 1976, shortly after the memorial's dedication ceremony, the Advisory Council on Historic Preservation determined that the new bridge and parking area would not have an adverse effect on LYBA, which was listed on the National Register of Historic Places in December 1973 as part of its Congressional authorization (Reservation 344, Reservation Files, National Capital Region). Both the NCPC and CFA had reviewed the footbridge and parking area in January and February 1975 as part of the plan set for the entire memorial (Earley and Fanning 2005: 59). NCPC gave its final approval for the pedestrian bridge in June 1976 (Bradley and Howland 1998: 5).

With all the necessary reviews and approvals in place, the NPS started construction by October 1976 on the 12-foot-wide bridge that would span 300 feet across the channel (*TWES* October 27, 1976: 25). Palmer originally proposed the bridge be built as a compound curve, mirroring the spiraled flagstone path on the island, but had to modify his design into a gentle curve due to structural constraints of the laminated beams used to build the bridge (Earley and Fanning 2005: 60). He recalled building several models of the bridge and studies for the handrail with the design team eventually settling on a 42-inch-high handrail (Takahashi 1990: 22).

Palmer flanked the island entry from the footbridge with red maples planted near two existing box elders. The retaining wall between the deck and parking lot features multiple planting beds

that Palmer had filled with white pine, azalea, rhododendron, juniper (*Juniperus* sp.), and bayberry (*Myrica cerifera*). A wooden panel affixed to the retaining wall facing the entry deck housed a mechanism that played a recording of Lady Bird Johnson speaking about the memorial and her husband's tenure as president. He planted an allée of willow oaks in the parking lot median adjacent to the Boundary Channel drive and framed the parking lot with scattered white pines and dogwoods along the shore (Kelsch et al. 2009 Vol. 1: 176; National Capital Parks, National Park Service 1984: sheet 1-7).

The NPS dedicated the Pentagon Reservation entrance and pedestrian bridge on October 12, 1977. The Director of the NPS, Bill Whalen, acted as Master of Ceremonies and the proceedings opened with a performance by the United States Air Force Band followed by a presentation of colors by the Joint Military Honor Guard. Castro addressed the audience as the chair of the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac and Laurance Rockefeller as the Chair of its Executive Committee. The Assistant Secretary of the Interior for Fish, Wildlife, and Parks Robert Herbst spoke on behalf of the NPS. Lady Bird Johnson concluded the ceremony with a speech and following the retirement of colors cut the ribbon to open the pedestrian bridge (Reservation 344, Reservation Files, National Capital Region).



Lady Bird Johnson and Lynda Bird Robb lead ceremony attendees across the pedestrian bridge during the October 12, 1977, dedication. 1977. The Evening Star. Reprinted with permission of the DC Public Library, Star Collection © Washington Post.

The GSA issued an indefinite permit (GS-PBS-03-79-4) to the NPS for use of the land that the Pentagon Reservation entrance to LYBA occupies (Reservation 344, Reservation Files, National Capital Region). This permit was a continuation of an earlier permit issued in March 1976 (GS-PBS-03-76-74). The terms of the 1979 permit require the NPS to maintain and manage the footbridge, parking lot, and deck.

MAINTENANCE, REPLACEMENTS, SUBSTITUTIONS, AND REHABILITATION (1980-2019)

The NPS was confronted with issues of poor drainage in the memorial grove soon after the dedication of the Pentagon Reservation entrance in the fall of 1977. Contractors densely compacted the soil while grading the mound for the plaza and megalith, which caused water to

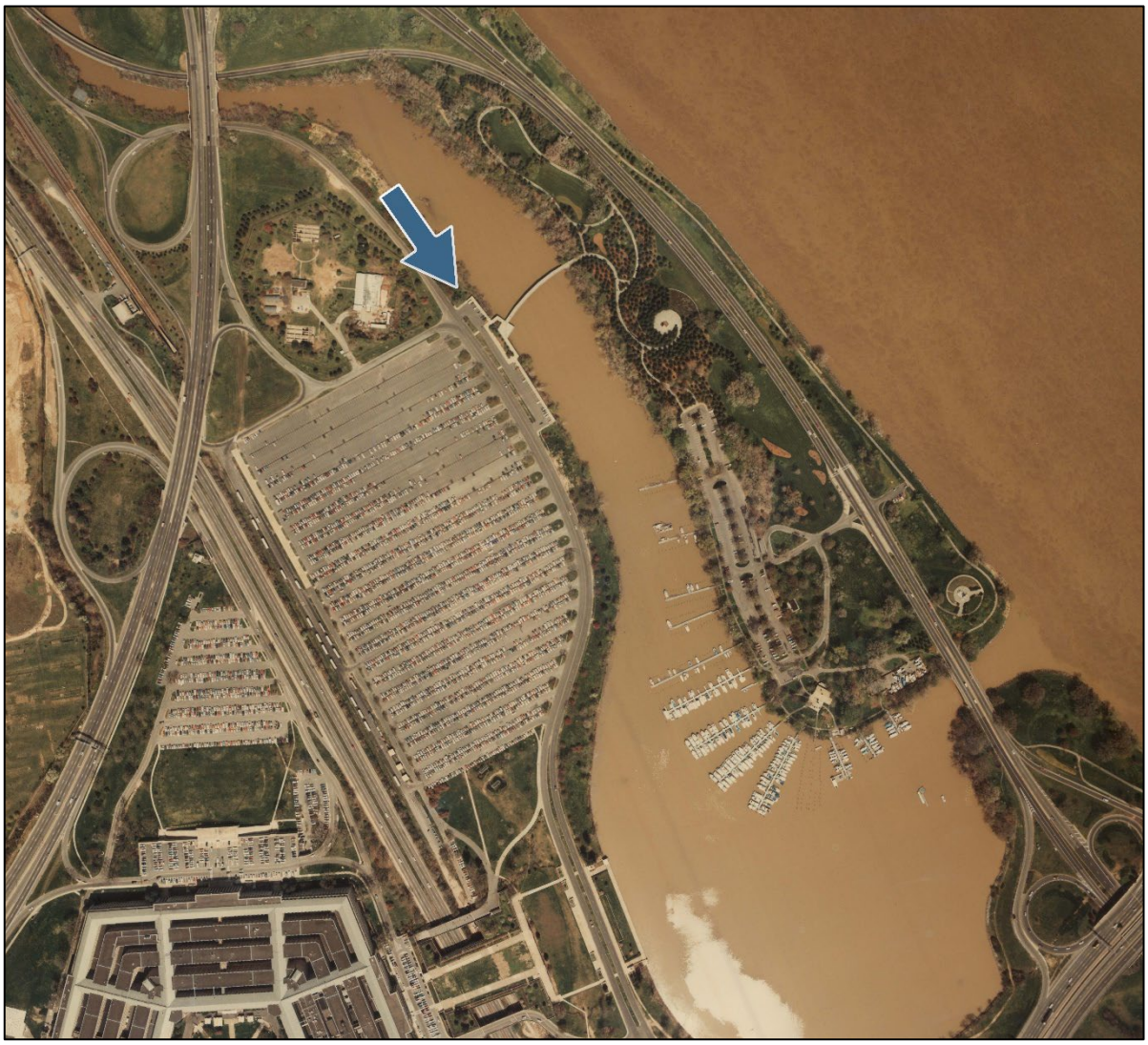
pool around the bases of the white pines in this area. The NPS drilled holes around each tree and filled the holes with gravel so that water could drain and reach the roots of the trees (Earley and Fanning 2005: 60; Takahashi 1990: 47). In 1980, NPS reinforced the pedestrian bridge's support structure with wire cables following complaints that it swayed under the weight of visitors to the memorial during the district's annual July fourth fireworks display (National Capital Region 1980; Bradley and Howland 1998: 7).

In 1981, the Texas State Society in Washington, DC adopted the tradition of laying a wreath at LYBA each year on August 27th in honor of President Johnson's birthday. Lady Bird Johnson began this tradition at President Johnson's grave at the LBJ Ranch (added to the NPS as the Lyndon B. Johnson National Historic Site in 1969 and redesignated as a National Historical Park in 1980) in August 1973 following his death (LBJ Presidential Library 2013). This tradition has continued through August 2020 with the society partnering with the LBJ Presidential Library and the LBJ Ranch to conduct a virtual version of the ceremony due to COVID-19 precautions (LBJ Presidential Library 2013; Texas State Society of Washington, DC 2019). LYBA is also a popular Washington, DC destination for watching the city's Fourth of July fireworks display each year (Bradley and Howland 1998: 7).



The 1990 wreath laying at LYBA sponsored by the Texas State Society. Harry Middleton (standing at the podium), former staff assistant and speech writer to President Johnson, delivered the keynote address. "B9112-19," August 26, 1990. LBJ Presidential Library photo by Paul Tañedo.

Palmer originally designed an irrigation system for LYBA with hydrants spaced throughout the memorial grove and meadow in 1975, but it was never installed (LYBA Files, GWMP Archive, National Park Service). In August 1984, the lead gardener for the grove, Adam Badowski, requested funding to create an irrigation system noting that the National Park Foundation (NPF) had already approved partial funding for the project (LYBA Files, GWMP Archive, National Park Service). There is an extant irrigation system for the turf east of the memorial plaza that the park installed prior to 1989 and skinner valves throughout the remainder of the site. Although there is procurement paperwork from 1987 and 2000 for a sitewide irrigation system, it does not appear that such a system was ever installed (Bouchard and Willet 2021: personal communication).



Detail of a 1983 aerial photograph showing the completed memorial including the development within the Pentagon reservation, indicated by the blue arrow. "Aerial Photographic Map of Arlington County, Virginia," 1983. Arlington County, Virginia Maps (https://gis.arlingtonva.us, accessed 2020).

In March 1989, the NPS replaced a total of 50 white pines throughout the memorial that had died due to drought after two consecutive hot summers and a pine bark beetle infestation (LYBA Files, GWMP Archive, National Park Service). Later that spring, GWMP removed around four-thousand square feet of compacted soil west of the memorial plaza and replaced it with sandy loam before planting around 35 replacement white pines (Bouchard and Willet 2021: personal communication). As part of this same project, the agency substituted the Schipkaensis cultivar of

cherrylaurel with another dwarf variety of the genus (GWMP Floral Enhancement, Darwina Neal Beautification Files, National Capital Region). In response to the damage to the white pines caused by drought, GWMP's superintendent renewed requests to install a sprinkler system for the grove in April 1989, but the watering system was never realized (LYBA Files, GWMP Archive, National Park Service). During this time, and likely dating to the completion of the memorial, the NPS imported pine needle mulch from North Carolina to install beneath the white pines as groundcover throughout the memorial annually. This practice continued until around 2014 (Bouchard and Willet 2021: personal communication).

Between 1987 and 1989, the Director of the NPS, William Penn Mott, spearheaded a Floral or Horticultural Enhancement project along the MVMH between the National Airport and the Arlington Memorial Bridge (Earley and Fanning 2005: 62). The project aimed to enhance the parkway as a gateway to the nation's capital by replanting the historic daffodil beds in Lady Bird Johnson Park and installing new plantings along MVMH. Each year, GWMP staff replaced around 200,000 daffodils as part of these efforts. It is likely, but uncertain if NPS staff replaced any of the daffodils within the LYBA boundaries as part of these efforts.

Palmer revised the planting plan at LYBA at least through 1991 (Palmer and the Mills & Petticord Partnership 1991: sheets 1, 3, 4, 6). Starting in 1991 and extending to at least 2009, GWMP staff replaced plantings in-kind within the entire parkway using approved landscape plans, including within the LYBA boundaries (DeFeo 2009: email). However, species, and more rarely genus, substitutions were made throughout the park for ecological reasons. GWMP staff have modified dogwood plantings within LYBA boundaries and throughout the rest of Lady Bird Johnson Park to ensure that they have a higher survival rate, the result being that there are fewer dogwood stands within LYBA than either Stone or Palmer planned for in their designs (Earley and Fanning 2005: 62). Staff also removed the cotoneaster beds between 1991 and 2009 from the area in front of the spiral retaining wall and the main entrance. It has since been replaced around the megalith, as well (DeFeo 2009: email).

In March 1993, two winter storms in quick succession severely damaged the memorial grove. The first storm felled 27 white pines and two weeks later a second storm toppled another 24 trees each measuring between 45 and 50 feet in height. Falling trees damaged several light posts and one bench beyond repair (LYBA Files, GWMP Archive, National Park Service). The white pines continued to be periodically damaged by storms through to the present day.

In 1995, the NPS rehabilitated the Columbia Island Marina parking lot, which included resurfacing the existing asphalt pedestrian walkway east of the lot, installing additional accessibility ramps and marked accessible parking spots, and removing the bus shelter and its foundation from LYBA's southern boundary adjacent to the loop of the entry drive (National Park Service 1995). That same year, the NPS initiated a renovation plan for the daffodil beds throughout Lady Bird Johnson Park, including plantings in the LYBA boundaries, that was implemented over a four-year period. The NPS added several daffodil beds northwest of LYBA's meadow at this time that differed from Palmer's design, but they were no longer extant by 2009 (Kelsch et al. 2009 Vol. 1: 165). GWMP staff continued to replace daffodil bulbs throughout the park on a five-year cycle, at least through 2005 (Earley and Fanning 2005: 62).

The NPS rehabilitated various aspects of the designed landscape around the start of the new millennium. Palmer visited the site in March of 1997 and discussed various maintenance concerns, including ways to improve drainage on site and the removal of an equipment shed from the property due to security concerns (LYBA Files, GWMP Archive, National Park Service). Note that the GWMP did not remove this shed at the northwestern boundary of the meadow until 2013. In 1998, GWMP ordered 20 tulip-style trash receptacles that were a typical small-scale feature of Lady Bird Johnson's beautification projects and some one of them may have been installed within the LYBA boundaries at this time, since park staff included a letter detailing the expenditure in their LYBA files (LYBA Files, GWMP Archive, National Park Service). Also in 1998, GWMP underwent a Section 106 review to replace the "Cobra-headed" light posts along the parkway with Union Metal Standard light posts that more closely approximated the look of the lights originally installed along the MVMH by 1932 (Earley and Fanning 2005: 124).

Between 2000 and 2003, John Milner Associates, Inc. (JMA) developed and implemented a rehabilitation plan for LYBA to address specific areas of concern identified by GWMP staff (LYBA Files, GWMP Archive, National Park Service). GWMP initiated this rehabilitation in recognition of the site's 25th anniversary (Lyndon B. Johnson Memorial Grove, Darwina Neal Beautification Files, National Capital Region). These included treatments for the flagstone walkway, the stone retaining wall on the Virginia side, and the pedestrian bridge and deck, as well as improving pedestrian access from the Columbia Island Marina parking area to the memorial grove and access for visitors with disabilities. The design team also investigated methods for improving site drainage within the grove and meadow.

Palmer visited the site with Audrey Calhoun, Superintendent of GWMP, and Darwina L. Neal, Chief of Cultural Resource Preservation Services, in March 2000 to make recommendations for work that should be included in JMA's rehabilitation plan. In his follow-up report, Palmer advocated for retaining the asphalt and river pebble treatment for the secondary path system through the memorial rather than replacing it with exposed aggregate concrete. He supported JMA's suggestion to install an accessible water fountain and suggested that it be made of the same granite as the megalith and he also supported making changes to the pedestrian bridge to meet Americans with Disabilities Act (ADA) requirements (Lyndon B. Johnson Memorial Grove, Darwina Neal Beautification Files, National Capital Region).

Based on JMA's rehabilitation plan, the NPS re-laid the flagstone walkway, replaced the pea gravel-topped asphalt throughout the site, and updated accessibility features such as modifying the ramps in the Pentagon Reservation parking lot and adding an accessible fountain within the grove across from the two Palmer designed granite fountains. In 2003, the park rehabilitated the wooden pedestrian bridge following JMA's recommendations, which included adding new railings to meet safety regulations (they preserved the existing lighting features along the railing), replacing stringers and floor beams, and reconstructing the approaches on the original substructure (Butt and Bugarin 2017: 1; John Milner Associates 2000). GWMP staff painted the wooden deck and pedestrian bridge in 2004 with a blue-gray colored sealant meant to simulate the look of weathered wood, which they reapplied in 2012 and 2017 (NPS PEPC: 71123).

Aerial photography shows that the median of the Pentagon Reservation parking lot was modified between August 2004 and March 2005 (US Geological Survey 2004; US Geological Survey 2005). The northern portion of the median was extended west into the Boundary Channel Drive, likely as a traffic calming measure. The jogging trail that Palmer designed to run through the center of this median was eliminated at this time.

In 2005, the Federal Highway Administration (FHWA) proposed a new multimodal bridge from the Pentagon reservation across the Boundary Channel to Lady Bird Johnson Park as part of its 14th Street Bridge corridor improvements (Robinson & Associates 2011: 61). The agency dubbed the bridge Alexanders Point Bridge and intended for it to increase access to the island for motorists, cyclists, and pedestrians. While the FHWA submitted plans to the National Capital Region Transportation Planning Board in 2011, the project has not advanced past the planning stages as of June 2021 and NPS staff thinks it is unlikely that the FHWA will renew their plans to implement the project due to security measures in place on the Pentagon Reservation (Virta 2020: email).

The perennial wildflower beds that Palmer included in his original design all ceased blooming by 2007 (Kelsch et al. 2009 Vol. 1: 174). That year, the NPF launched five pilot plantings as part of the First Bloom program funded by the concessionaire ARAMARK. First Bloom projects celebrated Lady Bird Johnson's legacy of beautification by providing opportunities for youth from the Washington, DC area to install and tend gardens. In 2008, LYBA became one of the First Bloom pilot sites with the NPF and GWMP staff partnering with the Boys & Girls Clubs of America and the Lady Bird Johnson Wildflower Center to reconstruct five flower beds (NPS PEPC: 21481). The First Bloom team chose a plant palette that was as close to Palmer's original selection as possible with adjustments to better accommodate light and water conditions for each of the beds. The team excluded Mayapple (*Podophyllum* sp.) and Loosestrife (*Lythrum salicaria*) from the revised palette entirely, the former because of its poisonous berries and the latter because it is invasive (NPS PEPC: 21481). The First Bloom team planted a variety of flowers including orange coneflower, purple coneflower, Virginia bluebells, blue phlox (*Phlox divaricata*), crimson beebalm

(*Monarda didyma*), great lobelia (*Lobelia syphilitica*), white wood aster (*Aster divaricatus*), and wood geranium (*Geranium maculatum*). GWMP staff have confirmed that the First Bloom planting beds did not survive their initial planting and are no longer extant (GWMP Cultural Resource Staff, in conversation with the author, November 5, 2020).

In 2008, a number of white pines immediately west of the memorial plaza were damaged due to a microburst during a storm event. Park staff endeavored to retain the trees that were not destroyed in the microburst. However, not all the damaged trees that were removed were replaced in kind following this event (Bouchard and Willet 2021: personal communication).

The *Vegetation of the George Washington Memorial Parkway Central Section: Alexandria to Arlington Memorial Bridge Cultural Landscape Report* completed in 2009 recorded that nine of the 20 cottonwoods that Palmer preserved in his planting design for LYBA were dead (Kelsch et al. 2009 Vol. 1: 173). The study also noted that "very little of the understory remain[ed] in and around the pine stand, and much of what remain[ed was] not healthy" (Kelsch et al. 2009 Vol. 1: 174). By 2009, the NPS had made substantial changes to the plantings on the Virginia side of the Boundary Channel as well. Palmer originally intended for the NPS to plant the median and sidewalk along Boundary Channel Drive with junipers, but these were no longer extant by 2009 (Barrett 2009: email). Park staff replaced the original azaleas and rhododendrons in the large parking lot planter with daylilies (*Hemerocallis* sp.), which reflected a change that Palmer made in a later version of the planting plan between 1979 and 1984 (Barrett 2009: email; Palmer and the Mills & Petticord Partnership 1984: P6). The NPS changed the dogwood tree in the smaller planter on the deck with a crabapple, another modification Palmer made in a later version of the planting plan (Palmer and the Mills & Petticord Partnership 1984: P6). Palmer recommended that the NPS switch out the cotoneaster (*Cotoneaster salicifolius* 'Rapens') specified in the 1976 planting plan for St. John's wort (*Hypericum calyanum*) (Palmer and the Mills & Petticord Partnership 1984: P6). By 2009, the NPS had substituted the St. John's wort with liriope (*Liriope* sp.) in the deck planter.

GWMP staff met with Pentagon officials in 2009 to discuss the terms of the use permit for LYBA's Pentagon Reservation entrance and to draft a cooperative agreement further delineating

management responsibilities (Robinson & Associates 2011: 61). The NPS and GSA never completed a new agreement and the 1979 permit therefore is the only management agreement dictating the ongoing use and maintenance of the entrance (Virta 2020: email).

In 2011, GWMP installed three temporary wayside interpretive panels: two on the deck on the Virginia side and one adjacent to the megalith within the flagstone plaza (NPS PEPC: 39362). The Pentagon Reservation entrance waysides discussed LBYA as a presidential memorial and described the Boundary Channel as a constructed body of water. The third panel on the island recounted President Johnson's legacy and the connection of the memorial grove to the greater Washington, DC landscape. This wayside included the circa 1977 audio narration by Lady Bird Johnson describing the memorial grove. GWMP staff intended that this recording would temporarily serve to provide visitors with the audio narration until the mechanism Palmer set into the retaining wall of the entry deck could be repaired. All the wayside frames were made of Corten steel and measured approximately three feet in width by two feet in depth, and three and a half feet in height.

GWMP developed a planting restoration plan in 2013 that called for the removal of English ivy from the bed around the megalith and the entry from the Boundary Channel bridge. It also called for the removal and replacement in-kind of seven white pines and the planting of about 270 azalea and summersweet shrubs, 900 daffodils, and 310 orange coneflowers (LYBA Files, GWMP Archive, National Park Service). GWMP staff confirmed that the park planted bluebells, azaleas, and pines in accordance with this plan and that some pines were removed during this time (Bouchard 2021: personal communication). Bluebells continued to bloom on site annually until around 2014 (Bouchard and Willet 2021: personal communication). The exact locations where GWMP installed vegetation at this time is unknown, however, the recommendations depicted in the extant plans centered primarily around the memorial grove and the memorial plaza. GWMP maintained LYBA with an internal horticultural crew until around 2015 when the park engaged an external contractor for this maintenance (Bouchard and Willet 2021: personal communication). At this time, GWMP also allowed the Pentagon to take over the maintenance of vegetation on the Pentagon Reservation (Bouchard and Willet 2021: personal communication).

In April 2017, the FHWA conducted a routine inspection of the pedestrian bridge over the Boundary Channel. Inspecting engineers assessed the bridge to be in good condition overall but flagged the deterioration of the piles closest to the Virginia shore as well as deterioration of several girders and of stringer brackets throughout the bridge. FHWA rated the structure as requiring "substantial repairs to prevent a serious deficiency or unsafe condition and included replacing one of the piles and removing a tree growing from the side of the span closest to the Virginia shore in their recommendations (Butt and Bugarin 2017: 1-2).

Following an oil spill at the Potomac Electric Power Plant Company's (PEPCO) Potomac River Substation in January 2011, the power company created a Damage Assessment Restoration Plan (DARP) that included restoration work along the Boundary Channel (NPS PEPC: 79591). 2.65 acres of shoreline within LYBA was selected for vegetation restoration work as part of the PEPCO DARP. Casey Trees completed the restoration work in 2018 and 2019, completing their planting within LYBA's boundaries in 2018 (PEPC NPS: 73678). The restoration team selectively removed exotic species along the Boundary Channel shoreline of LYBA and woody vegetation measuring less than six inches in diameter at breast height (DBH) (NPS PEPC: 78821). The restoration team retained native woody vegetation measuring larger than six inches DBH unless it was deformed. Casey Trees planted 83 trees along LYBA's western shore and a total of 106 tress within Lady Bird Johnson Park during their 2018 work. Their planting palette included silver maple and sycamore in the lower riparian zone; red maple, dogwood, black tupelo (*Nyssa sylvatica*), and eastern redbud (*Cercis canadensis*) in the middle and upland zones; and willow oaks and white pine in the upland zone.

Currently in 2021, LYBA retains the same configuration that Palmer designed consisting of the memorial plaza, the meadow, the Columbia Island Marina parking lot, and the Pentagon Reservation parking lot. While many of the understory plantings differ from Palmer's original design, the overstory plantings are consistent with his planting plan and help to delineate the different spaces within the memorial grove. From the megalith at the memorial plaza, visitors still have an unimpeded view of the presidential memorials across the Potomac River.

At the time of writing this CLI, the Virginia Department of Rail and Public Transportation, District Department of Transportation, and the Federal Railroad Administration are collaborating to increase the railroad capacity of the Long Bridge Corridor with the construction of a new two track bridge in addition to Long Bridge (Long Bridge Project 2020). The portion of LYBA on the island falls within the Area of Potential Effect for this project (Long Bridge Project 2018: 9). While the Long Bridge Project was determined to have an Adverse Effect on the GWMP as a whole, the Section 106 Assessment of Effects Report concluded that the project would have no potential to cause indirect adverse effects to LYBA's views and viewsheds (Long Bridge Project 2018: 54). Project planners anticipate that views of the new bridge span southeast of the memorial grove will mostly be obscured by the existing 14th Street Bridge (Long Bridge Project 2019: 198). Future updates to this CLI should include documentation recording the impacts of the new Long Bridge Corridor construction on the viewshed overlooking the Potomac River from the memorial plaza at LYBA.

Analysis & Evaluation

Analysis and Evaluation Summary

Landscape Characteristics and Features

This section provides an inventory of the landscape characteristics and associated features of the Lyndon Baines Johnson Memorial Grove on the Potomac (LYBA) cultural landscape and provides an analysis and evaluation of the property's integrity. The following inventory examines aspects of the property as distinct landscape characteristics related to the property's significance that convey its historic character. Each landscape characteristic comprises one or more features that are either contributing or non-contributing to the property's historic significance. If a feature retains integrity and was present during LYBA's period of significance (1974-1977), then it is considered contributing. Features that postdate the period of significance are non-contributing and are considered "compatible" if they do not compromise the integrity of contributing features or the overall historic character of the property. Non-contributing features are determined "incompatible" if they detract from the property's integrity or historic character. This inventory categorizes features as "undetermined" if further research is needed to identify the date when the feature was introduced to the property and its relationship to the cultural landscape's significance. LYBA was constructed in two phases: Phase I (1974-1976) consisted of the design and installation of development on the island adjacent to the Columbia Island Marina, which included constructing the paths; sculpting and placing the megalith; and installing benches, lighting, and trash receptacles throughout the site. During Phase II (1976-1977) of construction, the National Park Service (NPS) installed the main entrance at the Pentagon Reservation and built the pedestrian bridge over the Boundary Channel. The vegetation was planted with some substitutions between 1974 and 1984 and the bulk of wildflower plantings were installed between 1977 and 1980, but the major construction and overall planting plan was complete by 1977.

The following section identifies the landscape characteristics elucidated by field work and archival research and describes how each landscape characteristic and its associated feature(s) relate to the property's significance, its condition during the period of significance, and its

existing condition. This is the basis of an assessment of the integrity of the LYBA cultural landscape according to criteria set by the National Register of Historic Places (NRHP). The NRHP defines integrity as "the ability of a property to convey its significance" through its extant features (NRHP 1990). The NRHP recognizes seven aspects of properties to define integrity: location, design, setting, materials, workmanship, feeling, and association. A property must retain several or all of these aspects or qualities in order to convey its significance.

The LYBA cultural landscape consists of the following contributing landscape characteristics: natural systems and features, spatial organization, land use, topography, vegetation, circulation, buildings and structures, views and vistas, constructed water features, and small-scale features.

Natural Systems and Features Summary: The primary natural systems and features that contribute to LYBA's historic character are geology and hydrology. Located south of the fall line within the physiographic province of the piedmont, most of LYBA sits on an island constructed of material dredged from the Potomac River formed on top of a base layer of naturally accumulated silt; the result of the dynamics of the flow of the Potomac River, between 1915 and 1927. The oldest vegetation on the property likely dates to the formation of the island from seeds present in the dredge material and the shorelines of the tidal Boundary Channel, which flows through the site and continues to deposit seeds and generate volunteer vegetation both on the island and on the Virginia shore adjacent to the property's Pentagon Reservation entrance. While increased flooding events due to climate change may lead to soil erosion, LYBA maintains the character of a constructed island landscape and exhibits physical features related to the natural systems that shaped formation of the island. The property retains integrity of natural systems and features.

Spatial Organization Summary: Designer M. Meade Palmer arranged LYBA's spatial organization to accommodate both the commemorative and recreational functions of the property. He divided the site into four areas by use. During Phase I of construction, the memorial grove was installed as the primary commemorative space on the property, the meadow was installed to the north for passive recreation, and the existing Columbia Island Marina parking lot

was modified for visitor parking. During Phase II of construction, the primary entrance and additional parking was added on the Virginia shore on the Pentagon Reservation connected to the island via a pedestrian bridge. The Boundary Channel constitutes a fifth distinct space within LYBA. This spatial organization remains consistent with the period of significance and the property retains high integrity of spatial organization.

Land Use Summary: As a constructed island, the federal government developed the land that the majority of LYBA occupies in the 20th century with the intention that it would be used recreationally as a park and as both a transportation corridor and a commemorative space with the formation of the Mount Vernon Memorial Parkway (MVMH) - later absorbed into the George Washington Memorial Parkway (GWMP) – and the Arlington Memorial Bridge (built 1926-1932). The use of the Boundary Channel for fishing and boating formalized between 1955 and 1965 with the design and construction of the Columbia Island Marina. The marina is located south of present-day LYBA and partially within its boundaries and it augmented the recreational use of this part of the island. The design and construction of LYBA continued the commemorative and recreational use of this part of the island during the property's period of significance and extended this use to a part of the Pentagon Reservation, which was previously used for transportation and parking. The uses of LYBA has not changed since its period of significance and it therefore retains a high degree of integrity of land use.

Topography Summary: LYBA stands on some of the lowest land within Lady Bird Johnson Park and was constructed with fill and dredge material in the early 20th century. The shorelines of the Boundary Channel, which flows through the property, were graded between 1940 and 1943 to create a smooth even profile. The NPS dredged this constructed body of water around 1966 to increase its depth for recreational boating (Washington Service Center 1966). These actions shaped the topography of the site prior to construction of the memorial. When Palmer designed LYBA, he organized the various areas of the site in response to the existing topography. He minimally graded the site to create a platform for the megalith at the center of the memorial plaza and smoothed the area to the north to form the meadow, shielding it from the noise of the

GWMP by constructing earthen berms. LYBA's topography is unaltered from its historic condition and retains a high level of integrity.

Vegetation Summary: Palmer created a comprehensive planting plan for LYBA's island development (1975) that superseded previous planting plans for this portion of the parkway and Lady Bird Johnson Park. The planting plan for the main entrance on the Pentagon Reservation (1976) worked to visually connect this space on the Virginia shore with the island. The flower beds and some minor substitutions to the initial planting plan were developed between 1977 and 1984. Palmer's design for the titular memorial grove featured white pines (*Pinus strobus*) as the sole canopy tree interplanted with evergreen shrubs including rhododendrons (*Rhododendron maximum*), azaleas (*Azalea* sp.), and cherrylaurel (*Prunus laurocerasus*) massed around a spiraling path leading to the memorial plaza. The meadow featured a greater variety of canopy trees along with more white pine and also drifts of daffodils (*Narcissus* spp.) and wildflower beds. Palmer retained the willow oaks (*Quercus phellos*) planted in the Columbia Island Marina parking lot during its construction and maintained the volunteer vegetation along the Boundary Channel shorelines to the extent allowed by development of the memorial. The species of existing canopy trees remain mostly unchanged from the period of significance, although some white pines have been replaced in-kind and not always in the same location as the original tree. A small number of the white pines within the memorial grove have been incompatibly replaced with flowering dogwoods (*Cornus florida*). The shrub layer has not been maintained and most of the rhododendrons are gone while the few remaining azaleas are in poor health. The NPS has replaced several plants in the Pentagon Reservation planting beds with new species. The current condition of the wildflower and daffodil beds within the meadow were not evaluated, since these plants were not present during the time of year that NCR staff conducted field work. The deteriorated state of the understory plantings has negatively impacted LYBA's integrity of vegetation from its period of significance. However, the NPS could replant the missing materials to restore the Palmer planting design and improve the level of integrity of vegetation.

Circulation Summary: Prior to the development of LYBA, the site had several circulation features. It contained a portion of the Columbia Island Marina parking lot and asphalt walkways

east and west of the parking lot, those to the west connecting to piers along the Boundary Channel. The Boundary Channel itself was used for circulation as a recreational waterway prior to and during LYBA's period of significance. Palmer adapted these existing circulation systems into his design for LYBA, decreasing the size of the Columbia Island Marina parking lot during Phase I of construction and adding additional parking at the entrance on the Pentagon Reservation during Phase II. Palmer designed pedestrian circulation through the memorial along a primary path that led from the entrance at the Virginia shore across the Boundary Channel via the wooden pedestrian bridge. The bridge intersected a spiraling flagstone path on the island that carried visitors through the memorial grove to the memorial plaza. The secondary pedestrian circulation routes were surfaced in bituminous tack coat topped with a layer of pea gravel. Palmer designed two loops through the meadow area, one large and one small, with this surface treatment, as well as two spurs leading from the Columbia Island Marina parking lot. The pedestrian paths and parking areas have remained consistent with the historic condition of the site and the Boundary Channel is still used as a recreational corridor. LYBA's circulation retains a high level of integrity.

Buildings and Structures Summary: The only buildings and structures that predated LYBA's period of significance were a bus shelter immediately east of the Columbia Island Marina Parking lot, rip rap on the western shore of the Boundary Channel, and five wooden piers (Palmer and the Mills & Petticord Partnership 1975: C1). Although the bus shelter and all but one pier are no longer extant, all of the structures Palmer designed during LYBA's period of significance, including the pedestrian bridge, memorial plaza and megalith, and retaining walls in the memorial grove and at the Pentagon Reservation, are still extant. LYBA's buildings and structures retain their integrity.

Views and Vistas Summary: Palmer designed the topography, vegetation, and circulation of LYBA with the intention of highlighting the view of the National Mall and its memorials from the elevated memorial plaza (Palmer 1974: 2). In contrast, the meadow offered insular views, intentionally screened from the GWMP by berms planted with trees and other vegetation and from the Virginia shore by the naturalized vegetation along the Boundary Channel. Palmer's

design of the Pentagon Reservation entrance across the Boundary Channel via the pedestrian bridge and progress along the flagstone path created a series views that transition from open to filtered as visitors leave the pedestrian bridge and enter the memorial grove. These views and vistas that characterize the historic condition of LYBA are still extant today and LYBA's views and vistas retain integrity.

Constructed Water Features Summary: The Boundary Channel as a constructed water feature pre-dates LYBA's period of significance. This tidal waterway was constructed between 1915 and 1927, at the same time as Columbia Island (renamed Lady Bird Johnson Park in 1968). The channel is fed by the Little River and feeds the Columbia Lagoon (also known as Columbia Basin or Pentagon Lagoon), reversing course with the incoming tide. Palmer incorporated a portion of the Boundary Channel into his design for LYBA, siting the memorial grove on the island and the memorial's entrance across the waterway on the Pentagon Reservation. Palmer highlighted this water feature with the addition of the wooden pedestrian bridge that spans it. The Boundary Channel is shallower than it was during LYBA's period of significance due to siltation but is otherwise substantially unchanged and retains its integrity.

Small-Scale Features Summary: The light posts along the Boundary Channel shore of the Columbia Island Marina parking lot are the only notable small-scale features at LYBA that pre-date its period of significance. Most of the small-scale features introduced throughout the property as part of Palmer's design remain in situ and retain their integrity including the inscribed granite panels surrounding the megalith, the granite drinking fountains, and light posts. Several benches, nearly all the tulip-style trash receptacles, and one of the two routed letter signs from Palmer's design for LYBA are no longer extant and many of the picnic tables have been replaced and are no longer in their original locations. These changes have negatively impacted the overall integrity of LYBA's small-scale features.

INTEGRITY

Note: the definitions for the seven aspects of integrity detailed below are adapted from *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation.*

Location: *Location refers to the place where a historic property was constructed.* LYBA occupies the site where it was originally constructed and its boundaries have not been altered since the period of significance. The property therefore retains a high degree of integrity of location. Note that the portion of LYBA on the Pentagon Reservation in Virginia lies outside of the GWMP property boundaries and that the NPS holds a perpetual permit from the US General Services Administration (GSA) to maintain the LYBA entrance and parking lot on this property.

Design: *Design is the combination of elements that create the form, plan, space, structure, and style of a property.* LYBA's design consists of the layout of the entire site and the individual spaces Palmer created throughout the property to serve separate uses, as well as the arrangement and form of features within these separate spaces, namely the memorial grove, meadow, entrance across the Boundary Channel at the Pentagon Reservation, and the Columbia Island Marina parking lot. These features are largely consistent with the period of significance, apart from components of the planting design and small-scale features noted above as no longer extant. However, the memorial retains enough of Palmer's design features to maintain legibility and preserve the property's integrity of design.

Setting: *Setting refers to the character of the physical environment of a cultural landscape.* While the immediate environment within LYBA on the island and on the Pentagon Reservation has remained consistent with the property's period of significance, an increase in high rise development in Rosslyn, Pentagon City, and Crystal City within Arlington, Virginia since the period of significance has altered the character of the views to the northwest, southwest, and south of the property. However, while the development in Arlington, Virginia is visible from the part of LYBA on the Pentagon Reservation and from the Boundary Channel, it is effectively screened within the property on the island by vegetation along the Boundary Channel's shore and the white pines of the memorial grove. To the east and south, the GWMP has remained consistent since LYBA's period of significance and across the Potomac River the views of the National Mall and its monuments are generally unaltered. Increased vehicular traffic along the GWMP and flight traffic to and from the Reagan National Airport south of LYBA have both

contributed to increased noise pollution throughout the memorial. Despite these changes, LYBA retains the essential integrity of setting from the period of significance due to the lack of proximity of the incompatible development on the Virginia side.

Materials: *Materials are the physical elements of a particular period in a particular pattern or configuration and include construction materials, paving, plants, and other features of the cultural landscape.* LYBA's materials have remained largely unchanged since the period of significance and feature the "Sunset Red" granite of the megalith and some small-scale features; the flagstone and micaceous schist of various structures; the flagstone, pea gravel topped asphalt, and exposed aggregate concrete of pedestrian paths; and the white pines of the memorial grove and meadow. As summarized above, some of the plant materials and small-scale features are no longer extant, which has diminished LYBA's integrity of materials. The firm John Milner Associates, Inc. (JMA) rehabilitated the landscape between 2000 and 2003 in preparation for the 25th anniversary of LYBA's construction (Lyndon B. Johnson Memorial Grove, Darwina Neal Beautification Files, National Capital Region). Note that the rehabilitation plans were completed by December 2000 and work was completed between 2001 and 2003. This work included relaying the flagstone walkway, replacing the pea gravel topped asphalt throughout the site, and modifying the pedestrian bridge to meet safety and Americans with Disabilities Act (ADA) standards. However, most materials that were not preserved were replaced in-kind during this process. JMA did alter the aggregate concrete surface of the accessibility ramps at the Pentagon Reservation entrance to meet requirements of the ADA, but this is a minor alteration. LYBA's integrity of material has been negatively impacted primarily due to loss of the understory planting materials throughout the site.

Workmanship: *Workmanship refers to the physical evidence of the crafts of a particular period.* LYBA bears many of the hallmarks of mid-20th century landscape design in its construction including the formal nature of the geometry of the polygonal retaining wall at the Pentagon Reservation entrance and the large spiral within the memorial grove that mirrors the shape of the flagstone path. The workmanship on the property is also evident in the materials and techniques used in the sculpting of the megalith as well as the construction of the decks and bridge across the

Boundary Channel, which is built on wooden piers with pressure treated wood. Structural changes made to the bridge in 1980 and modifications made to the design in 2003 do not diminish the legibility of the workmanship of this feature from the period of significance. Finally, Palmer's treatment of topography on site, working with the existing contours and making limited changes to control views and vistas, was typical of how Palmer approached grading in his work and exemplary of this aspect of his craft. LYBA retains a high integrity of workmanship from its period of significance.

Feeling: *Feeling is a property's expression of the aesthetic or historic sense of a particular period.* The feeling of LYBA as both a commemorative space and a recreational area is consistent with the period of significance. The cultural landscape is still easily accessible from the GWMP and the Pentagon Reservation and retains key landscape characteristics such as spatial organization, land use, and circulation, as well as aspects of integrity of location and design, which all contribute to this site's ability to convey the feeling from the period of significance. As such, LYBA retains a high degree of integrity of feeling.

Association: *Association is the direct link between an important historic event, pattern, or person and a historic property.* LYBA is associated with the pattern of creating presidential memorials within the nation's capital and with recreation along the GWMP. It is also associated with President Lyndon B. Johnson and his wife, Lady Bird Johnson, who was instrumental in advocating creation of the memorial following her husband's death in 1973. The naming and interpretation of the memorial assert these associations as does LYBA's location within Lady Bird Johnson Park within the boundaries of the GWMP. The cultural landscape retains a high degree of integrity of association.

In consideration of the seven aspects of integrity established by the NRHP detailed above in relation to the LYBA cultural landscape, along with its landscape characteristics and associated features, this CLI finds that the location, workmanship, feeling, and association retain a high degree of integrity. LYBA also retains integrity of design and setting. Its integrity of material is

compromised due to changes in vegetation and small-scale features. Overall, the integrity of LYBA from its period of significance is intact.

Landscape Characteristic Narratives and Features

This section contains an analysis of LYBA's landscape characteristics and their associated features cross-referenced with buildings and structures from Cultural Resources Inventory System Historic Structure (CRIS-HS) and locations and assets in Facility Management Software System (FMSS), if applicable. This analysis is used to evaluate each feature's relationship to the property's period of significance and whether it contributes to the property's eligibility for the NRHP, is non-contributing, or if further research is needed to make this determination.

Natural Systems and Features

Natural systems and features are the natural aspects that have influenced the development and physical form of the landscape, and can include geology, geomorphology, hydrology, ecology, and native vegetation.

Historic Condition:

Prior to the Period of Significance

The LYBA cultural landscape sits on a constructed island south of the Potomac River fall line that straddles the relatively soft soils of the coastal plan and the hard bedrock of the piedmont within the piedmont physiographic province (Harper 2007: 84). The natural systems of both the geology and hydrology of the property's location shaped LYBA's historic character. The island, formerly called Columbia Island and renamed Lady Bird Johnson Park in 1968, was constructed prior to LYBA's period of significance using primarily material dredged from the bed of the Potomac River as well as fill transported from elsewhere (Earley and Fanning 2005: 70). The US Army Corps of Engineers (USACE) formed Columbia Island between 1915 and 1927 on top of a silt bar that accumulated south of present-day Theodore Roosevelt Island. The sediment in the Potomac River as well as its depth, width, and water velocity naturally led to the creation of this silt bar by the early 1800s and had doubled the length of the island by 1837 (Chappell 1973: 5; Ewing 1837). In forming the island, USACE followed both the spine of the silt bar and the profile of the Virginia shore immediately west of the site.

Engineers maintained a small waterway between Virginia and the new island, subsequently named the Boundary Channel, which was fed by Little River to the north and flowed the entire length of Columbia Island including past the present-day location of LYBA. (For more information on the Boundary Channel as an associated feature, refer to the Constructed Water Features section of this chapter). Volunteer vegetation sprouted shortly after USACE finished constructing the island both from seed deposits within the sediment and fill used to construct the island and from seeds carried to the shores by the Potomac River and the Boundary Channel as well as by wind and animals such as birds. This vegetation included cottonwoods (*Populus deltoides*), willows (*Salix* spp.), sycamores (*Platanus occidentalis*), elms (*Ulmus* sp.), red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), and box elder (*Acer negundo*) (Earley and Fanning 2005: 34).

In 1967, as Lady Bird Johnson and the Committee for a More Beautiful National Capital prepared for their Beautification Project on Columbia Island, horticulturist Charles A. Lewis prepared a study of the island's soil and determined that the fill contained irregularly formed layers of sand, clay, and gravel with a shallow soil layer (Earley and Fanning 2005: 70). This uneven soil condition led to great variability in the culture that it provided to plants and the patchy nature of growth along the shoreline reflected this inconsistency.

During the Period of Significance (1974-1977)

During LYBA's period of significance, the hydrologic dynamics of the Boundary Channel and the geological process of siltation continued to impact the landscape as evidenced by shoreline erosion, naturalized vegetation on both the Virginia and island shores, and sediment build-up within the bed of the channel. The maximum flood level during both phases of construction was 13.7 feet, determined using a 1942 USACE datum (Palmer and the Mills & Petticord Partnership 1975: C3; Palmer and the Mills & Petticord Partnership 1976: C1). Palmer chose to maintain the volunteer vegetation along both shores as part of his design for LYBA and tried to counteract the effects of erosion by introducing more rip rap along the channel in addition to that put in place by the Works Progress Administration (WPA) in the 1940s (Palmer and the Mills & Petticord

Partnership 1975; Palmer and the Mills & Petticord Partnership 1976; Earley and Fanning 2005: 110).

Post-Historic and Existing Conditions:

The soil profile of LYBA has not changed substantially since the period of significance and is a non-uniform mix of sand, clay, and gravel typical of fill (Earley and Fanning 2005: 70). (Refer to the Physiographic section of the Regional Landscape Context and Narratives for additional Information). The vegetation along the Boundary Channel within LYBA's boundaries continue to be characterized by volunteers from seeds distributed by the waterway, wind, and wildlife such as birds. Volunteer plants in this area include box elder, silver maple, and various other maple species (*Acer* spp.), elms, cherry trees (*Prunus* sp.) black locusts (*Robinia pseudoacacia*), mulberry (*Morus* sp.), and black walnut (*Juglans nigra).* Bird surveys conducted within the study area by the Washington, DC Department of Energy and Environment in August 2018 and January 2019 recorded 26 bird species observed within the LYBA boundaries the most common of which were Canada geese (*Branta canadensis*), mallards (*Anas platyrhynchos*), European starlings (*Sturnus vulgaris*), and great egrets (*Ardea alba*) (Ossi 2021: email). This demonstrates that the vegetation of the grove is providing habitat for various bird species.

Analysis:

The natural systems present during the property's historic period continue in the present day. The soil on the island is entirely composed of fill, which creates a challenging culture for the plantings associated with Palmer's design to grow. This is compounded by soil compaction and poor drainage. While the rip rap along both sides of the Boundary Channel provides protection against erosion, it is insufficient to prevent the island from periodic flooding as illustrated by the FEMA flood data included in the map below. (See the Buildings and Structures section of this chapter for additional information on rip rap).

The geological process of siltation and hydrological process of water dynamics shape LYBA's cultural landscape in the same manner that it did prior to and during the property's period of significance and therefore contribute to LYBA's historic character. These processes coupled with

seed distribution via wind or wildlife maintain the naturalized character of the vegetation on both sides of the Boundary Channel's shoreline, which is consistent with Palmer's design for this portion of the memorial. The property retains integrity of natural systems and features.



Natural Systems and Features - (Full size graphics are located at the end of this report).



View of the shoreline along the Boundary Channel from the island looking northwest. The tide of the channel is low and the naturalized shoreline vegetation is visible in the right-hand corner. (NPS 2020)

Feature Name	Feature Contribution	CRIS-HS Name	CRIS-HS Number	Type of FMSS Record	FMSS Record Number	FMSS record an exact match?
Water dynamics/hydrology	Contributing	N/A	N/A	N/A	N/A	N/A
Both sides of the Boundary Channel shoreline outside of	Contributing	N/A	N/A	N/A	N/A	N/A

Palmer's project boundary characterized by volunteer vegetation from seeds distributed by the waterway, wind, and wildlife						

Spatial Organization

Spatial organization is the three-dimensional organization of physical forms and visual associations in a landscape, including the articulation of ground, vertical, and overhead planes that define and create spaces.

Historic Condition:

Prior to the Period of Significance

LYBA's boundaries were shaped by land use patterns that pre-date the creation of the memorial. To the east and north the site is bounded by the GWMP, which began as part of the first federally funded parkway in the United States, the MVMH (built 1929-1932), to commemorate the 200th anniversary of the birth of George Washington. As such, this boundary reflects patterns of both commemorative and transportation uses of the island. To the west across the Boundary Channel, LYBA is bounded by the federal military's Pentagon Reservation (built 1941-1943) and by the Columbia Island Marina for recreational boating to the south (built 1956-1965). These conditions pre-date the formation of the memorial and ultimately impacted its boundaries when LYBA was established within Lady Bird Johnson Park as part of the GWMP park unit on December 28, 1973, under Public Law 93-211 (H.J. Res. 858, 93rd Congress) later amended to provide funding for development on the Pentagon Reservation under Public Law 94-162 (H.R. 9883, 94th Congress).

During the Period of Significance (1974-1977)

As described above, the NPS installed LYBA in two phases: the first phase consisting of the development of the memorial on the island and the second phase completing development on the Virginia side of the Boundary Channel and of the pedestrian bridge. Palmer designed LYBA to have four defined spaces. On the island, the commemorative function of the property was concentrated within the memorial grove with its dense planting of white pine trees to the

memorial plaza overlooking the Potomac River. To the north of this, the meadow, which also featured white pines planted around the periphery, provided opportunities for walking and picnicking shielded from the noise of the parkway by earthen berms and vegetation.

On the island to the south of these two areas, Palmer used the existing Columbia Island Marina as part of his design, demolishing the northernmost section, but adapting the existing parking as part of his design. It is important to note that while the design team relied on the parking provided by the existing marina parking lot, most of the parking lot itself was beyond the limit of the project boundary as defined in Phase I drawings and because of this, Palmer did not alter existing features such as lighting, piers, and walkways that pre-date the construction of LYBA (Palmer 1975). However, two of the three parking lot bays and their associated features lie within the present-day LYBA park unit boundaries. Although this parking lot was part of the site's Phase I construction, Palmer intended that this area would be the secondary entrance, while the parking and entrance developed on the Pentagon Reservation during the Phase II of construction was to be the primary entrance to the site. This detail signals the importance of the pedestrian bridge in Palmer's design and its function as a transitional space between the entry on the Virginia side of the Boundary Channel and the memorial grove on the island.

Both in adapting the existing Columbia Island Marina parking lot and by spanning the Boundary Channel in his design, Palmer asserted the Boundary Channel as a fifth space within LYBA's organization. The marina's parking lot led to an array of piers extending into the channel for recreational boating, five of which extended from LYBA's western shoreline. However, Palmer did not highlight it in his narrative description of his design, nor is it well defined in drawing plans for the memorial (Palmer 1974; Palmer and the Mills & Petticord Partnership 1975; Palmer and the Mills & Petticord Partnership 1976). The promotional brochure produced by the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac did not include boating or fishing in its description of the recreational opportunities that the new memorial would afford (Reservation 344, Reservation Files, National Capital Region). While it is unclear whether Palmer intended the Boundary Channel to be a component of the spatial organization of

his design, it functioned as a fifth component due both to its preexisting use by the adjacent Columbia Island Marina and because it flowed through the LYBA memorial.

Post-Historic and Existing Conditions:

The spatial organization of LYBA and the boundaries are unchanged from its period of significance. The land associated with LYBA on the island is part of Lady Bird Johnson Park, which in turn is part of the GWMP and owned by the NPS. The land beneath the Pentagon Reservation Entrance across the Boundary Channel is owned by the GSA, but the NPS has an indefinite and perpetual permit (GS-PBS-03-79-4) for the parking area and other development on the Pentagon Reservation that allows NPS to maintain all features associated with the memorial (Kelly 2020: email). NPS has jurisdiction over the bed of both the Boundary Channel and Columbia Lagoon, although the District of Columbia has jurisdiction over the water that flows through these features (Kelly 2020: email). This pattern of ownership is consistent with the period of significance and serves to bolster the spatial organization introduced by Palmer's design by highlighting the island, the Boundary Channel, and the Pentagon Reservation as three distinct spaces with different types of ownership.

LYBA's internal spaces are still well-defined through the extant physical elements of Palmer's design. Visitors are directed into the memorial grove either from the entrance at the Pentagon Reservation or from the parking lot shared with the Columbia Island Marina. The memorial grove is distinctive both because of the white pine canopy and because the circulation in this area is paved with flagstones. The meadow area is separated from the memorial grove because of its relative openness as a flat field of turf encircled by trees and the pea gravel topped asphalt surface treatment of paths in this area.

Analysis:

The spatial organization of LYBA's cultural landscape contributes to the property's historic character. It remains unaltered since the property's period of significance and as such retains a high degree of integrity.



Spatial Organization - (Full size graphics are located at the end of this report).



The memorial grove is characterized by a dense canopy of white pines and a spiraling flagstone walk leading to the memorial plaza, facing east. (NPS 2020)



The memorial plaza at the center of the memorial grove, facing west. (NPS 2020)



View facing north across the meadow. (NPS 2020)



The Columbia Island Marina parking lot southeast of the entrance to LYBA, facing northwest. (NPS 2021)



The Boundary Channel as seen from the pedestrian bridge, facing northwest. (NPS 2021)



The primary entrance on the Pentagon Reservation, facing southeast. (NPS 2020)

Feature Name	Feature Contribution	CRIS-HS Name	CRIS-HS Number	Type of FMSS Record	FMSS Record Number	FMSS record an exact match ?
Marina parking lot within the LYBA CLI boundaries	Contributing	N/A	N/A	Location	93574	No
Memorial grove	Contributing	N/A	N/A	N/A	N/A	N/A
Meadow	Contributing	N/A	N/A	N/A	N/A	N/A
Boundary Channel within the LYBA CLI boundaries	Contributing	N/A	N/A	N/A	N/A	N/A
Pentagon Reservation entrance	Contributing	N/A	N/A	Location	27288	Yes

Land Use

Land uses are the principal activities in a landscape that form, shape, and organize the landscape as a result of human interaction.

Historic Condition:

Prior to the Period of Significance

Columbia Island as a land reclamation project was first spurred by the work of the McMillan Commission and its plan to span Virginia and Washington, DC with a scenic carriageway (Earley and Fanning 2005: 32). This bridge developed into the Arlington Memorial Bridge (built 1926-1932) designed to symbolically unify the post-Civil War North and South and to improve transportation between the district and the commonwealth. As early as 1920, the federal government intended to use Columbia Island as a public park once USACE completed its construction (*The Washington Evening Star* [*TWES*] August 19, 1920: 1). In 1926, the government began to plan construction of the MVMH through the center of Columbia Island, a parkway that would highlight views of sites important in the life of President George Washington and that would both celebrate the bicentennial of the first president's birth and provide recreational driving opportunities to DC-area residents. When the Arlington Memorial Bridge and the parkway opened in 1932, they established a pattern of both recreational use and commemorative use of Columbia Island, including within the vicinity of present-day LYBA in the southern half of the island, the northern and eastern boundaries of which would be defined by the parkway.

The federal government established the Pentagon as a military facility between 1941 and 1943 and a parking lot, currently known as the Pentagon's north parking lot, by 1944 immediately west of the land that constitutes the main entrance to LYBA in the present day (outside of the CLI boundary) (US Geological Survey 1944). Related to this development, the government constructed Boundary Channel Drive by 1944 through the Pentagon Reservation just east of this parking lot (Earley and Fanning 2005: 39). The Pentagon and its related development established a military land use in the area and increased its transportation use.

As early as the 1930s, there were informal docking locations along the Boundary Channel, however, none are visible at the southern end of the island in aerial photographs until 1949 (Chenot et al. 1992 Vol. 1: 24-26; Arlington County Government 1949). At this time, a dock and mooring structure projected into Columbia Lagoon from the southwestern corner of the island, but there were no boating structures within the present-day LYBA boundaries. Four piers were constructed along the Boundary Channel within the current LYBA boundaries between 1957 and 1962 as part of the Columbia Island Marina development (built 1956-1965) and a fifth pier was added by 1966 (Arlington County Government 1957; Arlington County Government 1962; Washington Service Center 1966). Construction of the Columbia Island Marina increased the recreational use of the southern portion of Columbia Island with the capacity to store up to 700 boats, primarily geared toward owners of motorboats (*The Washington Post* [*TWP*] July 12, 1966: B1). In the 1960s, visitors would catch catfish, carp, or perch around Columbia Island and it can be assumed that many of the Columbia Island Marina boaters were fishing while out on the Potomac River (*TWP* July 12, 1966: B1).

A 1966 newspaper article indicates that George Washington University's football team practiced on athletic fields in the area directly north of Columbia Island Marina, which corresponds with the present-day location of the memorial grove and meadow of LYBA (*TWP* July 12, 1966: B1). Aerial photographs from 1962 and 1967 reveal large dirt patches in this area, but nothing to indicate a formal athletic field. It is therefore possible, but not certain, that George Washington University used this area for sports practice, which is in line with recreational use of the site as a public park.

The name of Columbia Island was changed to Lady Bird Johnson Park through a Secretarial Order on November 4, 1968, approved by Secretary of the Interior Stewart L. Udall and also signed by George B. Hartzog, Jr., Director of the NPS (Reservation 344, Reservation Files, National Capital Region). Udall supported renaming the island in honor of the first lady's beautification efforts on Columbia Island and throughout the District of Columbia. Hartzog noted that Lady Bird Johnson's efforts served as a model for similar efforts across the country observing, "She has made the nation more aware of its environment and of the preservation and

enhancement of its natural beauty" (Reservation 344, Reservation Files, National Capital Region). The renaming of the island continued the pattern of its use for nationally significant commemoration.

During the Period of Significance (1974-1977)

Palmer's design for the memorial continued these land uses established prior to LYBA's period of significance, namely commemoration, recreation, and transportation. The entire site was a memorial serving a commemorative function with the memorial grove and the plaza at its center providing a focal point for this intended use. The meadow included picnic tables and a pedestrian trail encouraging passive recreation. The entrance at the Columbia Island Marina parking lot connected LYBA to the GWMP and its use as a transportation corridor, while the parking lot on the Pentagon Reservation connected to Boundary Channel Drive. The pedestrian bridge across the Boundary Channel was absorbed into the GWMP's larger multi-modal trail system for use by cyclists as well as pedestrians and the Boundary Channel itself continued to be a recreational waterway and launch point to the Potomac River via Columbia Lagoon.

Post-Historic and Existing Conditions:

After the Period of Significance

In 1981, post-dating LYBA's period of significance, the Texas State Society in Washington, DC began the practice of laying a wreath within the memorial grove each year at sunset on the anniversary of President Johnson's birthday on August 27th, a practice that amplifies the property's commemorative use (Texas State Society of Washington, DC 2019). During this same period, LYBA became a popular destination to watch the Fourth of July fireworks display each year, which speaks to both the commemorative and recreational use for the site (Bradley and Howland 1998: 7). Visitors continued to use the southern part of Columbia Island for recreational fishing, as well (Earley and Fanning 2005: 77).

Existing Condition

Since LYBA's construction, the space has been used as a memorial for commemoration and passive recreation. The annual events of wreath laying and watching fireworks from LYBA continue to the present day. Cyclists and pedestrians still actively use the pedestrian bridge across the Boundary Channel to connect to the park's trail system. Military personnel also use the trail system within LYBA for informal exercise activities such as jogging. While the siltation of the Boundary Channel has made it unnavigable for larger crafts, kayakers and canoers still regularly travel through this water course and visitors to the Columbia Island Marina participate in recreational fishing, including within the LYBA boundaries (López 2021: email). The NPS has dredged the Boundary Channel to remove siltation in the past and could choose to repeat this process in the future in order to maintain the recreational use of the waterway.

Analysis:

The land use associated with LYBA, primarily commemoration and recreation, has not changed since its period of significance. The memorial maintains its function as a living memorial, inviting visitors' interaction, such as the Texas State Society's annual wreath laying ceremony, and serving a civic function by providing space for visitors to picnic and participate in passive recreation activities, such as picnicking and walking. The property retains high integrity of land use.



Land Use - (Full size graphics are located at the end of this report).



View of the rental dock and Columbia Island Marina facing southeast towards Pentagon City. (NPS 2021)



The Texas State Society in Washington, DC began the practice of laying a wreath within the memorial grove each year at sunset on the anniversary of President Johnson's birthday in 1981. This image is from the 1990 wreath laying at LYBA. Harry Middleton (standing at the podium), former staff assistant and speech writer to President Johnson, delivered the keynote address. "B9112-19," August 26, 1990. LBJ Presidential Library photo by Paul Tañedo.

Feature Name	Feature Contribution	CRIS-HS Name	CRIS-HS Number	Type of FMSS Record	FMSS Record Number	FMSS record an exact match?
Commemoration	Contributing	N/A	N/A	N/A	N/A	N/A
Recreation	Contributing	N/A	N/A	N/A	N/A	N/A

Topography

Topography is the three-dimensional configuration of the landscape surface characterized by features (such as slope and articulation) and orientation (such as elevation and solar aspect).

Historic Condition:

Prior to the Period of Significance

As reclaimed land, the topography of Lady Bird Johnson Park, formerly Columbia Island, is generally flat with gentle changes in elevation. When USACE constructed Columbia Island out of dredge material taken from the bed of the Potomac River beginning around 1915, they formed the island using an existing 1892 training dike and a series of newly constructed dikes and levees (Earley and Fanning 2005: 33). By 1923, USACE had constructed nearly 1,300 linear feet of levees and in that year alone engineers deposited 300,000 cubic yards of fill at the southern end of the island (*TWES* August 24, 1923: 1). In 1925, planners determined that the northernmost end of the island would require an additional 20 feet in elevation to accommodate construction of the Arlington Memorial Bridge (*TWES* April 10, 1925: 45). By this time, Columbia Island's elevation ranged between seven and 12 feet above mean low water (*TWES* April 10, 1925: 45). Engineers had to reshape the contours of the northern portion of the island to accommodate the caissons of the bridge and between 1925 and 1927, they cut away the northern shoreline of Columbia Island, increasing the width of the channel between Analostan Island (present-day Theodore Roosevelt Island) and Columbia Island (*TWES* April 10, 1925: 45; *TWES* May 8, 1925: 39). During this critical period in the island's formation, USACE constructed a 20-foot levee around the reformed profile of Columbia Island and used two derricks pumping hydraulic fill to achieve an elevation of 20 feet above mean low water along the spine of the island by 1927 (*TWES* April 18, 1926: 2; *TWES* August 15, 1927: 1). Portions of the island were filled as high as 35 feet above mean low water to match the finished elevation of the Lincoln Memorial site across the river.

The federal government completed the MVMH and Arlington Memorial bridge projects in 1932, the MVMH running north to south along the center of the island where the elevation was greatest relative to the adjacent shoreline. Wilbur Simonson, who was project manager for the construction of the MVMH and created the first formal planting design for the island, included Virginia rose (*Rosa virginiana*) and multiflora rose (*Rosa multiflora*) in his planting plan to stabilize the edge of the Boundary Channel. Although the authors of the *Lady Bird Johnson Park CLI* (600245) determined that it is unlikely that these shrubs were planted on Columbia Island, their

inclusion in the planting plan still suggests that there were issues with soil erosion along this waterway (Earley and Fanning 2005: 36; Kelsch et al. 2009 Vol. 1: 150, 168). The WPA's work completed in 1940 also speaks to this issue as it included installation of large boulders as rip rap along the southern shores of the island (Earley and Fanning 2005: 110). During construction of the Pentagon, the federal government graded both shorelines of the Boundary Channel to give them a smoother profile and to enable construction of Boundary Channel Drive along the Virginia side (Earley and Fanning 2005: 39). A topographic map from 1944 records that the northern portion of the present-day boundaries of LYBA sloped steeply toward the Boundary Channel while the southern portion is flatter, sloping gently toward the water (US Geological Survey 1944).

During the Period of Significance (1974-1977)

During LYBA's period of significance, Palmer graded the site to establish the distinctive spaces called for by his design. However, he considered the existing topography of the site in developing his design for the memorial, resulting in minimal grading throughout much of the site with a few concentrated areas where he introduced substantial elevation gain. During Phase I of construction, Palmer created a gently raised platform to hold the memorial plaza with a mound at its center where the megalith would sit. Palmer's grading increased the elevation in this area by about six feet (Palmer and the Mills & Petticord Partnership 1975; *TWES* November 6, 1973: 28). The spiraling flagstone walkway started at an elevation of 17 feet and gradually raised to 24 feet, six inches at the memorial plaza (Palmer and the Mills & Petticord Partnership 1975: C5). Palmer intended the megalith to be a focal point mimicking the verticality of the Washington Monument across the Potomac River, emphasizing the view afforded of the capital's monumental core offered by the memorial plaza. Palmer's design introduced a berm east of the megalith reaching 21 feet in elevation at its highest point to screen some of the noise from the parkway without obscuring the view across the Potomac River (Palmer and the Mills & Petticord Partnership 1975: C5).

Palmer included three more berms at the eastern boundary of the meadow area planted with white pine, azalea, dogwood, and viburnum (*Viburnum plicatum* 'mearnsii') to shield this space from the adjacent parkway's vehicular traffic (Palmer and the Mills & Petticord Partnership 1975:

C7-C9). The berm nearest the memorial grove was northeast of the memorial plaza between the GWMP and the asphalt path of the meadow. It increased from 20 feet to 24 feet in elevation at its highest point near the northern end (Palmer and the Mills & Petticord Partnership 1975: C6). Following an interruption in the berm, a second smaller berm measuring 24 feet at its highest elevation was installed northwest of the first near the halfway point of the larger meadow loop (Palmer and the Mills & Petticord Partnership 1975: C7). (See the Circulation section of this chapter for more details about the paths through the meadow area). A third berm extended along the parkway at the northern end of the site measuring 26 feet in elevation (Palmer and the Mills & Petticord Partnership 1975: C8).

The area where Palmer sited the meadow was already relatively flat, but he graded it to create a gentle and even slope along the length of the area and to accommodate the two looped paths traveling through it. The sides of the meadow path were designed to be higher in elevation than the center creating a bowl effect and the elevation steadily increased traveling south to north. The lowest point in the meadow was 17 feet in elevation and Palmer designed a flagstone drain to cover the drainage inlet in this area. The northernmost end of the meadow extended to nearly 24 feet in elevation.

West of the smaller meadow loop and just north of the granite drinking fountains, Palmer created three raised mounds that straddled either side of the flagstone path and the area where the path was extended during Phase II of construction to meet the pedestrian bridge spanning the Boundary Channel. These mounds framed the main entrance to the memorial grove and increased the bowl effect of the meadow, emphasizing its seclusion from the rest of the site. The mound between the memorial grove and the meadow was the highest with an elevation of 21 feet, the mound north of the entry from the pedestrian bridge was 20 feet at its highest, and the berm south of the flagstone path measured 18 feet at its highest point (Palmer and the Mills & Petticord Partnership 1975: C6). Palmer did not grade the steep slope of the island's western shoreline as part of his design.

Palmer called for partial demolition of the northernmost bay of the Columbia Island Marina parking lot, which included a small area enclosed by fencing that appears to have been used as a boat repair yard (Palmer and the Mills & Petticord Partnership 1975: C 4-C5). As part of Phase I, Palmer also designed a new boat repair yard at the southern tip of the island outside of the LYBA boundaries to replace the function of this demolished space for the marina (Palmer and the Mills & Petticord Partnership 1975: C10-C11). Palmer graded the area where the demolished portion of the parking lot had been to create a gradual slope up from the low point of 16 feet at the entrance from the remaining bays of the marina parking lot to 18 feet where the pea gravel topped path intersected with the spiraling flagstone path of the memorial grove west of the memorial plaza.

During Phase II of construction, the steep slope of the Boundary Channel on the Pentagon Reservation was graded to create a flat platform to accommodate the 34-car parking lot and connect to Boundary Channel Drive (Palmer and the Mills & Petticord Partnership 1976: C2, C3). Palmer designed the main entrance as a wooden deck on piers, and so the shoreline did not need to be graded to accommodate this feature. However, Palmer did have rip rap installed along the shoreline beneath the deck and adjacent to the parking lot walkway to minimize erosion (Palmer and the Mills & Petticord Partnership 1976: C8).

Post-Historic and Existing Conditions:

After the Period of Significance

In 1989, after the end of LYBA's period of significance, the NPS removed about four-thousand square feet of compacted soil within the memorial grove west of the memorial plaza and replaced it with sandy loam before planting around 35 replacement white pines (GWMP Floral Enhancement, Darwina Neal Beautification Files, National Capital Region; Bouchard and Willet 2021: personal communication). There is no indication that the soil replacement changed the topography of the memorial grove and it is likely that the new soil was installed to match the existing grade in that area of the site.

Existing Condition

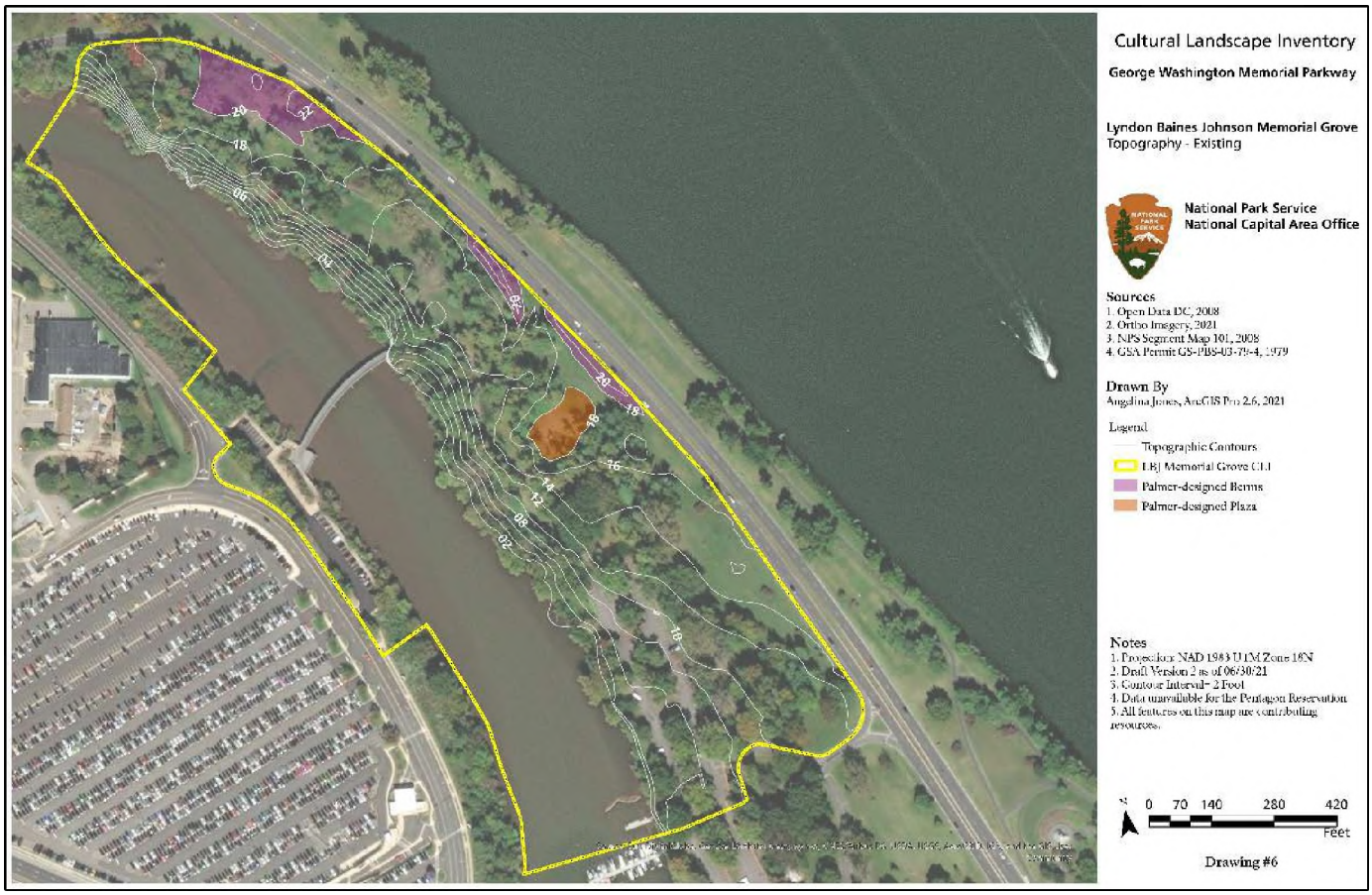
The author of this report used the most current open-source GIS topographic data available from Washington, DC created in 2008 and checked it against the most current LiDAR data for the area from 2015, both interpolating contours and running a planar slope analysis (DC GIS 2008; US Geological Survey 2015). The western portion of LYBA and the Columbia Island Marina parking lot entrance is among the lowest land on the island. LYBA's steepest slopes on the island are at the northwest boundary with a maximum 18-foot elevation at the shoreline and an approximately 40% slope (DC GIS 2008). The steepness of the shoreline decreases toward the southwestern boundary and is very slight adjacent to the parking lot with a maximum elevation of six feet along the shoreline (DC GIS 2008).

The highest points are two of the berms along the eastern boundary, only achieving a height of 20 feet rather than the 24 feet intended by Palmer. The berm that Palmer designed in a continuous line from the east of the memorial plaza past the first loop of the meadow's path system dips down in the middle, giving the effect of two separate berms. This condition appears to be consistent with how the grove was installed and is reflected in an existing conditions study of the berm that the NPS produced in 1977 (National Capital Region 1977). The megalith mound also reaches 20 feet in elevation and is a third high point on the site. The existing condition topography on the island follows Palmer's intent in terms of the spaces created through landform, even if the elevations do not match his exact specifications.

Due to security precautions, there is no publicly available data detailing the existing topography of the Pentagon Reservation and therefore it is not possible to ascertain how closely the existing conditions follow Palmers grading plan for the area.

Analysis:

The extant topography at LYBA is consistent with the historic period and the grading plan created by Palmer for the site. While the elevations on the island do not exactly match those noted by Palmer in his 1975 grading plan, this discrepancy could be due to current topographic data using a different datum than that used by Palmer. As noted above the LYBA design team was using a 1942 USACE datum (Palmer and the Mills & Petticord Partnership 1975: C3; Palmer and the Mills & Petticord Partnership 1976: C1). The spatial divisions Palmer intended to create through his grading of the site are intact and legible. LYBA retains high integrity of topography.



Topography - (Full size graphics are located at the end of this report).



The constructed berm northeast of the memorial plaza adjacent to the GWMP, facing north. (NPS 2021)



The northernmost constructed berm sheltering the meadow loop from the traffic along the GWMP, facing east. (NPS 2020)



View from the elevated platform of the memorial plaza, looking northeast towards the National Mall. (NPS 2020)

Feature Name	Feature Contribution	CRIS-HS Name	CRIS-HS Number	Type of FMSS Record	FMSS Record Number	FMSS record an exact match?
Platform of the memorial plaza	Contributing	N/A	N/A	N/A	N/A	N/A
Berms along parkway	Contributing	N/A	N/A	N/A	N/A	N/A
Berms along the flagstone walkway	Contributing	N/A	N/A	N/A	N/A	N/A
Bowl of meadow	Contributing	N/A	N/A	N/A	N/A	N/A

Gentle slope of the Columbia Island Marina parking lot	Contributing	N/A	N/A	N/A	N/A	N/A

Vegetation

Vegetation includes deciduous and evergreen trees, shrubs, vines, groundcovers, and herbaceous plants and plant communities, whether indigenous or introduced in the landscape.

Historic Condition:

Note: Information in this Historic Condition section is organized spatially during the period of significance in the following categories: introduction, memorial grove, meadow, Columbia Island Marina parking lot, and the Boundary Channel shoreline and Pentagon Reservation. Information is presented chronologically within each of these subsections.

Prior to the Period of Significance

Shortly after completion of Columbia Island's construction (1915 and 1927) and prior to LYBA's period of significance, volunteer vegetation began growing on the landform in patchy bands (US Army Corps of Engineers 1928). Some of this vegetation would have been genetically related to the trees, primarily native riparian species such as cottonwoods and willows, that grew on the approximately 10-acre silt bar before the 113-acre island was constructed of fill (Earley and Fanning 2005: 89; Land Resources Division 2004: sheet 11). These trees grew from between 15 and 20 feet in elevation along the spine of the island. Seeds embedded in the fill also generated vegetation, as did seeds carried by the wind, wildlife, or the Potomac River and the Boundary Channel, propagating water tolerant species along the shoreline including sycamores, elms, red maple, silver maple, and box elder (Earley and Fanning 2005: 34).

Wilbur Simonson created the first formal planting plan for Columbia Island as the project manager for the development of the MVMH (built 1929-1932). Simonson concentrated plantings along the roadway to maximize visual impact for the view experienced by motorists. He selected ornamental tree species including crabapple (*Malus* sp.), pear (*Pyrus* sp.), goldenrain trees

(*Koelreuteria paniculata*), cherry (*Prunus* sp.), and sophoras (*Styphnolobium japonicum*). The pear trees were from the experimental farm based in Beltsville, Maryland (Earley and Fanning 2005: 90). Simonson's plantings were installed during the final phase of the MVMH's construction and while his original design called for over 200 trees on Columbia Island, only about 75 were planted. In addition to introducing new ornamental species, Simonson retained the mature cottonwoods near the roadways and prescribed shoreline plantings to decrease erosion such as Virginia rose and multiflora rose, although authors of the *Lady Bird Johnson Park CLI* (600245) determined that it is unlikely that these shrubs were planted (Kelsch et al. 2009 Vol. 1: 150, 168; Earley and Fanning 2005: 36).

In 1931, while the MVMH was in its final year of construction, the Arlington Memorial Bridge Commission (AMBC) appointed James L. Greenleaf to prepare a landscape plan for the entirety of Columbia Island. Greenleaf, a member of the Commission of Fine Arts (CFA) and a landscape architect, recommended formal plantings near the Arlington Memorial Bridge around Memorial Circle and naturalistic treatment elsewhere in the park and along the island's shorelines. Greenleaf's guidelines, submitted to the AMBC and CFA in August 1931, favored planting white oaks (*Quercus alba*) and other species of oak amid expanses of green turf and generally discouraged the planting of ornamental trees (Earley and Fanning 2005: 35, 37).

Greenleaf died in 1933 before his plans for the island could be fully implemented. Landscape architect Gilmore Clarke, who was one of the MVMH designers, succeeded Greenleaf on the CFA and submitted a report for landscape treatment of Columbia Island that expanded on Greenleaf's recommendations. Simonson and horticulturist Henry Nye assisted Clarke in developing a plan in which he recommended planting the island with turf and canopy trees planted in groups or as specimens, with very few shrubs (Earley and Fanning 2005: 37). While neither Greenleaf's nor Clarke's plans were fully implemented on Columbia Island, they did set a precedent for later plans that would form the character of vegetation on the island.

Aerial photography from 1949, six years after the completion of the Pentagon building and related development on the Pentagon Reservation, show minimal vegetation and no mature trees

along the newly graded shoreline of the Virginia side of the Boundary Channel within present-day LYBA boundaries (Arlington County Government 1949). However, this may have been due to landscape management on the Pentagon Reservation as the shoreline across the channel on Columbia Island at this time shows a dense band of vegetation along the shoreline. The same aerial reveals that Columbia Island within the present-day boundaries of LYBA also had clusters of mature trees dotting the landscape between the parkway and the Boundary Channel, consistent with Simonson's plan to maintain many of the mature volunteer trees (Arlington County Government 1949).

In the mid-1950s landscape architect Horace W. Peaslee designed the Columbia Island Marina in 1955 and NPS constructed it between 1956 and 1965. This design constituted the first formal planting plan for Columbia Island within the present-day boundaries of LYBA since the 1930s. The NPS planted around 30 trees including willow oaks in parking lot medians as well as maples and some shrubs throughout the marina in 1956 (Kelsch et al. 2009 Vol. 1: 154). Later, in 1963, the park constructed a third parking lot bay to the north and planted additional willow oaks in the medians, as well as maples, sycamores, and willows around the parking lot within LYBA's present-day boundaries (Kelsch et al. 2009 Vol. 1: 156). There is also evidence that the park planted shrubs in the medians along with the willow oaks prior to 1975 as noted in Palmer's Phase I plan set (Palmer and the Mills & Petticord Partnership 1975: C3).

Aerial photographs from this time confirm that the area north of the new Columbia Island Marina and parking lot was maintained as turf with groupings of trees. By 1962, the NPS selectively cleared some of the trees in this area, possibly for use as informal athletic fields (Arlington County Government 1957; Arlington County Government 1962; *TWP* July 12, 1966: B1). The vegetation along the island's Boundary Channel shoreline remained naturalized, while the channel's Virginia shore on the Pentagon Reservation appears to have been maintained primarily as turf with a few trees near Boundary Channel Drive with some volunteer trees growing along the tidal area (Arlington County Government 1957; Arlington County Government 1962).

In April 1967, Lady Bird Johnson, Mary Lasker, and Nash Castro, Assistant Regional Director of National Capital Parks, visited Columbia Island to begin planning for a beatification project for this gateway to the nation's capital as part of the work being completed by the first lady's Committee for a More Beautiful National Capital. By that summer, the committee had hired Edward Durell Stone, Jr. to create a master plan for the island, including a comprehensive planting plan. Stone's team conducted an existing conditions survey of vegetation on the island in September 1967 and recorded that the Boundary Channel was predominately wooded with red and silver maples, box elders, sycamores, elms, willows, cottonwoods, and possibly alders (*Alnus* sp.). The team also identified 30 crabapple trees, 12 pear trees, two goldenrain trees, and four sophora trees that were extant from Simonson's 1932 planting along the parkway (Earley and Fanning 2005: 94; Edward D. Stone, Jr. & Associates 1967).

Stone worked with horticulturist Lewis, who had also conducted the soils analysis for Columbia Island, to create his planting design. The plan called for 800 deciduous shade trees including scarlet oaks (*Quercus coccinea*) and sugar maples (*Acer saccharum*); 1,400 evergreens, primarily white pines; between 2,500 and 2,700 dogwoods; and it preserved all of the Simonson-era plantings while calling for the selective clearing of riparian vegetation along the island's shores (Earley and Fanning 2005: 94-6; Kelsch et al. 2009 Vol. 1: 17). In the draft plan dated January 9, 1968, the design team recommended planting red maple, sugar maple, European beech (*Fagus sylvatica*), black tupelo (*Nyssa sylvatica*), willow oak, weeping willow, white pine, Scots pine (*Pinus sylvestris*), Canadian hemlock (*Tsuga canadensis*), and dogwoods in the area that would later become LYBA, corresponding with planting areas 6 and 7 of Stone's Plan (Edward D. Stone, Jr. & Associates 1968a). The refined May 1968 version of this plan contained additional detail about the dogwoods that were to be planted, calling for both white and pink varieties. While the number of deciduous and evergreen trees remained consistent between these two versions of the plan, the later revision specified 69 fewer dogwoods in planting section 6 and 144 more in section 7.

Stone and Lewis also included daffodil beds in their plan for the island and around one-million bulbs were planted between 1967 and 1968. Due to limited funding, Stone's Plan was never fully

implemented, but around 2,700 dogwoods were planted throughout the island, including within the present-day LYBA boundaries, between 1969 and 1971 (Earley and Fanning 2005: 52, 96; Kelsch et al. 2009 Vol. 1: 88). Of the dogwoods installed, about 80% were white flowering and 20% were pink (Earley and Fanning 2005: 96). The deciduous (other than dogwood) and evergreen trees specified in the Stone Plan were not planted in sections 6 and 7.

An existing condition planting plan for Columbia Island from 1971 shows that within the present-day LYBA boundaries, numerous groupings of dogwoods grew along the parkway and in a line adjacent to the riparian area along the Boundary Channel. There are five irregular drifts of daffodils within the area where Palmer would later site LYBA's meadow. The large deciduous trees represented in the plan are not identified, but many of them correspond with other depictions of the volunteer cottonwoods dating to the construction of the island (National Capital Region 1971). The lines of deciduous trees represented in the medians of the Columbia Island Marina parking lot are likely willow oaks. An aerial photograph from 1974 confirms the vegetation recorded in the 1971 plan including the location of the daffodil beds among turf in the northern half of the boundaries and groupings of dogwoods dotting the turf north of the Columbia Island Marina parking lot. This same aerial shows an allée of trees growing along Boundary Channel Drive on the Pentagon Reservation and a neat strip of turf separating these plantings from the volunteer vegetation growing along the riparian area of the Boundary Channel shore (Arlington County Government 1974). The 1971 plan and 1974 aerial give good indications of what the existing condition was of the property when the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac hired Palmer to design LYBA by February 1973.

During the Period of Significance (1974-1977)

Introduction

Implementation of Palmer's design for LYBA signals the start of the property's period of significance. Since the material of the memorial itself was to be a white pine grove, the planting design was a key part of the overall design for LYBA. Palmer's planting plan was implemented in phases, with the selective removal of existing vegetation and planting of trees and shrubs first on the island (1974-1976), then at the main entrance on the Pentagon Reservation (1976-1977), and

finally with the installation of around 25 wildflower and 12 daffodil beds throughout the memorial grove and meadow (1977-1979) (Kelsch et al. 2009 Vol. 1: 170). NPS continued to update the plantings periodically with Palmer's guidance at least through 1991 (Kelsch et al. 2009 Vol. 1: 170; Palmer and the Mills & Petticord Partnership 1975: P1-P5; Palmer and the Mills & Petticord Partnership 1984: P1-P7; Palmer and the Mills & Petticord Partnership 1990: P1-P5; Palmer and the Mills & Petticord Partnership 1991: P1, P3-P5). Palmer primarily tracked in-kind replacements in these updated plans but did include some changes to the shrub and herbaceous plantings when the plants in his original design did not thrive in their intended location. However, the massing and spatial organization remained consistent with Palmer's original planting plan.

LYBA's period of significance begins in 1974, the year that the NPS and the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac held a groundbreaking ceremony where President Gerald Ford prepared the site for the planting of the first white pine of the memorial grove. Eight pine trees in total were planted during the ceremony all near the northeast corner of the entrance from the Columbia Island Marina parking lot (Kelsch et al. 2009 Vol. 1: 177). The tree planted by President Ford is marked on the planting plan that Palmer's firm prepared in May 1975 and subsequently tagged with the number A135 (Palmer and the Mills & Petticord Partnership 1975: P1). This tree is extant today. This same plan set contains an existing condition plan noting topography, development associated with the marina and parkway, and existing vegetation with a tree survey noting the genus (sometimes species) and diameters of trees on the site (Palmer and the Mills & Petticord Partnership 1975: C1-C2). The survey records the existence of apple (*Malus* spp.), beech (*Fagus* sp.), box elder, Chinese toon (*Toona sinensis*), cottonwood, crabapple, dogwood, elm, gum (likely *Nyssa sylvatica*), hickory (*Carya* sp.), sophora, locust (likely *Robinia pseudoacacia*), maple (*Acer* spp.), mulberry (likely *Morus* sp.), oak (*Quercus* spp.), pear, pine (*Pinus* spp.), poplar (likely referring to a species other than *Populus deltoides* as "cottonwood" is also listed), sycamore, tulip tree (*Liriodendron tulipifera*), and willow. The drawing also denotes the outlines of clusters of shrubs, the boundary where the naturalized vegetation characterizing the Boundary Channel shoreline begins, and outlines for the Stone Plan-era flower beds on site.

Memorial Grove

Although the memorial grove's overstory was designed to consist almost exclusively of white pine trees, Palmer did choose to preserve most of the extant 1932 plantings along the parkway, which included four sophoras and two pears southeast of the memorial plaza. However, he likely had to remove some of the Simonson-era plantings to accommodate the planting of the memorial grove (Kelsch et al. 2009 Vol. 1: 158). He was also able to incorporate two existing pines (species not specified, but likely white pines) south of the megalith mound into the memorial grove (Palmer and the Mills & Petticord Partnership 1975: C5).

NPS installed the memorial grove in an area that was relatively open prior to LYBA's construction along the eastern boundary with a view across the Potomac River (Earley and Fanning 2005: 97; Arlington County Government 1974). The western portion of the memorial grove site had a dense concentration of trees, most likely volunteers (Arlington County Government 1974). Palmer cleared most of the existing vegetation west of the memorial plaza site and relocated a stand of six pines to make space for the spiraling flagstone walk (Palmer and the Mills & Petticord Partnership 1975: C5). The pines' species is not specified, but it is likely they were white pines. They were relocated in the northernmost portion of the property near the eastern boundary immediately adjacent to the parkway (Palmer and the Mills & Petticord Partnership 1975: P5).

Palmer's initial conceptual plan from 1974 included between 450 and 500 white and loblolly (*Pinus taeda*) pines growing to be between 25 and 30 feet in height with several hundred azaleas and rhododendrons massed along the paths (Palmer 1974: 3). The finished memorial consisted of exclusively white pines with a total of about 900 trees, with around 700 of those concentrated around memorial plaza (Earley and Fanning 2005: 60; Takahashi 1990: 24; Kelsch et al. 2009 Vol. 1: 170). The design included white pines planted on the east side of the parkway outside of the LYBA boundaries to frame the view of Washington, DC's monuments across the Potomac River (Kelsch et al. 2009 Vol. 1: 158).

Underplanting vegetation of the finished grove included multiple types of azaleas and rhododendrons as Palmer intended in earlier iterations of the design and also included cherrylaurel (*Prunus laurocerasus* 'Schipkaensis') at the southern entrance to the memorial plaza and English Ivy (*Hedera helix* var. *baltica*) to the east, reenforcing its evergreen character (Kelsch et al. 2009 Vol. 1: 174; Palmer and the Mills & Petticord Partnership 1975: P2). Summersweet (*Clethra alnifolia*) was clustered around the western paths leading to the megalith (Palmer and the Mills & Petticord Partnership 1975: P2).

Meadow

Palmer preserved a greater number of trees in the meadow than he did in the memorial grove, which served to distinguish the meadow with a greater diversity of species than the memorial grove and also to provide stands of mature trees under which benches and picnic tables could be installed. Along the parkway, east of the pea gravel asphalt paths that looped through the meadow, Palmer retained a Chinese toon, four sophoras, two box elders, three cottonwoods, one pear, and one unknown species of tree (Palmer and the Mills & Petticord Partnership 1975: C6-C7).

The meadow paths created two loops, the smaller just north of the memorial grove intersected with the flagstone path that led to memorial plaza and acted as a transition between the two distinctive areas of the memorial. The second larger loop further north encircled an expanse of turf bordered by clusters of trees and planting beds. In the smaller loop, Palmer preserved six willows, four of which were clustered near the path that bisects both loops and a Chinese toon. On the other side of the bisecting path, Palmer kept a cottonwood, two willows, and another Chinese toon. He clustered six picnic tables under this existing vegetation to take advantage of the shade it would provide to visitors (Palmer and the Mills & Petticord Partnership 1975: C6). Along the interior side of the larger loop, the design also called for retaining three additional mature cottonwoods, one willow, and one Chinese toon, while just north of the large loop palmer maintained another five cottonwoods and one unknown species of tree (Palmer and the Mills & Petticord Partnership 1975: C6-C8). (Refer to the Circulation section of this report for additional information on the meadow's paths).

Although planting plans for the meadow specify loblolly pines to be planted in the meadow area, these were never planted and white pines were substituted due to Lady Bird Johnson's objections to the use of loblolly pine (*TWP* April 7, 1976: A1; Takahashi 1990: 24). The new trees Palmer introduced to the meadow area of the site were white pine and dogwood with a stand of sugar maple at the northernmost boundary of the site (Palmer and the Mills & Petticord Partnership 1984: P5). While Palmer did not include the sugar maples on the Phase I planting plan, a version of the planting plan revised multiple times between 1979 and 1984 records that the maples were planted between 1975 and 1976 within the site's period of significance.

Prior to LYBA's construction, a large part of the meadow area was planted with daffodils from Lady Bird Johnson's Beautification Program following Stone's plan (Arlington County Government 1974; Palmer and the Mills & Petticord Partnership 1975: C2). Palmer did not retain the Stone era planting beds, choosing to replant the meadow with turf and cluster planting beds with wildflowers including orange coneflower (*Rudbeckia fuldiga* var. *speciosa* 'Goldstrum'), purple coneflower (*Echinacea purpurea*), Virginia bluebells (*Mertensia virginica*), and daffodils amid shrubs around the edges of the meadow turf. The planting beds were not included in the original May 1975 planting plan set, but it was subsequently revised to represent wildflower and daffodil beds likely installed between 1977 and 1979 and updated to reflect replacement plantings through 1991 (Kelsch et al. 2009 Vol. 1: 170; Palmer and the Mills & Petticord Partnership 1975: P1-P5; Palmer and the Mills & Petticord Partnership 1984: P1-P7; Palmer and the Mills & Petticord Partnership 1990: P1-P5; Palmer and the Mills & Petticord Partnership 1991: P1, P3-P5). A note on one of the revised plan sets states that the NPS would plant daffodils in fall 1975 as they were not included in the contract with Palmer, so it is possible that the daffodil beds were planted prior to the wildflowers although there is no other record of this planting (Palmer and the Mills & Petticord Partnership 1991: P1). Another version of the planting plan notes that some of the daffodils in the meadow were planted in fall 1977 indicating that there were multiple daffodil plantings and that they may have been conducted on a cyclical basis (Palmer and the Mills & Petticord Partnership 1984: P3). Some of the largest daffodil beds in Palmer's plan were amassed near the parkway to be highly visible from the roadway and he proposed three different cultivars to be planted in 12 beds located throughout the island (Palmer and the Mills & Petticord

Partnership 1984). (Note that the daffodil bed count in the plan referenced above differs from the *Vegetation of the George Washington Memorial Parkway Central Section: Alexandria to Arlington Memorial Bridge Cultural Landscape Report [CLR]* completed in 2009, which recorded 11 beds within LYBA).

The western edge of the meadow turf was generally shadier as it was adjacent to the naturalized volunteer trees and other vegetation along the Boundary Channel shore. This area was planted with shade tolerant shrubs and herbaceous vegetation including azaleas, rhododendrons, cherrylaurel, mountain laurel (*Kalmia latifolia*), English ivy, Virginia bluebells, daylily (*Hemerocallis fulva*), blue cohosh (*Caulophyllum thalictroides*), and maidenhair fern (*Adiantum pedatum*) (Palmer and the Mills & Petticord Partnership 1984: P3-P4). Interrupted fern (*Osmunda claytoniana*) was planted only along the edge of the shoreline near the Boundary Channel entrance (Palmer and the Mills & Petticord Partnership 1984: P3). The eastern edge was sunnier and Palmer chose understory plantings such as azaleas, summersweet, viburnum, witch hazel (*Hamamelis* x *intermedia* 'Arnold Promise'), cinquefoil (*Potentilla fruticosa*), and orange coneflower for this area of the meadow (Palmer and the Mills & Petticord Partnership 1984: P3-P4).

Columbia Island Marina Parking Lot

Within the area of the Columbia Island Marina parking lot slated for demolition, seven oaks, almost certainly the willow oaks from the 1963 planting, were to be protected, while all of the shrubs in that area were removed (Palmer and the Mills & Petticord Partnership 1975: C3). In retaining these oak trees at the entrance to the memorial grove, Palmer created a visual connection between this entrance and the marina parking lot where the medians were also planted with willow oaks, maintaining continuity between the spaces (Kelsch et al. 2009 Vol. 1: 176).

Palmer called for clearing a large number of trees east of the northernmost portion of the parking lot that was adjacent to the new memorial grove entry, specifying five cottonwoods, six pines, one cherry (possibly from the MVMH planting), two sycamores, and one maple to be retained.

Along the western shore in this same area, Palmer preserved four additional sycamores, two box elders, and an ash tree (Palmer and the Mills & Petticord Partnership 1975: C4).

The existing vegetation adjacent to the southernmost bay of the parking lot within the LYBA boundaries was outside of the 1975 project boundary area and the plans noted that the existing trees east of the parking lot would be saved (Palmer and the Mills & Petticord Partnership 1975: C4, P1). Palmer flanked the entry into the memorial grove with azaleas, rhododendrons, and dogwoods with a small cluster of summersweet where the two asphalt spurs join into a single path (Palmer and the Mills & Petticord Partnership 1975: P1). Later versions of the planting plan show that the rhododendrons on either side of the sidewalk leading from the northern parking lot to the asphalt path were replaced by cherrylaurel underplanted with cotoneaster (*Cotoneaster dammeri* 'skogholmen') (Palmer and the Mills & Petticord Partnership 1990: P1; Palmer and the Mills & Petticord Partnership 1991: P1). New tree plantings in this area were almost exclusively white pine, with the exception of two new willow oaks planted at the terminus of the parking lot's median underplanted with abelia (*Abelia* x *grandiflora* 'Prostrata') (Palmer and the Mills & Petticord Partnership 1975: P1).

The Boundary Channel Shoreline and Pentagon Reservation

Palmer did not provide detailed plans for tree retention along the Boundary Channel shoreline, although it is clear from notes on the plan set that the area would be selectively cleared of vegetation (Palmer and the Mills & Petticord Partnership 1975: C3, C5). The only new Boundary Channel plantings specified by Palmer were associated with the entrance to the site from the pedestrian bridge spanning the Boundary Channel. Although the 1975 plan set only depicted the construction associated with Phase I of the project concentrated on the development on the island, Palmer preserved two box elders and a mature cottonwood in the area where the pedestrian bridge would be built during Phase II of construction (Palmer and the Mills & Petticord Partnership 1975: C6). Three existing box elders framed the shore where the wooden deck was later constructed. Palmer augmented this cluster of maples by retaining two of these box elders and planting four red maples behind them, two on either side of the entrance (Palmer and the Mills & Petticord Partnership 1984: P3). These maples, like the sugar maples planted in

the meadow, were not included in the Phase I or Phase II planting plans, but are noted in a later revised planting plan as planted between 1975 and 1976 within the period of significance for the site (Palmer and the Mills & Petticord Partnership 1984).

In drawings for Phase II of LYBA's construction, dated July 1976, the existing condition survey identified volunteer trees along the shoreline of the Boundary Channel including box elder, Chinese toon, cottonwood, crabapple, elm, juniper (*Juniperus* sp.), maple, oak, pine and willow (Palmer and the Mills & Petticord Partnership 1976: C1). The plan detailed preserving many of the trees along the shoreline during construction of LYBA's main entrance, calling for the removal of trees primarily within the parking lot area (Palmer and the Mills & Petticord Partnership 1976: C2). Although the genus of trees protected during construction are not noted in this plan set as they were for Phase I construction, notes on the drawing set specify that "shoreline vegetation remained and was protected during construction except as directed by the landscape architect" indicating that representatives from Palmer's firm were on site directing the clearing operations (Palmer and the Mills & Petticord Partnership 1976: C2).

Palmer planted willow oaks in the median between Boundary Channel Drive and the parking lot on the Pentagon Reservation, creating continuity between this and the Columbia Island Marina parking lot (Palmer and the Mills & Petticord Partnership 1976: P1-P2). The length of the median was to be sodded with clusters of juniper (*Juniperus horizontalis* 'Douglasii') on either end and along the sidewalks adjacent to the two points of egress to the parking lot. Stands of white pine flanked either side of the parking lot and a group of crabapples (*Malus floribunda*) stood at the southernmost portion of the site. At either corner of the parking lot near the shoreline, Palmer included a paulownia (*Paulownia tomentosa*) likely with the intention that the purple bloom of the tree would be visible from the island side of the bridge across the Boundary Channel. Amidst the trees Palmer preserved along the Boundary Channel shoreline, he interspersed eastern redbuds (*Cercis canadensis*), bayberry (*Myrica cerifera*), and rhododendron. The center of the parking lot featured a large planting bed holding white pines, azaleas, rhododendrons, and English ivy. A smaller, irregularly shaped planter adjacent to the stairway leading to the deck held a dogwood and St. John's wort (*Hypericum calyanum*) (Palmer and the Mills & Petticord Partnership 1976: P1).

Palmer changed the plantings in this bed to a single crabapple tree underplanted with cotoneaster between 1979 and 1984 (Palmer and the Mills & Petticord Partnership 1984: P6).

Post-Historic and Existing Conditions:

Note: Information in this section is organized spatially in the following categories: introduction, memorial grove, meadow, Columbia Island Marina parking lot, and the Boundary Channel shoreline and Pentagon Reservation. Information is presented chronologically within each subsection.

After the Period of Significance

Introduction

LYBA's period of significance ends after NPS completed Phase II of construction in 1977. Palmer revised the planting plan at LYBA at least through 1991, approving compatible substitutions of a similar height and habit when plants did not thrive (Palmer and the Mills & Petticord Partnership 1991: P1, P3, P4, P6). The NPS had a dedicated horticultural crew that worked at LYBA until the early 2000s (Bouchard 2021: personal communication). A horticultural crew for the entire GWMP continued to maintain vegetation on site until around 2015 (Bouchard and Willet 2021: Personal communication). The horticultural team primarily replaced vegetation on the property in-kind with a few exceptions. As early as 1989, NPS imported pine needle mulch from North Carolina to use as groundcover beneath the pine trees in both the memorial grove and along the edges of the meadow (Bouchard and Willet 2021: personal communication). This practice likely began during the period of significance at the same time Phase I of construction was completed, however, additional research is needed to confirm this. Also in 1989, NPS substituted the Schipkaensis cultivar of cherrylaurel in an unknown area of the grove with another dwarf variety of the genus around the same time that they had to replace a total of 50 white pines in-kind throughout the memorial that had died due to drought and pest infestation (GWMP Floral Enhancement, Darwina Neal Beautification Files, National Capital Region). Many of the dogwoods throughout the site had a low survival rate and by 2005 park staff had modified the planting locations to ensure a higher survival rate (Earley and Fanning 2005: 62).

Between 1995 and 1999, NPS reconfigured the daffodil beds within LYBA's boundaries as part of a larger project to reduce the number of beds within Lady Bird Johnson Park. The NPS added several daffodil beds northwest of LYBA's meadow at this time that differed from Palmer's design, but they were no longer extant by 2009 (Kelsch et al. 2009 Vol. 1: 165). Investigators in 2009 reported that the Palmer-era daffodil beds were largely intact and in good condition, noting that a large bed at the center of the meadow did not conform with Palmer's plan for the site and that one of the large beds along the Boundary Channel shoreline was missing entirely (Kelsch et al. 2009 Vol. 1: 174). These changes are likely related to the work completed between 1995 and 1999. In March 2000, Palmer noted in correspondence to GWMP's superintendent that the park needed to cut back the rhododendrons at LYBA and plant new understory vegetation, particularly along the berms adjacent to the parkway (Lyndon B. Johnson Memorial Grove, Darwina Neal Beautification Files, National Capital Region).

NPS staff conducted field work between 2001 and 2002 to prepare the *Lady Bird Johnson Park CLI* (600245) finalized in 2005. This work identified existing volunteer trees within LYBA's boundaries along the parkway including cottonwoods, willows, black locusts, and possibly black walnuts (*Juglans nigra*). At this same time, investigators reported that about 12 trees dating to the 1932 Simonson-era planting remained within LYBA's limits including three sophoras, a goldenrain tree, and numerous flowering pear and crabapple trees (Earley and Fanning 2005: 97). The 2009 *Vegetation of the George Washington Memorial Parkway Central Section: Alexandria to Arlington Memorial Bridge CLR* recorded that nine of the 20 cottonwoods that had been on the property during LYBA's period of significance were dead and noted that a number of sophoras and pear trees from Simonson's plantings had also died. This same report identified clusters of pines throughout LYBA on the island that were in decline or dead, which created uneven coverage within the canopy in both the memorial grove and the meadow areas of the memorial (Kelsch et al. 2009 Vol. 1: 172-73).

GWMP maintained LYBA on the island and the Pentagon Reservation with an internal horticultural crew until around 2015. This crew oversaw cyclical maintenance of all vegetation as well as removals and replacements (Bouchard and Willet 2021: personal communication). After

this time the park engaged an external contractor to maintain vegetation on the island and allowed the Pentagon to take over the maintenance the vegetation on the Pentagon Reservation.

Memorial Grove and Meadow

The 2009 CLR also recorded that within the memorial grove there were areas where younger pines had recently been planted to replace pines in the older stand, which created and uneven quality to the density, texture, and balance between light and shade (Kelsch et al. 2009 Vol. 1: 172). Investigators reported that very few of the Palmer-era understory plantings remained within the memorial grove and meadow except for the cherrylaurel, which was doing well. The health of the azaleas and summersweet varied, but generally these plantings were in poor health (Kelsch et al. 2009 Vol. 1: 174). Palmer had specified cotoneaster to be planted in several locations throughout the site, but by 2009 it only remained around the megalith (Kelsch et al. 2009 Vol. 1: 178).

In 2013, GWMP staff created a planting restoration plan that was only partially implemented. While current park staff can confirm that GWMP planted bluebells, azaleas, and pines and that some pines were removed during this time, the exact location where the work was completed is unknown, although the recommendations depicted in the extant plans center primarily around the memorial grove and the memorial plaza. It does not appear that the work closest to the memorial plaza and megalith was completed. GWMP's last record of shrubs or perennials being planted at the site is 2013 corresponding to this plan (Bouchard 2021: personal communication). Bluebells stopped blooming in the meadow around 2014 (Bouchard and Willet 2021: personal communication).

Columbia Island Marina Parking Lot

In 1995, NPS rehabilitated the Columbia Island Marina parking lot removing a bus shelter dating to as early as 1957 and retrofitting the parking lot with more marked accessible parking (National Park Service 1995: sheets 14, 22, 23; National Capital Region 1965: sheet 3). The bus shelter sat east of the southernmost parking bay within the LYBA boundaries. After the NPS removed the bus shelter and concrete foundation, they planted two sycamores, one red maple, and eight

cherrylaurel shrubs among the existing dogwoods and sycamores in the area (National Park Service 1995: 23). At an unknown date, the NPS planted spice bush (*Lindera benzoin*) at the northern end of the parking lot median immediately adjacent to the memorial entrance and were removed prior to 2015 (Bouchard and Willet 2021: personal communication).

The Boundary Channel Shoreline and Pentagon Reservation

NPS staff had made substantial changes to the vegetation in the two planters at the Pentagon Reservation entrance by 2009. Internal correspondence from the time records that the park had changed out azaleas and rhododendrons in the large planter within the parking lot for daylilies (*Hemerocallis* sp.), which is a change that Palmer recommended in later versions of the planting plan revised between 1979 and 1984 (Barrett 2009: email; Palmer and the Mills & Petticord Partnership 1984: P6). The juniper Palmer planted at either end of the median and along the sidewalks were no longer extant. The dogwood tree in the small planter on the deck had been replaced with a crabapple, a substitution also reflected in a subsequent version of Palmer's planting design (Palmer and the Mills & Petticord Partnership 1984: P6). Between 1979 and 1984, the designer substituted cotoneaster (*Cotoneaster salicifolius* 'Rapens') for the St. John's wort specified in the 1976 plan (Palmer and the Mills & Petticord Partnership 1976: P1). The NPS had switched out cotoneaster in this planter for liriope (*Liriope* sp.) by 2009 (Barrett 2009: email).

Due to a 2011 oil spill at the Potomac Electric Power Plant Company's (PEPCO) Potomac River Substation, the power company developed a Damage Assessment Restoration Plan (DARP) that included restoration work along the Boundary Channel (NPS PEPC: 79591). Between 2018 and 2019, a restoration team removed exotic species along the Boundary Channel shoreline of LYBA and woody vegetation measuring less than six inches in diameter at breast height (DBH) (NPS PEPC: 78821). Casey Trees planted 83 trees in 2018 within LYBA's boundaries including five dogwoods in the planting bed that follows the spiral of the flagstone walkway west of the memorial plaza. Palmer's plan had six white pines and azalea varieties in the planting bed where Casey Trees installed the row of five dogwoods (Palmer and the Mills & Petticord Partnership 1984: P2). There were no dogwoods within the memorial grove during the period of significance (Bouchard and Willet 2021: personal communication). The white pines in this planting bed were

destroyed during a microburst in 2008, which damaged a number of white pines in this portion of the memorial (Bouchard and Willet 2021: personal communication). In addition to dogwoods, Casey Trees's planting palette included silver maple and sycamore in the lower riparian zone; red maple, black tupelo, and eastern redbud in the middle and upland zones; and willow oaks and white pine in the upland zone (NPS PEPC: 78821).

Existing Condition

Introduction

The report author visited the property with the GWMP horticulturist and a former member of the internal horticultural crew in early spring 2021 to discuss current plantings. Maintenance for LYBA's vegetation has been under contract with a non-government landscaping company since around 2015 (Bouchard and Willet 2021: personal communication). The contractor routinely mows the site and is responsible for basic maintenance of the ground cover and planting beds as well as shrub clearing (Bouchard 2021: email). There has been marked deterioration of the shrub layer since the park's maintenance workers stopped caring for the vegetation at LYBA (Bouchard and Willet 2021: personal communication). Trail maintenance is done by NPS staff (Bouchard 2021: personal communication).

NCR staff conducted a partial tree inventory in February and March 2021, since the last tree inventory for the site was conducted in 2007 as part of the *Vegetation of the George Washington Memorial Parkway Central Section: Alexandria to Arlington Memorial Bridge CLR* (CLR completed in 2009). Staff collected GPS points for trees, shrubs, and daffodil beds on site within Palmer's project boundaries. This excludes the naturalized island shoreline along the Boundary Channel and the areas east and west of the Columbia Island Marina parking lot as Palmer did not create a planting plan for these parts of the site. Staff did survey trees east and west of the marina parking lot that clearly pre-date construction of the memorial, such as the mature cottonwoods, but did not conduct an exhaustive tree survey in these areas. NCR staff did not take new GPS points for the juvenile trees planted by Casey Trees in 2018 as they already had GIS data for these resources provided by Casey Trees. Note that Casey Tress digitizes their points based on static maps

created in the field and their GPS data has a higher margin of error than the data points collected by NCR staff.

GWMP tracks trees that are taken down throughout the memorial due to poor health. Currently, the NPS replaces trees near the same location of removed trees, but not always with the same species. The park does not replace trees immediately after they are taken down and replacements are not implemented on an annual basis (Bouchard 2021: personal communication). Many of the white pines and some of the other trees along the GWMP have tree tags. There are two styles of tree tags, one round and one a metal strip, which suggests they key into two different surveys. The round tags largely correspond with tree numbers recorded on revisions to the planting plan (Palmer and the Mills & Petticord Partnership 1984: Palmer and the Mills & Petticord Partnership 1990; Palmer and the Mills & Petticord Partnership 1991). Further research is needed to ascertain which plan the metal strip tags correspond with as well as when both surveys were conducted and what data they generated.

The author of this report identified 17 mature cottonwoods, likely volunteers dating to the creation of the island, during November 2020 and March 2021 field work in the meadow area and east of the Columbia Island Marina parking lot. Note that the 2009 *Vegetation of the George Washington Memorial Parkway Central Section: Alexandria to Arlington Memorial Bridge CLR* did not record most of the cottonwoods east of the marina parking lot, as these were outside of Palmer's project boundary although within the CLI boundary for LYBA. This accounts for the discrepancy between the cottonwood count in that report and the count presented here. Of the 11 cottonwoods recorded in the 2009 CLR, ten are extant, although the locations in the 2009 CLR data do not completely match the locations collected for this report.

The 2005 *Lady Bird Johnson Park CLI* stated that there were approximately 12 flowering trees along the GWMP within LYBA's boundaries that possibly dated to the 1932 Simonson planting. NCR staff identified 16 trees along the GWMP within LYBA's boundaries that may date to this planting, nine of which are depicted as existing on either Stone's 1967 existing condition plan or Palmer's 1975 plan as existing and are therefore very likely to date to the 1932 Simonson planting

(Palmer and the Mills & Petticord Partnership 1975; Edward D. Stone, Jr. & Associates 1967). These trees will be discussed in more detail below, but it should be noted that there are discrepancies between the findings reported in the 2005 CLI and the results of field work conducted for this report, both in total count and genus. The author of this report identified more sophoras and goldenrain trees that likely date to the Simonson era than were recorded in 2005, did not identify any apple trees within the CLI boundaries, and recorded cherry trees that may date to the 1932 planting.

NCR staff recorded 61 mature dogwoods throughout the memorial, with notable stands of trees dating to the period of significance in the meadow and east of the marina parking lot. Casey Trees planted an additional 13 dogwoods ('Appalachian Spring') in 2018. While the dogwoods installed by Casey Trees in 2018 appear to be in good health, the mature dogwoods within the meadow area show signs of stress.

There have been changes to understory plantings, both due to intentional substitutions on the part of Palmer and the NPS, but also in more recent years because of deferred maintenance. There is a noticeable reduction to shrub layer plantings throughout the property on the island and a proliferation of English ivy within the memorial grove and along the Boundary Channel (Bouchard 2021: personal communication).

NCR staff identified five extant daffodil beds in March 2021: one east of the marina parking lot, two in the memorial grove, and two in the meadow (see Vegetation site plans for precise locations). The daffodil bulbs are not replaced cyclically as they were in the past. The contractors who maintain the landscape mow the daffodil foliage once a year to maintain the bulbs. Park staff previously conducted annual inspections of the beds to ensure health of the bulbs, but this has not been done at least in the last five years (Bouchard 2021: email). NCR staff did not identify any extant wildflower beds while in the field and GWMP staff confirmed that they are no longer extant (Bouchard and Willet 2021: personal communication).

Memorial Grove

NCR staff took GPS points for 483 white pine trees within the LYBA CLI boundaries and 467 of those are considered contributing since their locations match planting plans dating to the period of significance. The greatest concentration of white pines are in the memorial grove totaling 235. There are 227 in the meadow, 17 east of the Columbia Island Marina parking lot, and four north of the Pentagon Reservation parking lot. The white pines within LYBA's boundary in aggregate form the white pine grove that constitutes the memorial itself. Casey Trees planted 28 additional white pines in 2018, ten within the memorial grove and 18 within the meadow. There are white pines east of the GWMP that frame the view across the Potomac River from the memorial plaza that appear to correspond with Palmer's planting plan for this area (Palmer and the Mills & Petticord Partnership 1975: P6). However, these trees are located outside of LYBA's CLI boundary and therefore NCR staff did not collect GPS points for them.

The cherrylaurel at either side of the entrance from the Columbia Island Marina parking lot have grown very large and are still extant. Three stands of summersweet south of memorial plaza near the marina entrance that date to the site's period of significance. There are few azaleas remaining adjacent to the spiraling path of the memorial grove and those that do remain are in decline. The NPS has replaced the cotoneaster surrounding the megalith with liriope. The five dogwoods that Casey Trees planted in the planting bed adjacent to the spiral walkway are non-contributing and incompatible, since Palmer's plan called for white pines in this location, a canopy tree that does not resemble dogwoods in height or habit and is evergreen rather than deciduous. The last of the rhododendrons on the site, located adjacent to the island entrance from the pedestrian bridge, died in 2020.

There are six mature sycamores within the memorial grove, all of which were preserve by Palmer (Palmer and the Mills & Petticord Partnership 1975: P1). Six willow oaks, also preserved by Palmer, still stand at the entrance to the memorial grove from the Columbia Island Marina parking lot, originally planted in 1963 in the part of the parking lot demolished to accommodate construction of the memorial.

There are three extant trees that were called out for retention in Palmer's 1975 plan set that likely date to the 1932 Simonson planting along the parkway in this part of the property (Palmer and the Mills & Petticord Partnership 1975). One is a pear tree, east of the spurred asphalt path that leads from the Columbia Island Marina parking lot. The other two are sophoras southeast of the memorial plaza.

Meadow

Within the meadow area, NCR staff identified a stand of seven mature dogwoods on the east side of the meadow loop near its midpoint. These dogwoods were not included in Palmer's 1975 plan for the site but do appear in the plan set revised 1979 through 1984 coded as having been planted between 1975 and 1976 (Palmer and the Mills & Petticord Partnership 1984: P4). A second mature stand of five dogwoods lines the path on the opposite side of the large meadow loop. These were included in the 1975 plan set (Palmer and the Mills & Petticord Partnership 1975: P4). There is one stand of summersweet that match Palmer's Phase I planting plan located at the northeastern end of the path shared by the two meadow loops (Palmer and the Mills & Petticord Partnership 1975). Viburnum and witch hazel grow on the berms east of the meadow. The viburnum was included in Palmer's Phase I planting plan and most of the witch hazel dates to the period of significance, except for the grouping at the southeastern end of the large meadow loop, which is non-contributing, but compatible (Palmer and the Mills & Petticord Partnership 1975; Palmer and the Mills & Petticord Partnership 1984).

There are 13 trees east of the large meadow loop that may date to the 1932 Simonson plantings. These include seven sophoras called out for preservation by Palmer in his planting plan (Palmer and the Mills & Petticord Partnership 1975). This count also includes a goldenrain tree identified in Stone's 1967 existing condition plan (Edward D. Stone, Jr. & Associates 1967). One additional goldenrain tree and four cherry trees are not included on either Palmer's or Stone's existing condition plan sets. However, dogwoods were the only trees from the Stone Plan planted in this area and the only new tree plantings Palmer specified for the meadow were pines and dogwoods. Therefore, it is likely that these flowering trees predate the Palmer and Stone Plans and were planted in 1932. There are also four mature black locusts in this portion of the site.

Although these were not specifically called out for preservation in Palmer's 1975 plan, they may have been preserved based on decisions made in the field not recorded in the planting plans or may have sprouted from the stumps of black locusts left after the site was cleared for installation of the grove.

Columbia Island Marina Parking Lot

NCR staff did not conduct a thorough tree survey along the Boundary Channel or east of the marina parking lot, since Palmer did not create a planting plan for this part of the site. However, staff did record trees that likely fall within or predate the site's period of significance. 14 mature willow oaks planted in the parking lot medians between 1956 and 1963 are extant, but the shrub layer is not. There are two young willow oaks in the parking lot medians, one of which was planted by Casey Trees in 2018. There are several mature trees east of the Parking lot some of which likely predate LYBA's construction. Some of the trees in this area were included in the 1967 existing condition plan (Edward D. Stone, Jr. & Associates 1967). Mature trees east of the marina parking lot include seven cottonwoods; multiple red maples and black walnuts; and at least of each of each of the following: silver maple, cherry, horse chestnut (*Aesculus hippocastanum*), and sycamore. The horse chestnut and black walnuts are the only two trees in this list that were not identified as an existing genus on site in the 1975 existing condition survey. There are two stands of hollies (*Ilex* sp.) in the eastern parking lot that may date to the late 1990s when NPS replaced white pines near the comfort station outside of the LYBA boundaries with holly (*Ilex opaca*), but were certainly present on site by 2002 (Earley and Fanning 2005: 98). West of the parking lot two elm trees and a box elder are consistent with some of the earliest volunteer vegetation on the island nestled among red maples that match descriptions of plantings associated with the 1950s and 1960s construction of the Columbia Island Marina.

The Boundary Channel Shoreline and Pentagon Reservation

Of the two stands of white pines that flanked either side of the Pentagon Reservation parking lot and dated to Palmer's 1976 planting plan, only four mature white pines remain to the north of the parking lot. Nine of the 11 willow oaks Palmer specified for the parking lot median are extant (Palmer and the Mills & Petticord Partnership 1976). A row of seven juvenile black tupelo trees

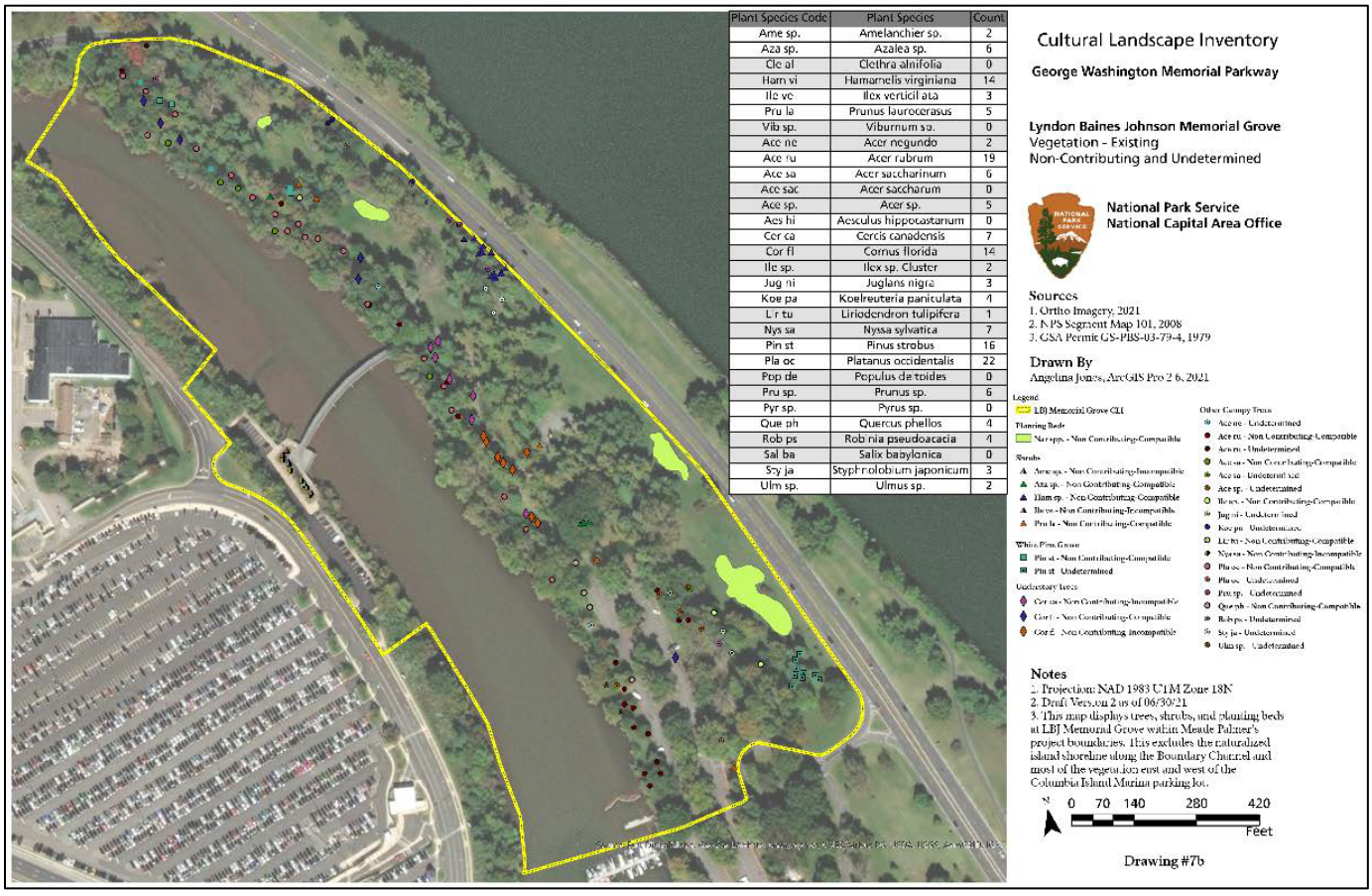
grows in the large planting bed adjacent to the parking lot interplanted with winterberry (*Ilex verticillata*), service berry (*Amelanchier* sp.), switch grass (*Panicum virgatum*), dwarf pennisetum (*Pennisetum alopecuroides* 'hameln'), black-eyed Susan (*Rudbeckia hirta*), and aster (*Aster* sp.) (Bouchard 2021: personal communication). The plantings do not match Palmer's 1976 planting plan nor his updates from 1979 to 1984. There is no central dogwood or crabapple tree in the smaller planter on the deck as depicted in Palmer's planting plans, but instead a cluster of winterberry shrubs interplanted with aster and switch grass. These plantings again are inconsistent with both Palmer's 1976 planting plan and his subsequent 1979-1984 revisions (later revised plan sets do not include the Pentagon Reservation).

Analysis:

The vegetation within LYBA is not entirely consistent with the property's period of significance. While the canopy on the island is largely intact, the shrub layer is mostly gone except for the cherrylaurel throughout the site. Of the roughly 900 pines Palmer included in his original design, only 467 contributing white pines are extant within LYBA's boundaries today. The viburnums, witch hazel, and cherrylaurel within the memorial grove and meadow continue to thrive. However, many of the azaleas are missing and those that survive are struggling. There are no longer any rhododendrons on site, which constituted a large amount of the memorial's shrub layer on the island. While the spatial organization of areas of turf remains consistent with the period of significance, the grasses of these areas have been overtaken by weeds such as wild strawberry (*Fragaria* sp.) and broadleaf plantain (*Plantago major*). The groundcover beneath the pine canopy of the memorial grove and bordering the meadow is no longer annually covered with pine mulch. The Pentagon Reservation vegetation in the two Palmer designed planters is not consistent with the period of significance plantings. The substitutions planted in these locations do not match the original planting design in form, massing, or habit and are incompatible. The white pines north of the Pentagon Reservation parking lot and willow oaks planted in the median are all that remains consistent with Palmer's planting plans on the Virginia side of the memorial. Despite these modifications, LYBA retains its overall integrity of vegetation.



Contributing Vegetation - (Full size graphics are located at the end of this report).



Non-Contributing + Undetermined Vegetation - (Full size graphics are located at the end of this report).



The megalith surrounded by the white pines of the memorial grove, facing west. Note the sparse shrub layer around the memorial plaza. (NPS 2021)



A daffodil bed from Palmer's planting design for LYBA, located just southeast of the pedestrian bridge at the entrance to the memorial grove, facing southeast. Note the social trail cutting through the daffodil bed. (NPS 2021)



View of the meadow, facing northwest. A mature poplar is visible on the left of the photo and a mature cluster of cherrylaurel shrubs dating to Palmer's planting plan is on the right. (NPS 2020)



The willow preserved by Palmer in his planting design for the meadow (left) and a mature stand of dogwoods (right), facing north. (NPS 2020)



The willow oaks and maples planted in the marina parking lot (left) and the naturalized vegetation along the Boundary Channel shoreline (right), facing southeast. (NPS 2021)



The vegetation in the large retaining wall-backed planter at the Pentagon Reservation entrance including black tupelo, switch grass, and dwarf Pennisetum, facing north. (NPS 2020)



The willow oaks planted in the median of the Pentagon Reservation parking lot as part of Palmer's design for LYBA, facing south. (NPS 2020)



A stand of four white pines north of the Pentagon Reservation parking lot. These are the only white pines on the Pentagon Reservation that remain from Palmer's design for LYBA, facing north. (NPS 2020)

Feature Name	Feature Contribution	CRIS-HS Name	CRIS-HS Number	Type of FMSS Record	FMSS Record Number	FMSS record an exact match?
Mature white pines throughout the memorial/memorial grove	Contributing	N/A	N/A	Asset	559390	Yes
Mature cottonwoods dating to the formation of Columbia Island (see vegetation site plans for locations)	Contributing	N/A	N/A	Asset	559390	Yes
Dogwoods associated with the Stone Plan	Contributing	N/A	N/A	Asset	559390	Yes

adjacent to the Columbia Island Marina parking lot						
Mature trees associated with the 1932 Simonson Plan along the road of the GWMP including pear, goldenrain, cherry, and sophora trees	Contributing	N/A	N/A	Asset	559390	Yes
Daffodil bed near the pedestrian bridge island entrance from Palmer's planting plan	Contributing	N/A	N/A	Asset	559390	Yes
Dogwoods associated with the Palmer planting plan in the meadow	Contributing	N/A	N/A	Asset	559390	Yes
Shrubs associated with the Palmer planting plan including azalea, summersweet, witch hazel, cherrylaurel, and viburnum	Contributing	N/A	N/A	Asset	559390	Yes
Mature willow oaks in the memorial grove, Columbia Island Marina parking lot, and Pentagon Reservation parking lot	Contributing	N/A	N/A	Asset	559390	Yes
Mature sycamores in the memorial grove and Columbia Island Marina parking lot	Contributing	N/A	N/A	Asset	559390	Yes
Trees and shrubs in the planters at the Pentagon Reservation parking lot including service berry, winterberry, and black tupelo	Non Contributing-Incompatible	N/A	N/A	Asset	559390	Yes
Trees planted by Casey Trees in 2018 along the Boundary Channel shoreline	Non Contributing-Compatible	N/A	N/A	Asset	559390	Yes

Dogwood and eastern redbud trees planted by Casey Trees in 2018 within the memorial grove area	Non Contributing-Incompatible	N/A	N/A	Asset	559390	Yes
Mature trees east and west of the Columbia Island Marina parking lot including maple, black walnut, sycamore, and cherry trees	Undetermined	N/A	N/A	Asset	559390	Yes
Daffodil beds in the meadow and along the GWMP	Non Contributing-Compatible	N/A	N/A	Asset	559390	Yes

Circulation

Circulation refers to the spaces, features, and applied material finishes that constitute systems of movement in a landscape.

Parking Lots

Historic Condition:

Prior to the Period of Significance

There are two parking lots within the LYBA boundaries, one on the island shared with the Columbia Island Marina and one across the Boundary Channel on the Pentagon Reservation. Architect and landscape architect Horace W. Peaslee designed the Columbia Island Marina at the southern end of Columbia Island (present-day Lady Bird Johnson Park) in the mid-1950s. The parking lot was accessible from the parkway's southbound traffic via Columbia Island Marina's entry drive, which is immediately southeast of the present-day LYBA boundary. Although most of the marina lies outside of present-day LYBA, the northern portion of the parking lot is within the memorial's boundaries. NPS constructed the first two bays of the parking lot in 1956 (Arlington County Government 1957; Kelsch et al. 2009 Vol. 1: 154). They added a third bay north of the existing parking lot in 1963 (Arlington County Government 1962; Earley and Fanning 2005: 26; Kelsch et al. 2009 Vol. 1: 156). Existing condition plans prepared by LYBA's design team

shows that the northern end of the parking lot was fenced in and contained a tool shed most likely used as a boat repair yard (Palmer and the Mills & Petticord Partnership 1975: C3).

The area on the Pentagon Reservation where Palmer later sited the parking lot was adjacent to Boundary Channel Drive and Pentagon's north parking lot and southeast of the sewage treatment plant on the site. Before the construction of LYBA, the strip of land was planted with a row of trees and planted with turf. The shoreline appears to have been maintained with naturalized vegetation (Arlington County Government 1974).

During the Period of Significance (1974-1977)

As described above, LYBA was constructed in two phases. During Phase I of construction, the NPS partially demolished the northernmost bay of the existing Columbia Island Marina parking lot, including the portion used as a boat repair yard (Palmer and the Mills & Petticord Partnership 1975: C3). Palmer designed a new boat repair facility and additional parking further south, east of the snack bar and outside of LYBA's boundaries. He modified the parking lot to provide more room for the memorial grove plantings and to plant a buffer between the parking lot and the memorial plaza (Earley and Fanning 2005: 59). Palmer designed the parking lot's northern end to function as the secondary entrance to the memorial, although it was the first to be completed because of how the project was phased. The northern end of the parking lot terminated with an eight-foot wide, exposed aggregate sidewalk leading to the memorial grove's path system (Palmer and the Mills & Petticord Partnership 1975: C4, C11). Note that most of the marina parking lot was outside the limit of the project boundary as defined in Phase I drawings (Palmer 1975).

NPS constructed the parking lot on the Pentagon Reservation during Phase II of LYBA's construction and was accessible from Boundary Channel Drive to the southwest, which runs adjacent to the Pentagon's north parking lot and connected to I-395. Palmer designed the parking lot with two points of egress and 34 parking spots. The design included two marked accessible parking spaces southeast of the large planting bed positioned in the northern half of the parking lot. The parking lot was framed to the east by a sidewalk that was a combination of wooden

decking and exposed aggregate concrete. An irregularly shaped median ran along the western boundary of the parking lot separating cars from the traffic along Boundary Channel Drive planted with willow oaks, turf, and juniper at either end (Palmer and the Mills & Petticord Partnership 1976: C3, C4).

Post-Historic and Existing Conditions:

After the Period of Significance

Following the period of significance, the Columbia Island Marina parking lot was rehabilitated in 1995. The NPS replaced some of the curbing during this time and added six marked accessible parking spots within the LYBA boundaries, four near the existing Palmer designed ramps at the northern end of the lot and two near a curb cut and ramp added near the southern LYBA boundary just northwest of the loop off of Columbia Island Marina's entry drive (National Park Service 1995: sheet 22). The rehabilitated parking lot had a total of approximately 360 parking stalls, about 225 of those within LYBA's boundaries (the original capacity of this parking lot is unknown).

When JMA rehabilitated LYBA in between 2000 and 2003, they reconfigured the parking spaces in the Pentagon Reservation parking lot increasing the number of spots to 38. They also widened the two marked accessible parking spaces and demolished the two separate ramps to the sidewalk, replacing it with one central ramp for both marked accessible parking spaces (John Milner Associates 2000: A-2b). The median of the Pentagon Reservation parking lot was incompatibly modified between August 2004 and March 2005, jutting west at its northern end apparently as a traffic calming measure along Boundary Channel Drive (US Geological Survey 2004; US Geological Survey 2005).

Existing Condition

The parking lots within LYBA only changed minimally since the property's period of significance and for the purposes of increasing accessibility as described above. The parking lot adjacent to the marina is used for boat storage when the facility is open as well as for visitor parking. The

median of the Pentagon Reservation parking lot is still used for parking at the memorial's Virginia entrance.

Walkways and Trails

Note: Information in this portion of the Historic Condition section for Circulation is organized spatially during the period of significance in the following categories: memorial grove, meadow, Columbia Island Marina parking lot, and the Boundary Channel shoreline and Pentagon Reservation. Information is presented chronologically within each subsection.

Historic Condition:

Prior to the Period of Significance

Prior to the construction of LYBA, there was an informal dirt path, possibly a social trail, leading from the Columbia Island Marina parking lot north along the naturalized vegetation of the Boundary Channel on the island's western shore (Arlington County Government 1962; Arlington County Government 1967). A walk possibly paved with asphalt, led from the marina parking lot to 33-inch-wide spurs connected to piers that projected into the Boundary Channel by 1962 (Arlington County Government 1962; Washington Service Center 1966: sheet 1).

A 1966 as-built plan set for the Columbia Island Marina depicts a walkway of unknown material to the east of the parking lot, spanning the middle parking bay, which is within the present-day LYBA boundaries, to the end of the southernmost bay, which lies outside of the memorial's boundaries. This walkway connected to the concrete pad of a bus shelter near the Columbia Island Marina entry road and immediately adjacent to the southern border of present-day LYBA.

During the Period of Significance (1974-1977)

Memorial Grove

In early conceptual phases of the LYBA design, Palmer had already decided that the main entrance to the memorial on the island would be via a pedestrian bridge that spanned the Boundary Channel from the Pentagon Reservation (Palmer 1974: 2). Although the NPS did not build the bridge and entrance at the Pentagon Reservation until Phase II of LYBA's construction,

they constructed the primary path that leads from the Boundary Channel shore to the memorial plaza during Phase I. This path measured 12 feet in width and traveled in an arc from the Boundary Channel framed by earthen mounds planted with white pines specified by Palmer in his grading plan. The path's two-inch thick pavers were arranged in a random ashlar pattern and set on a one-inch setting bed over a four-inch-thick Portland cement base on top a four-inch stone base (Palmer and the Mills & Petticord Partnership 1975: C6, C11). Traveling south, about halfway along the path's arc, the path reverses to create the tail of a tight spiral that winded its way to the memorial plaza, widening gradually immediately south of the plaza (Palmer and the Mills & Petticord Partnership 1975: C5). Before completion of the pedestrian bridge, the flagstone walkway terminated roughly 30-feet from the Boundary Channel shoreline on the island. Contractors built the rest of the flagstone walkway to meet the wooden deck on the island side of the Boundary Channel that led to the pedestrian bridge, flaring slightly at its western terminus to 13 feet to match the width of the deck (Palmer and the Mills & Petticord Partnership 1976: C4, C6). The finished length of the path was approximately 700 feet.

The flagstone path intersected with two secondary path systems, distinguishable by their different paving material, brown pea gravel topped asphalt with steel edging, and narrower width of eight feet. The first of these secondary paths joined the flagstone walkway southwest of the spiral and stretched south in an arc toward the Columbia Island Marina parking lot. This path divided into two spurs approximately 110 feet from the northern end of the parking lot leading to a band of exposed aggerate concrete curving around the parking lot's terminus. The eight-foot-wide sidewalk formed a neat arc intersecting with the border of the parking lot's northernmost bay and flared to 12 feet in width to accommodate two benches at the center of the arc. The asphalt spurs connected to two accessibility ramps in the concrete sidewalk (Palmer and the Mills & Petticord Partnership 1975: C4, C11). Palmer intended this area to be the secondary entrance to LYBA, although due to the way the project was phased, NPS built it before the primary entrance (Palmer 1974: 3). Palmer included two benches with "Sunset Red" granite bases between the two spurs and it is likely that one of the two original Palmer designed signs giving the full name of the memorial was installed near this intersection (Earley and Fanning 2005: 125-26). (For more information on benches and signage, see the Small-Scale Features section of this chapter).

Meadow

The meadow's circulation system was the other secondary path system that intersected with the flagstone pathway. Palmer conceived of the meadow as a space for passive recreation describing the visitor experience in 1974: "A secondary path will loop northward from the footbridge providing the visitor an opportunity for strolling or picnicking in an area of towering pines surrounding an open meadow of irregular outline" (Palmer 1974: 2). The irregular shape of the meadow was highlighted by its irregularly looping pathways. The circular meadow path was bisected along its southern quarter, creating two interconnected loops. These paths, like the secondary path leading to the marina parking lot, were eight feet wide topped with pea gravel coated asphalt and bordered with steel edging. The two loops were of different sizes, with the smaller loop intersecting the flagstone walkway in three locations, the first northeast of the bridge entrance from the Boundary Channel and the other two further south forking around the two granite drinking fountains northwest of the memorial plaza. This smaller loop served as a transitional space between the memorial grove and the meadow buffering the commemorative space of the memorial plaza from the recreational space of the meadow. Palmer preserved many of the mature trees along the path that ran between the two loops, creating a vegetative screen that enhanced this buffer. Palmer clustered picnic tables along either side of the bisecting path, taking advantage of the shade of the mature trees and also absorbing this portion of the smaller loop into the passive recreational use afforded by the meadow (Palmer and the Mills & Petticord Partnership 1975: C6).

The larger loop through the meadow surrounded an expanse of turf dotted by specimen trees including willows and cottonwoods and small clusters of picnic tables. The outer edge of the path was shaded by white pines interspersed with mature trees that predated construction of the memorial. To the east of the path, berms shielded the meadow was from noise of the parkway's traffic and to the west the dense volunteer vegetation along the Boundary Channel bordered the path. Palmer evenly spaced benches along the loop at regular intervals alternating sides of the path every other bench. The path flared out at these points to accommodate the width of the bench (Palmer and the Mills & Petticord Partnership 1975: C7, C8).

Walkways Adjacent to the Columbia Island Marina Parking Lot

As discussed above, an exposed aggregate sidewalk framed the northern edge of the parking lot bordering the entrance to the memorial grove and connecting to the memorial's circulation system. In addition to this walkway at its northern border, Palmer maintained the existing circulation paths through the Columbia Island Marina parking lot described above, one measuring four feet, three inches wide to the west leading to piers along the Boundary Channel and one measuring eight feet in width to the east connecting to the bus shelter at LYBA's southeastern border. The design team's 1975 plan labels the western walk as paved with macadam (asphalt) and it is likely that the eastern path was similarly paved (Palmer and the Mills & Petticord Partnership 1975: C1). Both paths laid outside Palmer's project boundaries (Palmer 1975). By maintaining this earlier circulation related to boating activities in his parking lot design, Palmer was establishing a connection between the memorial and this existing recreational use at the marina.

Pentagon Reservation

The NPS constructed the bridge over the Boundary Channel and primary entrance to LYBA during Phase II of the memorial's construction. GWMP absorbed the timber pedestrian bridge into its larger network of multi-use trails when it was constructed (Leach 1994: 2). Palmer framed the Pentagon Reservation parking lot with a mixed material sidewalk and designed with chamfered corners at either end (Palmer and the Mills & Petticord Partnership 1976: C3). At the time of the Pentagon Reservation entrance's construction, there were no sidewalks west of Boundary Channel Drive adjacent to the channel's shoreline in the vicinity of LYBA (Arlington County Government 1974; Arlington County Government 1983). The design team must have anticipated that there would eventually be a pedestrian circulation system along the roadway, because Palmer incorporated a narrow three-and-a-half-foot "jogging trail" down the length of the median at the parking lot's western edge, bisected by two eight-foot wide, exposed aggregate crosswalks. Plans specify the jogging course as covered with a one-inch surface course of unspecified material laid over a four-inch stone base (Palmer and the Mills & Petticord Partnership 1976: C3). Aerial imagery from 1983 shows that the trail was installed, but it is unclear whether it was paved (Arlington County Government 1983).

The sidewalk edging the northern and southern boundaries of the parking lot were eight feet in width and paved in exposed aggregate concrete (Palmer and the Mills & Petticord Partnership 1976: C2, C3). Along the eastern edge of the parking lot, the material of the sidewalk transitioned to wooden decking measuring approximately seven inches in width, bordered by a band of approximately two feet, four inches wide, exposed aggregate concrete adjacent to the parking lot. A large, raised planter projected into the parking lot north of its midpoint, measuring approximately 134 feet in length by 19 feet in width and backed by a stone-faced, concrete retaining wall to the northeast. The sidewalk, paved entirely in exposed aggregate concrete, widened to 13 feet north and south of the planter, narrowing slightly to nine feet, six inches as it curved around its corners and expanding again along the planter's western edge to accommodate four benches (Palmer and the Mills & Petticord Partnership 1976: C3, C6).

Northeast of the planter, the sidewalk intersected with a staircase that led to the deck, wrapping around a small, polygonal raised planter. Palmer also surfaced the stairway in exposed aggregate concrete divided into four flights of between two and three risers and measuring 11 feet in width. The parking lot sidewalk southwest of the planter featured two ramps projecting into parking spaces reserved for visitors with disabilities and intersected with a 12-foot-wide exposed aggregate concrete ramp that led to the deck northeast of the large planter and retaining wall (Palmer and the Mills & Petticord Partnership 1976: C6).

The wooden deck adjacent to the Pentagon Reservation parking lot joined the wooden pedestrian bridge across the Boundary Channel and terminated with a second deck on the island side of the memorial entrance. (For more details about the wooden decks and bridge, see the Buildings and Structures section of this chapter). This wooden deck led to the flagstone path, which is the primary pedestrian circulation system of LYBA and was discussed in detail above.

Post-Historic and Existing Conditions:

Note: Information in this section is organized spatially in the following categories: memorial grove, meadow, Columbia Island Marina parking lot, and the Pentagon Reservation. Information is presented chronologically within each subsection.

After the Period of Significance

Memorial Grove

In 2000, the NPS hired the firm JMA to complete a rehabilitation project at LYBA. As part of this work, JMA removed all of the flagstone pavers of the primary path through the memorial grove along with the pointing and setting mortar, salvaging the pavers measuring between one-and-three-quarters to two inches in thickness for reuse and replacing thinner pavers in-kind. A portion of the unused salvaged pavers were to be stored at a facility on Daingerfield Island. Contractors left the concrete substrate in place for the length of the walkway except for the portion of the walk closest to the deck at the Boundary Channel (John Milner Associates 2000: A-5a). In this location, contractors replaced the concrete substrate to accommodate a new metal trench drain measuring one-foot and two-inches. The metal drain was setback approximately 23 feet from the edge of the wooden deck. JMA also added a new flagstone band at the junction of the flagstone path and the wooden deck that measures two feet in width and 12 feet in length (John Milner Associates 2000: A-5c).

JMA removed the existing asphalt paving of the secondary path leading to the Columbia Island Marina parking lot, repairing the existing aggregate stone base and repaving with new seeded aggregate over asphalt, bordering the entire walkway with new steel edging (John Milner Associates 2000: A-4b). The NPS consulted Palmer on JMA's proposed changes to the asphalt paving and he strongly supported maintaining the secondary paths as seeded asphalt rather than paving them with exposed aggregate concrete. He also supported maintaining the metal edging around the path system to prevent deterioration of the asphalt paths (Lyndon B. Johnson Memorial Grove, Darwina Neal Beautification Files, National Capital Region). JMA flared the asphalt path where it intersected with the flagstone walkway, increasing its width to 24 feet and mediated this transition with a new, two-foot-wide flagstone border (John Milner Associates 2000: A-4c). As part of repaving the two asphalt spurs leading to LYBA's entrance at the marina parking lot, JMA added a new one-foot-wide flagstone band between the asphalt of the path and the exposed aggregate concrete sidewalk bordering the northern edge of the parking lot (John Milner Associates 2000: A4c).

Meadow

JMA resurfaced the secondary pathways that looped through the meadow, leaving the aggregate base, and paving with new asphalt topped with gravel seeded aggregate. The firm also replaced the steel edging along the walkways throughout the meadow at this time. They increased the width of the flares along the two meadow loops where benches were sited from nine feet, four inches wide to 11 feet, eight inches (John Milner Associates 2000: A-5b, A-6b). At the point where the small meadow loop intersects at the northeast part of the flagstone path, JMA widened this point of intersection to 21 feet and added a new band of two-foot-wide flagstone pavers at the junction between the paths (John Milner Associates 2000: A-5c). Similarly, JMA created new two-foot-wide flagstone bands at the junctions between the two asphalt spurs framing the granite fountains to the southeast and widened the connection point of the asphalt spur furthest south to 18 feet (John Milner Associates 2000: A-5d).

Columbia Island Marina Parking Lot

During the 1995 rehabilitation of this parking lot, the NPS resurfaced the existing asphalt pedestrian walkway along the eastern edge of the southernmost bay within the LYBA boundaries. The walkway measured approximately eight feet in width and the surface was replaced in-kind. At this time the park also installed two accessibility ramps along this sidewalk near LYBA's southern border and constructed a new asphalt sidewalk around the vehicular loop of the marina's entry drive extending east towards the parkway but terminating before the intersection. This path measured approximately five feet in width. The plan noted that a portion of the asphalt walk east of the vehicular loop was existing prior to the 1995 rehabilitation (National Park Service 1995: sheet 16).

Pentagon Reservation

As part of JMA's rehabilitation of the LYBA entrance on the Pentagon Reservation, the firm made repairs to the concrete sidewalk repairing cracked and depressed areas of the exposed aggregated concrete and replacing damaged curbs and gutters (John Milner Associates 2000: A-2a). At this time, JMA removed the two separate concrete ramps leading to the marked accessible parking spots and created one central ramp with a broom finish, rather than exposed aggregate (John

Milner Associates 2000: A-2c). The firm also modified the 12-foot-wide ramp leading down to the deck from the parking lot, sectioning off three feet at the western side divided from the rest of the ramp by a new galvanized metal pipe handrail. The firm changed the surface of the new three-foot section of ramp to broom brushed concrete and modified the slope to run down for a little over 34 feet at a 1:14 slope followed by a five-foot landing and then down for the remaining 28 feet to the wooden deck at a 1:12 slope. They repaired cracks in the remaining portion of the ramp, but did not modify the slope or material from the original design (John Milner Associates 2000: A-2h). Likewise, JMA repaired damage to the exposed aggregate concrete surface of the steps at the northeast side of the parking lot, saw cutting the surface material away, but maintaining the underlying rebar and replaced the steps in-kind (John Milner Associates 2000: A-2f). JMA replaced the wooden planks of the walkway on both sides of the large planter in the parking lot and replaced the handrails along this walkway using pressure treated wood (John Milner Associates 2000: A-2b note 6).

Aerial photography suggests that the jogging trail that Palmer designed in the middle of the parking lot median was eliminated when the median was modified between August 2004 and March 2005 (US Geological Survey 2004; US Geological Survey 2005). A sidewalk was added south of the Pentagon Reservation entrance connecting to the edge of sidewalk in the original Palmer design beginning in October 2012 and complete by October 2013 (US Geological Survey 2012; US Geological Survey 2013).

Existing Condition

The circulation throughout LYBA is generally consistent with the period of significance for the site. The NPS has not modified the routes within each spatial area and the changes JMA made to the surfaces of the ramps at the Pentagon Reservation were made to increase accessibility. The biggest change to the original walkways and trails is the elimination of the jogging trail along the Pentagon Reservation parking lot median.

The Materials and measurements of LYBA's walkways and trails remain consistent with the historic and post-historic conditions described above and are summarized here:

- The **flagstone path** through the memorial grove leads from the Boundary Channel shore to the memorial plaza and measures 12 feet in width.
- The two **flagstone aprons** associated with the granite drinking fountains and the accessible drinking fountain on the island both measure ten feet by nine feet.
- The **asphalt path at the marina entrance** is a forked walkway that intersects with the flagstone path southwest of the memorial plaza and leads to an exposed aggregate sidewalk at the marina parking lot. The material of the path is pea gravel topped asphalt with steel edging and measures eight feet in width. As part of repaving the two asphalt spurs, JMA added a new one-foot-wide **flagstone edging** between the asphalt of the path and the exposed aggregate concrete sidewalk.
- The **exposed aggregate sidewalk at the marina entrance** measures eight-foot wide and forms an arc along the northernmost bay of the marina parking lot. The width of the sidewalk flares to 12 feet near the arc's center to accommodate two benches with granite bases.
- The **asphalt path through the meadow** is a looped path that intersects with the flagstone path in three places northwest of the memorial plaza. It is made of pea gravel topped asphalt bordered with steel edging and measures eight feet in width.
- The **marina parking lot asphalt path along the shoreline** (west of the parking lot) measures four feet, three inches in width and connects to a series of 33-inch-wide asphalt spurs.
- The **asphalt paths east of the marina parking lot and adjacent to the entry drive** measure eight feet in width.
- The **Pentagon Reservation sidewalks** bordering the parking lot measure eight feet in width. Along the eastern edge of the parking lot, the material transitions to wooden decking that measures approximately seven inches in width, bordered by a band of approximately two feet, four-inch-wide exposed aggregate concrete. A raised planter projects into the parking lot north of its midpoint and the sidewalk widens to 13 feet north and south of the planter, narrowing slightly to nine feet, six inches as it curves around its corners and expands again along the planter's western edge to accommodate four benches.
- The non-contributing **Pentagon Reservation sidewalk south of the parking lot** is approximately six feet in width and made of concrete with a smooth finish.

There are social trails around the megalith, north of the meadow, and along the western shoreline north and south of the entrance from the pedestrian bridge. The social trails around the megalith constitute the most substantial deviation in how visitors move through the site from the original design. There are at least three, possibly four, social trails around the memorial plaza. There is one west of the plaza connecting to the flagstone path that measures 44 inches in width. A second 12-inch-wide social trail north of the plaza does not connect directly to a formal path but is instead used by visitors as a short cut between the southern end of the meadow loop and the megalith. There is another 12-inch-wide path connecting from the memorial grove southwest of the plaza to the flagstone path. The final possible social trail is not well defined and measures around eight inches in width and is likely an animal path.

Overall, circulation via walkways and trails through the memorial is intact. The formal circulation through the memorial grove, meadow, and two parking lots are legible and direct visitors through the site consistent with the period of significance.

The Boundary Channel

Historic Condition:

The Boundary Channel, constructed as part of Columbia Island's creation between 1915 and 1927 served as a recreational waterway soon after it was completed, with informal docks along its shores as early as the 1930s (Chenot et al. 1992 Vol. 1: 24-26). The construction of the Columbia Island Marina, designed by Peaslee in 1955 and constructed between 1956 and 1965, formalized the use of the Boundary Channel for recreational boating and boat storage, with access to the Potomac River to the south via the Columbia Lagoon. (See the physical history or the Vegetation section of this chapter for more details about Peaslee's design).

During the period of significance, Palmer shortened the northern bay of the Columbia Island Marina parking lot, which included an area used for boat repairs. NPS relocated the parking and the boat repair yard further south as detailed above in the discussion pertaining to parking lots at LYBA. Although LYBA's design necessitated these minor changes to the layout of the Columbia Island Marina, it did not change its use as a recreational waterway, as evidenced by the

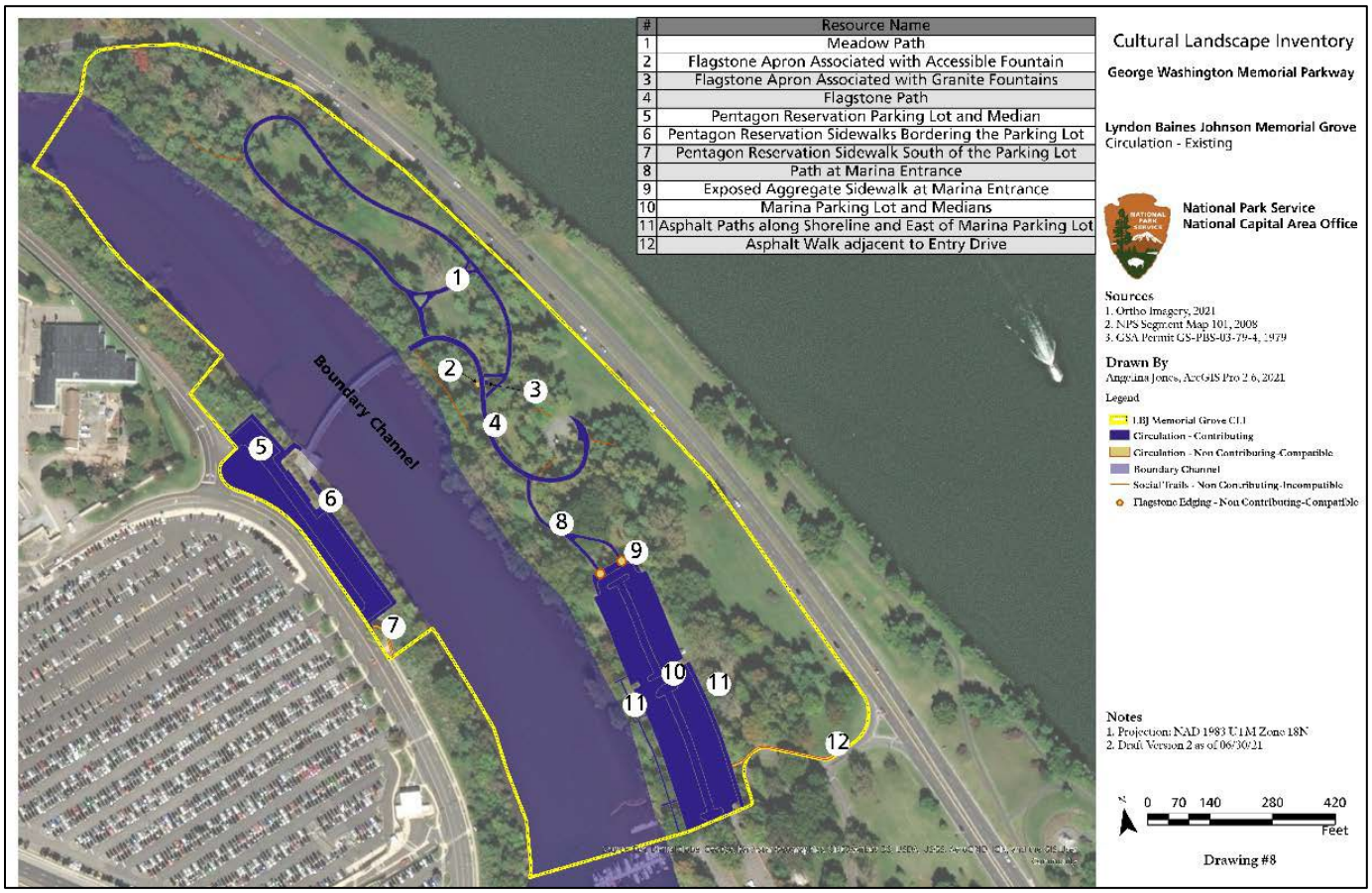
persistence of piers projecting into the Boundary Channel through LYBA's construction and completion, with a total of four within the boundaries of the memorial in 1979 (National Park Service 1979).

Post-Historic and Existing Conditions:

The Boundary Channel is still used as a recreational waterway, although the number of piers within the LYBA boundaries is diminished to one. The marina parking lot is used for boat storage when the marina is open. Due to siltation, the channel is not deep enough for most boats to navigate, but canoers and kayakers travel the length of the channel. (For more information about the historic and existing condition of the Boundary Channel, please see the Constructed Water Features section of this chapter).

Analysis:

LYBA retains integrity of circulation. The original parking lots at the Pentagon Reservation and the Columbia Island Marina entrances retain the same footprint and the NPS has only minimally modified them to increase accessibility. The pedestrian circulation through the memorial grove, meadow, and the two entrances is consistent with Palmer's original design and the period of significance.



#	Resource Name
1	Meadow Path
2	Flagstone Apron Associated with Accessible Fountain
3	Flagstone Apron Associated with Granite Fountains
4	Flagstone Path
5	Pentagon Reservation Parking Lot and Median
6	Pentagon Reservation Sidewalks Bordering the Parking Lot
7	Pentagon Reservation Sidewalk South of the Parking Lot
8	Path at Marina Entrance
9	Exposed Aggregate Sidewalk at Marina Entrance
10	Marina Parking Lot and Medians
11	Asphalt Paths along Shoreline and East of Marina Parking Lot
12	Asphalt Walk adjacent to Entry Drive

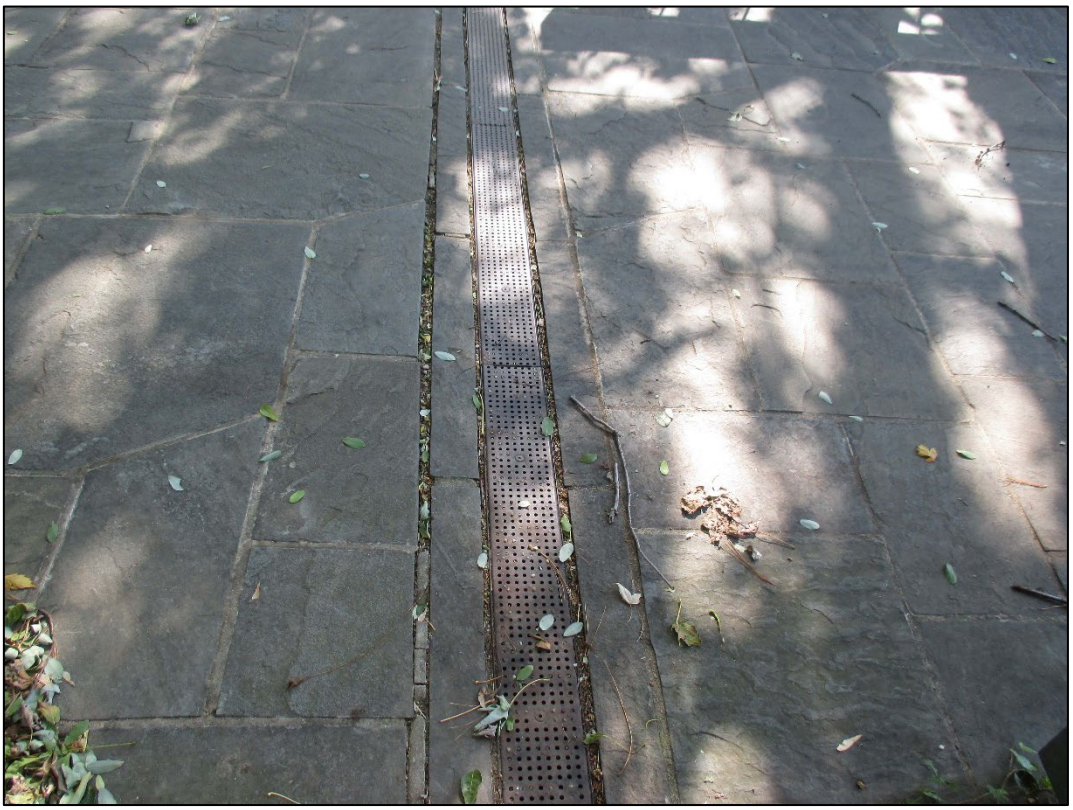
Circulation - (Full size graphics are located at the end of this report).



View of the flagstone path leading through the memorial grove to the memorial plaza, facing west. (NPS 2021)



Point of junction between the flagstone path and the asphalt meadow loop northeast of the pedestrian bridge. Note the flagstone border introduced during the JMA rehabilitation (2000-2003), facing north. (NPS 2021)



Detail of the trench drain added east of the pedestrian bridge and deck on the island side as part of the JMA rehabilitation (2000-2003). (NPS 2020)



Asphalt path of the meadow loop, facing southeast. (NPS 2020)



Social trail northwest of the meadow loop, facing northwest. (NPS 2021)



Asphalt path leading from the Columbia Island Marina parking lot entrance to the memorial grove, facing north. (NPS 2021)



Metal edging along the asphalt paths throughout the site (typ.). (NPS 2021)



View of the Columbia Island Marina parking lot, facing south towards the Boundary Channel. (NPS 2021)



Asphalt path east of the Columbia Island Marina parking lot, facing north. (NPS 2021)



Asphalt path and spur west of the Columbia Island Marina parking lot, facing west. (NPS 2021)



Exposed aggregate sidewalk at the Columbia Island Marina entrance to LYBA, facing northwest. Note the flagstone band added between the concrete and asphalt walkways during the JMA rehabilitation (2000-2003). (NPS 2021)



The median of the Pentagon Reservation parking lot planted with willow oaks and adjacent to Boundary Channel Drive, facing southeast. (NPS 2021)



The Pentagon Reservation parking lot, facing southeast. (NPS 2020)



Accessibility ramps added to the Pentagon Reservation parking lot during the JMA rehabilitation (2000-2003), facing north. (NPS 2021)



Accessibility ramp added to the Pentagon Reservation entrance during the JMA rehabilitation (2000-2003), facing southeast. (NPS 2021)

Feature Name	Feature Contribution	CRIS-HS Name	CRIS-HS Number	Type of FMSS Record	FMSS Record Number	FMSS record an exact match?
Marina parking lot	Contributing	N/A	N/A	Location	93574	No
Pentagon Reservation Parking lot and median	Contributing	LBJ Mem Grove on the Potomac; West Parking Area	230679	Location	27288	No

Pentagon Reservation sidewalks bordering the parking lot	Contributing	LBJ Mem Grove on the Potomac; West Parking Area	230679	Location	27288	No
Exposed aggregate sidewalk at marina entrance	Contributing	N/A	N/A	Location	93574	No
Flagstone path through memorial grove	Contributing	N/A	N/A	Asset	1061925	Yes
Flagstone apron associated with granite drinking fountains	Contributing	N/A	N/A	Location	26802	No
Asphalt path through meadow	Contributing	N/A	N/A	Location	26802	No
Asphalt path at marina entrance	Contributing	N/A	N/A	Location	26802	No
Marina parking lot medians	Contributing	N/A	N/A	Location	93574	No
Marina parking lot asphalt paths along shoreline and east of parking lot	Contributing	N/A	N/A	Location	93574	No
Pentagon Reservation sidewalk south of the parking lot	Non Contributing-Compatible	LBJ Mem Grove on the Potomac; West Parking Area	230679	Location	27288	No
Flagstone apron associated with the accessible drinking fountain on the island	Non Contributing-Compatible	N/A	N/A	Location	26802	No
Flagstone edging at marina entrance	Non Contributing-Compatible	N/A	N/A	Location	26802	No
Asphalt walk adjacent to entry drive	Non Contributing-	N/A	N/A	Location	93574	No

	Compatible					
Social trails around the memorial plaza and along the island shoreline	Non Contributing- Incompatible	N/A	N/A	N/A	N/A	N/A

Buildings and Structures

Buildings are elements constructed primarily for sheltering any form of human activity in a landscape, while structures are elements constructed for functional purposes other than sheltering human activity.

Pedestrian Bridge and Entrance Decks

Historic Condition:

During the Period of Significance (1974-1977)

Palmer designed LYBA intending for visitors to enter from the Virginia side of the Boundary Channel. The main entrance, sited on the Pentagon Reservation and built during Phase II of construction, consisted of a parking lot at its western boundary featuring a large planter and retaining wall in the northern half. The entry deck approximately eight feet below the grade of the parking lot could be accessed from a stairway northeast of the planter and via a ramp to its southeast and measured approximately 2,200 square feet in area (Palmer and the Mills & Petticord Partnership 1976: C6). The deck led to an approximately 358-foot-long timber bridge measuring 13 feet in width from the center points of the handrails on either side and 14 feet in width total (Palmer and the Mills & Petticord Partnership 1976: C9; Butt and Bugarin 2017: 1). The bridge was divided into six spans built on piers and abutments resting on pile bents with spread footings, the longest span measuring 60 feet in length (Leach 1994: 2). The bridge joined another wooden deck on the island that was an asymmetrical polygon and measured approximately 185 square feet in area. The bridge slopes up from the decks on either end with a level central span that provided an eight-foot clearance at high tide (Earley and Fanning 2005: 107).

The planks of the decks and bridge were treated wood and measured two-and-a-half inches in width by five-and-a-half inches in length. The girders were specified as glued laminated timber (glulam) beams (Palmer and the Mills & Petticord Partnership 1976: C4). The handrails were bolted directly to the glulam beam substructure and measured two feet and ten inches in height (Palmer and the Mills & Petticord Partnership 1976: C5). The railing along the decks and bridge both featured concealed lighting. The deck on the Pentagon Reservation featured two benches at its southern edge and the deck on the island had a bench at the southeast edge.

Post-Historic and Existing Conditions:

After the Period of Significance

Within three years following completion of LYBA's pedestrian bridge, the NPS needed to make modifications to the structure to ensure that it would not sway under the weight of crowds visiting the island to view Fourth of July fireworks each year (Earley and Fanning 2005: 107). In 1980, NPS reinforced the bridge's support structure with wire cables (National Capital Region 1980).

During JMA's rehabilitation of LYBA, the firm modified the bridge to meet ADA accessibility requirements and current codes. Palmer stated that the new design, "retains as far as possible the character of the original [bridge]" (Lyndon B. Johnson Memorial Grove, Darwina Neal Beautification Files, National Capital Region). During this project, contractors removed the wooden planks and handrails of the pedestrian bridge and both decks (John Milner Associates 2000: A-3a, A-3b). Contractors salvaged the light fixtures built into the railings and all the bolt hardware to the extent possible, replacing items in-kind that could not be salvaged. The project's as-built drawings specified that the new railings be made of pressure treated wood. The new handrails were taller than the existing, measuring three feet, six inches in height, but JMA designed the pitched profile of the new handrail to match that of Palmer's design (John Milner Associates 2000: A-3b). The firm extended the railing along the flagstone path to increase accessibility (John Milner Associates 2000: A-3f). JMA added one-half-inch thick cylindrical steel rods between the wooden balusters of the railings along the bridge, decks, and the plank walkways as part of this work and added one-and-one-fourth-inch galvanized steel pipe

handrails offset below the wooden handrailing of the original design (John Milner Associates 2000: A-2e, A-3b). The replacement planks for the decking likewise was of a larger dimension than the original, measuring three inches by six inches (John Milner Associates 2000: A-3e). Although the substructure of glulam girders, wood-frame diaphragms, and pilings were preserved during this project, the contractors repaired deteriorated wood of the underlying glulam beams and fill all the holes from removed hardware with epoxy. JMA's draft treatment plan states that all wooden elements would be coated with a transparent gray weathering stain to even the tone of the new wood, but that the coating should be allowed to wear away as the wood achieved a natural patina (Lyndon B. Johnson Memorial Grove, Darwina Neal Beautification Files, National Capital Region).

In 2004, GWMP staff painted the pedestrian bridge and wooden decks with a blue-gray colored weather sealer meant to retard the deterioration of the bridge's wooden components and simulate the look of weathered wood. The sealer was subsequently reapplied in 2012 and in 2017 (NPS PEPC: 71123).

Existing Condition

The bridge and decks at the Pentagon Reservation entrance to LYBA have been minimally changed since the period of significance, primarily to meet new safety requirements and to increase the overall stability of the structure. These changes include the addition of metal cables in 1980 and modifications to the design of the handrails in 2003, including increasing their height and adding metal rods between the wooden balusters. These changes were necessary as part of rehabilitating the bridge and do not compromise the integrity of the structure. The wooden bridge measures approximately 358 feet in length and about 13 feet in width from the center points of the handrails. The handrails are three feet, six inches in height and made of pressure treated wood. The wooden deck adjacent to the Pentagon Reservation is approximately 2,200 square feet in area and the wooden deck on the island is approximately 185 square feet in area. The blue-gray colored sealer on the bridge and decks is worn throughout and the wood beneath is beginning to deteriorate. The design, materials, and use of the pedestrian bridge and decks are consistent with the period of significance.

Flagstone Plaza and Megalith

Historic Condition:

During the Period of Significance (1974-1977)

Palmer designed the spiral flagstone walkway through the memorial grove to merge into the oval footprint of the plaza. (See the Circulation section of this chapter for details about this feature). The flagstone pattern of the memorial plaza matched that of the rest of the flagstone walkway set in a random ashlar pattern set (Palmer and the Mills & Petticord Partnership 1975: C5, C6). Palmer specified use of two-inch-thick flagstones within the memorial plaza set on a one-inch setting bed over a six-inch-thick portland cement concrete base. The plaza was installed over a six-inch stone base and edged by a gravel pocket set with a four-inch diameter plastic pipe for drainage (Palmer and the Mills & Petticord Partnership 1975: C11).

The megalith sculpted by Harold Vogel sat along the southwestern edge of an irregular polygonal planting bed located at the center of the plaza. The megalith served as the focal point of the grove, situated on a small mound included in Palmer's grading plan for the site. Palmer intended the megalith to direct visitors' view to the monuments across the Potomac River including the memorials to the Lincoln, Washington, and Jefferson, and to visually reference the obelisk of the Washington Monument (Palmer 1974: 2). Vogel sculpted the megalith out of a "Sunset Red" granite block, quarried in Texas and characterized by its pink hue with veining, originally measuring seven feet in diameter and 19 feet, seven inches tall (Reservation 344, Reservation Files, National Capital Region). Vogel sculpted the megalith on site in a temporary location east of the northern bay of the marina parking lot (Palmer and the Mills & Petticord Partnership 1975: C1). The finished megalith measured approximately 19 feet in height and weighed 43-tons placed on axis with Maryland Avenue across the Potomac River (Earley and Fanning 2005: 109). The megalith was set on a poured concrete foundation laid on top of compacted fill. The foundation measured seven feet, eight inches by five feet at grade and eleven feet, eight inches by eight feet, eight inches at its base below grade (Palmer and the Mills & Petticord Partnership 1975: C11). Contractors levelled the megalith with a shim placed over the base during the megalith's installation and filled the junction between the megalith and the base with grout.

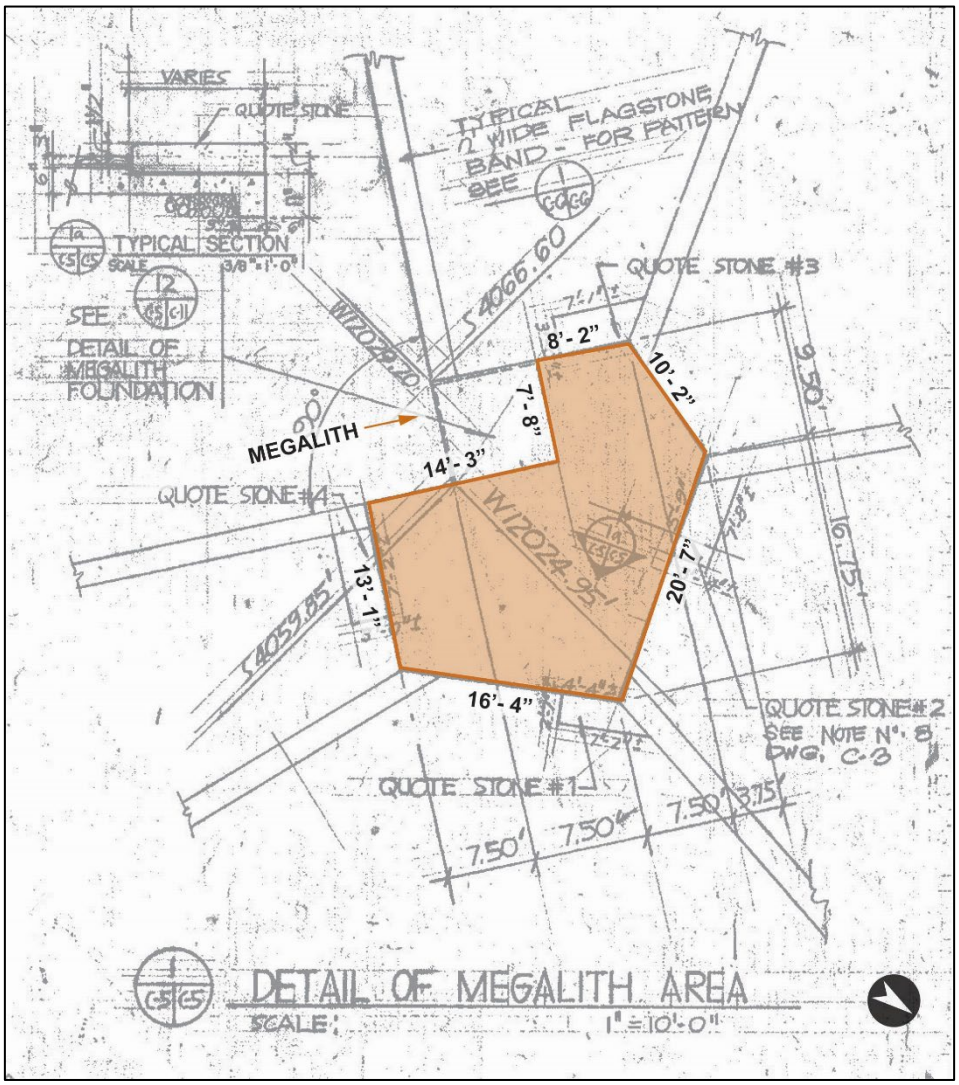
Post-Historic and Existing Conditions:

After the Period of Significance

JMA rehabilitated the memorial plaza as part of their work at LYBA. The firm removed the damaged flagstone pavers and setting mortar for the flagstone walkway directly south of the memorial plaza and within the plaza itself. The firm estimated that they would need to replace 1,500 damaged pavers in-kind (John Milner Associates 2000: A-5a).

Existing Condition

The memorial plaza and megalith are consistent in the present day with the original design of the memorial. The current measurements of the memorial plaza are approximately 86 feet, six inches north to south and 99 feet, six inches east to west. The polygonal planting bed at the center of the memorial wraps around the northwest and northeast edges of the monument. Refer to the figure below for measurements. The 12-foot-wide flagstone walkway flares as it approaches the memorial plaza and its width increases to 19 feet, six inches at the point it intersects the plaza. The memorial plaza and megalith have not been altered since the memorial's construction, although JMA replaced some of the pavers in-kind during their rehabilitation project.



Detail from Palmer's 1975 plan set for LYBA's construction annotated with the dimensions for the planting bed around the megalith. NPS Technical Information Center LYBA_835_80013A_[233270].

Retaining Walls

Historic Condition:

During the Period of Significance (1974-1977)

Memorial Grove

Palmer visually reinforced the spiral of the flagstone walkway and memorial plaza with a low retaining wall that encircled the southern half of the path and the entire plaza. The wall created a slightly raised planting bed of varying height, but never raised more than eight inches above the

finished grade. Palmer accented the wall with two-foot-wide flagstone coping measuring two inches thick and set on a one-inch setting bed over an exposed aggregate concrete base with a slight pitch to shed water. The concrete base below grade measured approximately two feet, six inches in width (Palmer and the Mills & Petticord Partnership 1975: C5, C11).

Pentagon Reservation

Palmer's design for the Pentagon Reservation entrance featured a large retaining wall holding a planting bed that projected into the northern half of the parking lot and negotiated the eight-foot grade change between the parking lot and the entry deck. This central retaining wall also supported a smaller, irregularly shaped raised planting bed at the northwestern corner of the entry deck, framed by the parking lot stairway. The ramp to the parking lot ran along the retaining wall with the highpoint located at its southeastern corner.

NPS constructed the retaining wall of poured concrete with a stone veneer arranged in a random ashlar pattern set with mortar. The stone veneer was made of a type of micaceous schist stone referred to as "Stoneyhurst stone" in the drawings (Palmer and the Mills & Petticord Partnership 1976: C5). Palmer specified that the poured concrete wall measure four inches in thickness above grade and ten inches below grade. The stone veneer courses measured about six inches in thickness. Palmer included a five-foot by three-foot panel made of diagonal wooden planks in his design to be installed as part of the retaining wall veneer of the main entrance deck. This wooden panel housed the speakers and controls for a recording of Lady Bird Johnson discussing the design of the memorial and how it reflected her husband's accomplishments as president (National Park Service 1977; Palmer and the Mills & Petticord Partnership 1976: C6).

Post-Historic and Existing Conditions:

After the Period of Significance

Memorial Grove

During JMA's rehabilitation of LYBA between 2000 and 2003, the firm specified that contractors should repoint all the coping stone along the retaining wall of the memorial grove matching the

original mortar formulation (John Milner Associates 2000: A-5b). The drawings do not indicate that contractors replaced any of the coping flagstone during this project.

Pentagon Reservation

JMA treated the retaining wall and polygonal planter at the memorials' Pentagon Reservation entrance. To prepare for the work, contractors removed the upper coping stones, a course measuring about eight inches in height, salvaged to be replaced in a new mortar bed after work was completed (John Milner Associates 2000: A-2a). The team replaced about ten linear feet of the stone veneer of both the retaining wall and the smaller planting bed. The replacement stones were selected to match the color and texture of the existing micaceous schist stone. Contractors repointed the retaining wall with a mortar that matched the original in composition and color and cleaned the efflorescence off of the retaining wall and the planting bet (John Milner Associates 2000: A-2b). In 2002, the recording at the Pentagon Reservation set into the retaining wall was extant and functional (Earley and Fanning 2005: 59, 125).

Existing Condition

The retaining walls at LYBA are consistent with Palmer's original design. The low retaining wall that frames the flagstone walkway and memorial plaza within the memorial grove is unchanged. The retaining wall negotiating the eight-foot grade change at the Pentagon Reservation was repaired with compatible stone between 2001 and 2003. The retaining wall is longer than the adjoining planter in the parking lot. This larger planter measures approximately 2,800 square feet in area. The smaller polygonal planter measures approximately 550 square feet.

Other Buildings and Structures

Historic Condition:

Prior to the Period of Significance

The WPA installed rip rap at the southern end of Columbia Island, including within the present-day boundaries of LYBA adjacent to the marina parking lot, in 1940 (Earley and Fanning 2005: 110). The extent of this rip rap is depicted in a War Department plan of the Boundary Channel and Columbia Lagoon showing existing conditions in April 1943 (US Army Corps of Engineers

1943: sheet 1). This same plan also shows rip rap along the Virginia side of the lagoon, but it ends southwest of the present-day location of LYBA's Pentagon Reservation entrance.

There were informal docking and mooring facilities along the Boundary Channel as early as the 1930s (Chenot et al. 1992 Vol. 1: 24-26). The 1943 plan of the Boundary Channel and Columbia Lagoon noted a row of piles spaced five feet apart within the present-day LYBA boundaries that may have been associated with such informal docking systems (US Army Corps of Engineers 1943: sheet 1). Aerial photography shows that there were no docks or piers within present-day LYBA Boundaries in 1949, but four piers were constructed within the area between 1957 and 1962, corresponding roughly with the construction of the Columbia Island Marina and a fifth by 1967 (Arlington County Government 1949; Arlington County Government 1957; Arlington County Government 1962; Washington Service Center 1966). The NPS designed these piers to be floating docks constructed of planks secured to pilings using rope (deck stringers) (National Capital Region 1965: sheet 3). The park lit the piers using shore mounted and pile mounted light posts. (For more information on lighting, see the Small-Scale Features section of this chapter).

Prior to LYBA's construction there was a shed at the northwestern corner of the Columbia Island Marina parking lot that measured approximately six feet by nine feet (Palmer and the Mills & Petticord Partnership 1975: C3). The NPS relocated this shed to the southwestern corner of the boat repair yard that Palmer designed at the southern end of the island to replace the northernmost section of the marina park lot, which was demolished as part of LYBA's construction (Palmer and the Mills & Petticord Partnership 1975: C9 and C10). (Refer to the Parking Lots subsection of the Circulation section of this chapter for further detail). There was also a bus shelter at the eastern side of the parking lot by 1965 adjacent to the vehicular loop along the marina's entry drive (National Capital Region 1965: sheet 3). The bus shelter measured 50 feet, eight inches by 11 feet and had a pitched roof measuring eight feet, ten inches tall at its highest point and eight feet at its lowest (National Park Service 1995).

During the Period of Significance (1974-1977)

Palmer's Phase I plan set from 1975 specified installation of additional rip rap along the island's shoreline associated with drain inlets (Palmer and the Mills & Petticord Partnership 1975: C5, C6, C7, C11). Palmer specified that the rip rap stone would have an average size of four inches in diameter and a maximum size of six inches and that it would be installed around the pipes draining water from the inlets within the memorial grove and meadow area with a 1:2 slope for one foot on either side of the drain (Palmer and the Mills & Petticord Partnership 1975: C11). During Phase II of LYBA's construction, Palmer specified additional rip rap installed along the banks of the Boundary Channel on the Virginia side beneath the entrance deck and the plank walkways (Palmer and the Mills & Petticord Partnership 1976: C2, C3). The bands of rip rap were to be a minimum of four feet in width and built of rocks measuring between two and six inches in diameter set in grout (Palmer and the Mills & Petticord Partnership 1976: C10, C11).

A 1975 plan prepared by Palmer's firm showing the extent of the project area depicts five piers projecting into the Boundary Channel from the shoreline within the present-day boundaries of the memorial, however, it is important to note that the majority of the Columbia Island Marina parking lot was outside of the firm's scope of work (Palmer 1975). This same plan depicts a shed at the northwestern edge of the property that remained on site until GWMP removed it in 2013 (Palmer 1975; Palmer and the Mills & Petticord Partnership 1975: C2; Bouchard and Willet 2021: personal communication).

Post-Historic and Existing Conditions:

After the Period of Significance

The NPS unit segment map completed in 1979 for LYBA shows that four piers still projected from the shoreline along the Boundary Channel, one fewer than had been present prior to LYBA's construction (National Park Service 1979). There are two headwalls inset with culverts on the Boundary Channel shoreline adjacent to the Columbia Island Marina parking lot, possibly to direct run off from its surface. Further research is needed to confirm the date of installation for these two culverts. However, they were on site by 1995, as they were repointed as part of the NPS's rehabilitation of the marina parking lot that year (National Park Service 1995: sheets 1-2).

The bus shelter and its concrete foundation east of the marina parking lot were also removed as part of this rehabilitation project. (Refer to the Parking Lot subsection of the Circulation section of this chapter for more details about the parking lot rehabilitation). The park added an irrigation system to the turf east of the memorial plaza prior to 1989 and used skinner valves in other areas of the site to provide access to water to maintain the memorial plantings (Bouchard and Willet 2021: personal communication).

Existing Condition

The rip rap along both sides of the Boundary Channel is still intact. There is only one remaining pier along the Boundary Channel within the LYBA's boundaries, although the extant asphalt spurs projecting from the walkway west of the marina's parking lot still show the locations of four of the piers that were on the site during its period of significance. The pilings adjacent to the spur furthest north are still visible in the Boundary Channel. The headwall of the culverts adjacent to the parking lot measure approximately eight feet wide, four feet, nine inches in length, and three feet in depth. Although GWMP removed the shed at the northwestern edge of the memorial's island boundary in 2013, there is a social trail northwest of the larger meadow loop that leads to the former location of the shed.

Analysis:

The Buildings and Structures within LYBA's boundaries remain consistent with the site's period of significance. Although the NPS altered the pedestrian bridge and decks to meet safety requirements, the design and materials used for this modification are compatible with the original structure. The memorial plaza, megalith, and retaining walls within the memorial grove are unaltered. While JMA replaced some of the existing micaceous schist stone veneer of the retaining wall at the Pentagon Reservation in-kind between 2001 and 2003, this change has a minimal impact on the overall design of the wall and does not negatively impact its integrity. The wooden panel containing audio controls Palmer installed is still in situ as part of the veneer of the Pentagon Reservation retaining wall. Four piers and one bus shelter are the only buildings and structures that definitely are no longer extant from the memorial's period of significance. However, since these features were outside of the design team's delineated project boundaries,

their absence does not negatively impact the integrity of the site as a memorial (Palmer 1975). The buildings and structures constructed within the period of significance retain integrity and contribute to the historic character of the cultural landscape.



Buildings + Structures - (Full size graphics are located at the end of this report).



View of the bridge spanning the Boundary Channel from the primary entrance at the Pentagon Reservation, facing north. (NPS 2020)



Plank walkway and balustrade adjacent to the Pentagon Reservation parking lot, facing southeast. (NPS 2020)



Entrance deck on the Pentagon Reservation side of the pedestrian bridge, facing southeast. (NPS 2021)



Entrance deck on the island side of the pedestrian bridge, facing south. (NPS 2021)



The flagstone plaza and megalith, facing west. (NPS 2020)



The low retaining wall encircling the memorial plaza, facing east. (NPS 2021)



Detail of the low retaining wall encircling the memorial plaza. (NPS 2020)



The large retaining wall and planter at the Pentagon Reservation, facing south. (NPS 2020)



Wooden cover for audio controls designed by Palmer mounted with a post-historic sign. (NPS 2021)



The small planter between the retaining wall and steps at the Pentagon Reservation entrance, facing northwest. (NPS 2020)



Rip rap along the island's western shoreline adjacent to the Boundary Channel, facing southeast. (NPS 2020)



Rip rap beneath the Pentagon Reservation deck along the Virginia shoreline adjacent to the Boundary Channel, facing north. (NPS 2020)



Culvert headwall adjacent to the Columbia Island Marina parking lot along the island's western shoreline, facing east. (NPS 2020)



Post-historic pier along the Boundary Channel adjacent to the Columbia Island Marina parking lot, facing west. (NPS 2021)

Feature Name	Feature Contribution	CRIS-HS Name	CRIS-HS Number	Type of FMSS Record	FMSS Record Number	FMSS record an exact match ?
Retaining wall (including wooden audio panel) and planters at the Pentagon Reservation entrance	Contributing	LBJ Mem Grove on the Potomac; West Parking Area	230679	Location	1629939	Yes
Pedestrian Bridge and decks	Contributing	LBJ Mem Grove on the Potomac,	045314	Location	26803	Yes

		Pedestrian Bridge				
Flagstone memorial plaza	Contributing	LBJ Memorial Grove on the Potomac, Plaza	045312	Location	26802	No
Granite megalith	Contributing	LBJ Memorial Grove on the Potomac, Monolith	045313	Asset	1039506	Yes
Retaining wall framing the memorial plaza	Contributing	N/A	N/A	Location	26802	No
Rip rap along the island's Boundary Channel shoreline installed in 1940	Contributing	N/A	N/A	N/A	N/A	N/A
Rip rap along the Pentagon Reservation's Boundary Channel shoreline associated with Palmer's design	Contributing	N/A	N/A	N/A	N/A	N/A
Culvert headwalls along island shoreline	Undetermined	N/A	N/A	Location	93574	No
Rental dock/pier	Non Contributing-Compatible	N/A	N/A	Location	93574	No

Views and Vistas

A view is the expansive and/or panoramic prospect of a broad range of vision that may be naturally occurring or deliberately contrived. A vista is a controlled prospect of a discrete, linear range of vision, which is deliberately contrived.

Historic Condition:

Prior to the Period of Significance

Before the design and construction of LYBA, the vistas associated with the site were those along the GWMP, designed in consideration of the vantage point of motorists. Both the Simonson planting plan (1932) and the Stone Plan (1967-1971) focused plantings densely along the parkway. (For more information on these planting plans, please refer to the Physical History chapter or to the Vegetation section of this chapter).

A 1971 existing condition plan for Lady Bird Johnson Park indicates that there was an opening in the vegetation screen along the parkway in the area where Palmer would site the memorial plaza a few years later (National Capital Region 1971). There were no large trees in this area in the Stone Plan, but some shrubs and smaller trees that still allowed for an unfiltered view towards Washington, DC's monumental core (Edward D. Stone, Jr. & Associates 1968b: sheet 6). Further north adjacent to the meadow area, Stone designed two large drifts of daffodils: one east of the parkway and one west of the parkway. The drift east of the parkway was to be dotted with a few large trees, filtering the view across the Potomac River but leaving it open. Just south of that, the second drift was designed in between a dense planting of dogwoods and canopy trees planted on both sides of the parkway.

Stone intended to create a sequence of views and vistas as drivers traveled along the GWMP. The uneven distribution of plantings in the area of present-day LYBA was meant to achieve this effect. However, Stone's plan was never fully executed and only the daffodils and dogwoods were planted in this part of the parkway. The vegetation immediately east of the parkway was never as dense with canopy trees as Stone had intended, limited to the mature volunteers and Simonson-era plantings (National Capital Region 1971). The large drift of daffodils designed by Stone and planted as part of Lady Bird Johnson's beautification efforts west of the parkway would have been a focal point for motorists driving along the southern part of the island.

Stone's design retained the natural vegetation buffer along the Boundary Channel, enhancing it with perimeter plantings that would have been visible from the Virginia side of the Boundary

Channel (Edward D. Stone, Jr. & Associates 1968b: sheet 6). While these perimeter plantings were never installed, the dense volunteer vegetation did effectively screen views of Virginia's development from the island where Palmer later created LYBA's Pentagon Reservation entrance.

Aerial photography from 1974 shows a dense screen along the Boundary Channel on the island's western shore, effectively screening site lines to this body of water, but shows that the vegetation immediately east and west of the road was mostly turf dotted with larger trees (Arlington County Government 1974).

During the Period of Significance (1974-1977)

Palmer's design for LYBA incorporated planned views from the Pentagon Reservation entrance, within the memorial grove towards the megalith and across the Potomac River, and internally oriented within the bowl of the meadow. From the raised parking lot and the wooden entry deck of the Pentagon Reservation entrance, visitors had a view of the pedestrian bridge spanning the Boundary Channel and the flagstone path peeking out from the wall of naturalized vegetation along the island's shore framed by maples. The foliage of the red maples planted between 1975 and 1976 as part of Palmer's planting plan for the memorial turned red in the fall acting as a focal point, drawing the eye toward LYBA's island entrance (Palmer and the Mills & Petticord Partnership 1984). As visitors traveled west by foot or bicycle east along the pedestrian bridge, they had views along the Channel to the northwest and Columbia Lagoon to the southeast. The projecting corners of both decks were angled to encourage visitors to notice the views across the waterway and Palmer included benches on the deck to encourage this interaction. At the western end of the pedestrian bridge, the flagstone path curved south, the light filtered by the canopy of the memorial grove, inviting visitors to travel towards the memorial plaza.

Following the spiraling flagstone path, visitors experienced filtered views through the dense planting of white pines and shrubs towards the plaza, the megalith, and the clearing east of the parkway. The graded mounds framing the flagstone walkway adjacent to the pedestrian bridge and the retaining wall, as well as the raised planting bed bordering the southern half of the walk

increased this sense of visual enclosure by raising the height of the vegetation relative to the flagstone path.

From the memorial plaza, the megalith drew the eye and directed views across the Potomac River towards the monuments of Washington, DC. Palmer sited the megalith on axis with Maryland Avenue to pull attention toward the dome of the Capitol at its terminus. The panoramic view of the monuments of the city's core, including the Lincoln Memorial, the Washington Monument, and the Thomas Jefferson Memorial were framed by white pines on both sides of the GWMP (Palmer and the Mills & Petticord Partnership 1975: P6). (For more information on these white pines, please refer to the Vegetation section of this chapter). Palmer graded a mound where the memorial plaza was sited to increase the vantage point across the river and constructed an earthen berm planted with turf to obscure views of the traffic along the GWMP directly east of the plaza. The raised mound also served to increase visibility of the megalith for motorists from the GWMP. (For details about LYBA's grading plan, see the Topography section of this chapter).

A fundraising brochure created by the Committee for a Lyndon Baines Johnson Memorial Grove on the Potomac and the Society for a More Beautiful National Capital around 1973 featured two watercolor views of the proposed memorial. One featured the view of the megalith from the flagstone path framed by white pines, the second was the panoramic view across the Potomac River framed by the trunks of white pines, which speaks to the importance of both these views to the overall design of the memorial (Reservation 344, Reservation Files, National Capital Region). Lady Bird Johnson described the view of Washington, DC from the site in newspaper interviews on the project highlighting its significance to the selection of the site for LYBA (*TWES* November 6, 1973: 27-28; *TWES* May 7, 1974: 25).

In contrast to the memorial plaza, Palmer designed the views within the meadow to be internal. The bowl of the meadow was screened to the west and southwest by the dense volunteer vegetation of the Boundary Channel. He augmented this preexisting barrier with borders of white pines interplanted with dogwoods and shrubs west of the meadow's two looped paths.

The design team graded a series of berms along the GWMP north and northeast of the meadow and planted these with the same palette of white pines, dogwoods, and shrubs. Palmer designed the view across the larger of the two circulation loops to be open, featuring specimen trees and planting beds dotted around the turf. He also included a vegetative buffer between the memorial plaza and the meadow concentrated along the path that intersected the two meadow loops. This visually divided the commemorative and recreational spaces of the memorial. Similarly, Palmer retained mature vegetation at LYBA's entrance southwest of the memorial grove to provide a visual barrier between the Columbia Island Marina parking lot and the memorial. (For more information about the meadow's paths, see the Circulation section of this chapter).

Post-Historic and Existing Conditions:

Existing Condition

Construction of high-rise development along the Virginia shore, particularly in Rosslyn to the northwest and Pentagon City and Crystal City to the southwest and south, increased following the property's period of significance and has altered some of the views from the site. This particularly impacted the views from the pedestrian bridge northwest along the Boundary Channel and to a lesser extent from the entrance deck on the Pentagon Reservation. The volunteer vegetation along the island's western shoreline screens views of the Virginia skyline.

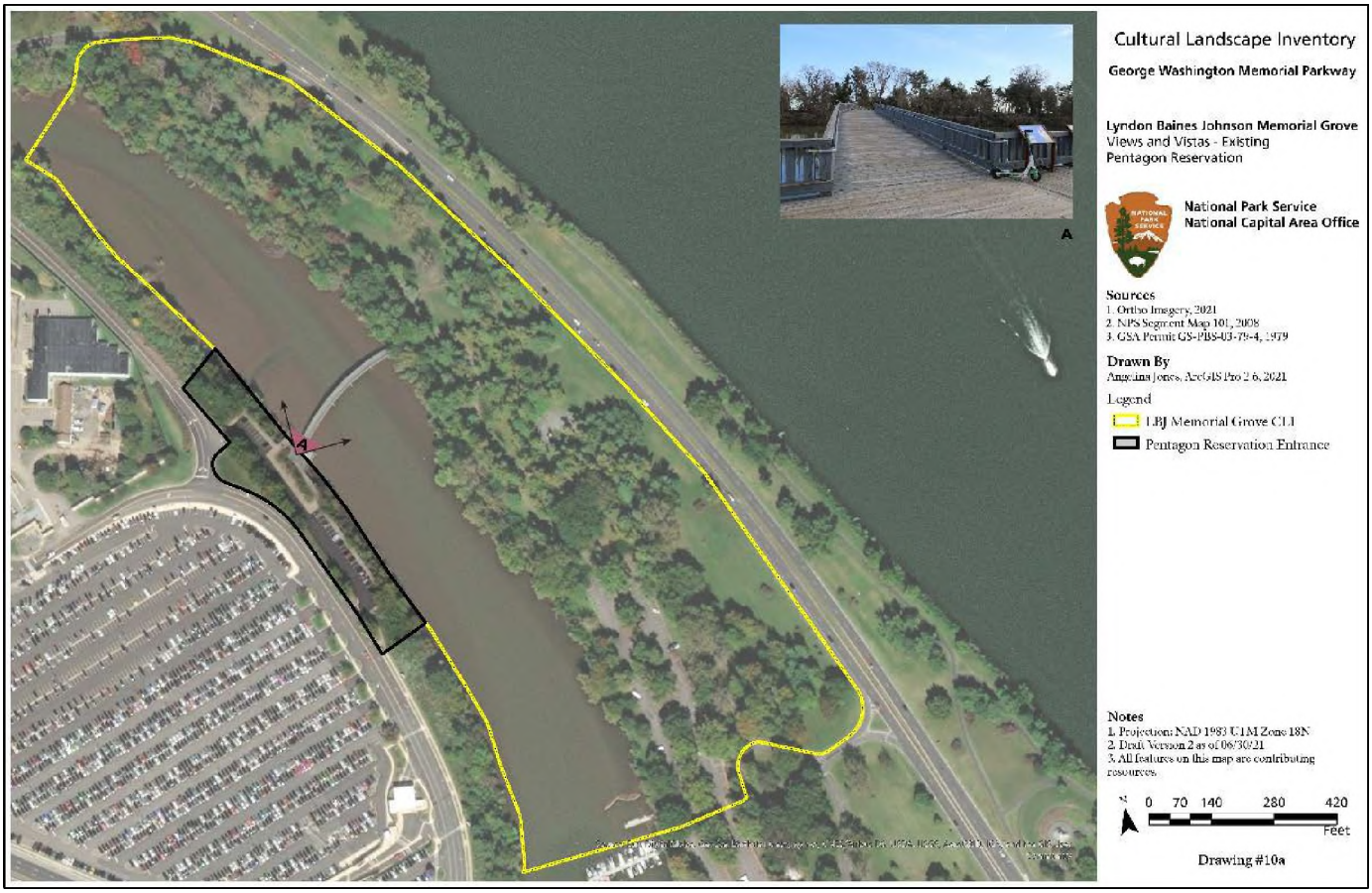
The loss of understory vegetation in both the memorial grove and the meadow, discussed in detail in the Vegetation section of this chapter, have a negative impact on the integrity of views in both these areas. The decreased shrub layer has lowered the density of the vegetation screen bordering the spiral of the flagstone path creating unintended site lines to the memorial plaza and megalith. The loss of some of the white pines in the grove and necessary replacement with younger trees has also changed the quality of filtered views in this area. Likewise, the diminished shrub layer on the periphery of the meadow decreases the sense of seclusion of the space and increases visual intrusion of cars moving along the parkway.

The key views from LYBA's period of significance are preserved, despite some changes caused by loss of the understory plantings on the island and development along the Virginia shore. The

overall effect of the views throughout the memorial are still highly legible. The views from the Pentagon Reservation entrance act as a guide across the Boundary Channel directing visitors to the filtered views along the memorial grove's flagstone path and the internally oriented views of the bowl of the meadow. The view across the Potomac River is unimpeded and reinforces the visual connection between LYBA and the presidential memorials across the water. The view of the Long Bridge southeast of LYBA is blocked by the white pine stands on either side of the GWMP. It is possible to see the bridge from the turf east of the memorial plaza. The berms along the meadow obscure views of the bridge from this portion of the memorial.

Analysis:

LYBA retains its contributing views from the Pentagon Reservation entrance, the meadow, and the memorial grove. The views from the Pentagon Reservation entrance and the Boundary Channel have been minimally altered by high-rise development along the Virginia shores. The loss of understory plantings within the memorial grove and meadow has negatively impacted the integrity of views on the island. However, the overall vegetation pattern and division of space provided by the canopy trees from the period of significance remains and continues to frame views along the island's paths. Furthermore, the highly significant view from the memorial plaza across the Potomac River is consistent with the period of significance. For these reasons, LYBA retains integrity of its character defining views.



Views + Vistas: Pentagon Reservation - (Full size graphics are located at the end of this report).



Views + Vistas: Boundary Channel - (Full size graphics are located at the end of this report).



Views + Vistas: Memorial Grove - (Full size graphics are located at the end of this report).



Views + Vistas: Meadow - (Full size graphics are located at the end of this report).



View towards the island from the primary entrance at the Pentagon Reservation, facing northeast. (NPS 2021)



View of the Boundary Channel from the Pentagon Reservation deck, facing southeast. (NPS 2021)



View of the Boundary Channel from the island deck, facing south. (NPS 2021)



View of the memorial grove from the island deck, facing northeast. (NPS 2020)



Filtered view of the megalith and memorial plaza from the flagstone path, facing east. (NPS 2021)



View of the megalith and the memorial grove from the memorial plaza, facing west. (NPS 2021)



View from the memorial plaza facing northeast towards the National Mall framed by white pines. (NPS 2021)



Filtered view of the megalith (left) from the asphalt path between the Columbia Island Marina parking lot and the flagstone path, facing northwest. (NPS 2021)



View across the meadow from the southern side of the meadow loop, facing northwest. (NPS 2021)



View across the meadow from the northern side of the meadow loop, facing southeast. (NPS 2021)

Feature Name	Feature Contribution	CRIS-HS Name	CRIS-HS Number	Type of FMSS Record	FMSS Record Number	FMSS record an exact match?
Views of island and the Boundary Channel from the Pentagon Reservation entrance and pedestrian bridge	Contributing	N/A	N/A	N/A	N/A	N/A
Views across the meadow	Contributing	N/A	N/A	N/A	N/A	N/A
Views of the megalith from the flagstone path	Contributing	N/A	N/A	N/A	N/A	N/A
View from the memorial plaza across the Potomac	Contributing	N/A	N/A	N/A	N/A	N/A

River toward the National Mall						

Constructed Water Features

Constructed water features are built features and elements that utilize water for aesthetic or utilitarian functions in the landscape.

Historic Condition:

Prior to the Period of Significance

The Boundary Channel was constructed simultaneously with Columbia Island between 1915 and 1927. Prior to Columbia Island's formation, a channel flowed between the silt bar south of Analostan Island and the Virginia shore. The channel was fed by the Potomac River via the Little River Channel, which flowed west of Analostan Island (renamed Theodore Roosevelt Island in 1932) and emptied south into Columbia Lagoon. The flow of water in the channel reversed with the incoming tide. USACE engineers had dubbed the body of water "Boundary Run" by 1919 and the Geographic Board officially named it Boundary Channel in January 1920 (Reservation 344, Reservation Files, National Capital Region). Both names reference the water body's function defining the border between Washington DC and the commonwealth of Virginia. The channel is itself within the boundaries of the nation's capital. (For additional information on the construction of Columbia island, please see the Physical History chapter of this report or the Natural Systems and Features section of this chapter).

The federal government graded the banks on either side of the Boundary Channel between 1940 and 1943, smoothing the profiles of the shorelines and ensuring that they ran perpendicular to each other across the channel (Earley and Fanning 2005: 131-132). This grading both improved the flow of the water running through the Boundary Channel and accommodated the construction of Boundary Channel Drive along the Virginia shore. In April 1943, USACE produced an existing condition plan of the Boundary Channel and the Columbia Lagoon noting that there was a five-foot mean range of tide (US Army Corps of Engineers 1943: sheet 1). During mean low tide, the deepest parts of the channel within the present-day LYBA boundaries ranged between five and six feet, concentrated in pockets along the center of the waterway. These depth

readings were consistent with a bathymetric survey the NPS conducted in December 1955 immediately prior to beginning construction on the Columbia Island Marina (National Capital Parks 1955).

The NPS dredged the Boundary Channel and Columbia Lagoon around 1966 following the construction of the Columbia Island Marina (Washington Service Center 1966). The work removed silt from the waterway increasing the uniformity of its depth adjacent to the piers that projected from the island. The dredging smoothed the Boundary Channel's bottom at a depth between four and six feet at mean low tide. A newspaper article from the period indicated that the NPS had not allocated funding for the entire dredging project, so it is uncertain to what extent this plan was implemented (*TWP* July 12, 1966: B1).

During the Period of Significance (1974-1977)

Phase I of LYBA's construction required no grading along the island's Boundary Channel shoreline, except for very minimal grading in the area where the NPS would construct the pedestrian bridge during Phase II of construction. The design team graded the Virginia shore along the Boundary Channel during Phase II of LYBA's construction to create a platform for the parking lot adjacent to the property's Pentagon Reservation entrance. A 1975 topographic survey noted sounding depths for the Boundary Channel but the unit of measurement for the depths is unclear (Palmer and the Mills & Petticord Partnership 1975: C2). However, the bathymetric contours indicate a uniform bed with the greatest depths concentrated along the channel's centerline.

Post-Historic and Existing Conditions:

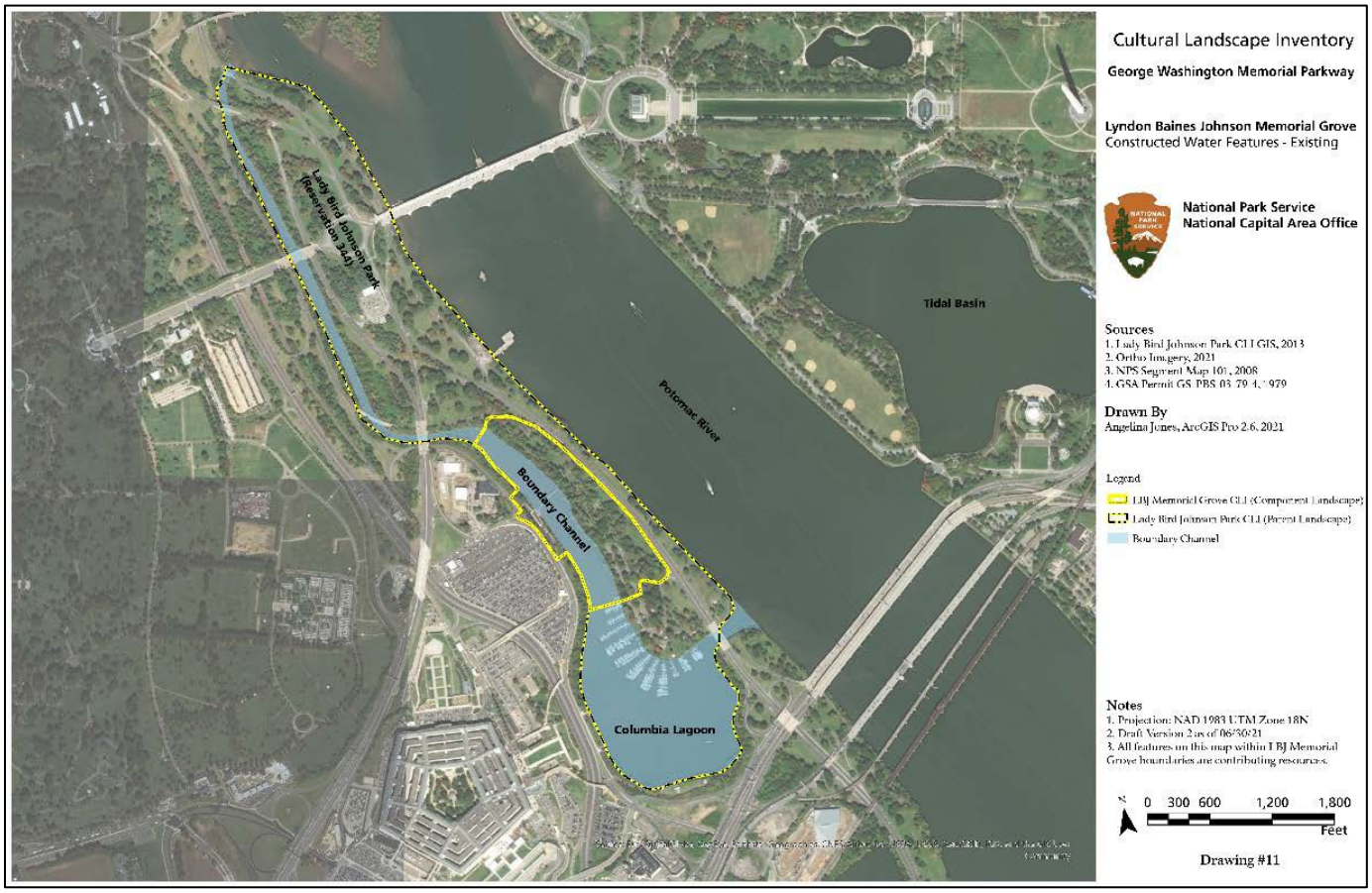
Existing Condition

The Boundary Channel as a constructed water feature has changed little since LYBA's period of significance. The Boundary Channel southwest of LYBA and Columbia Lagoon still has an array of piers for boat storage, although there is only one pier extant within the LYBA boundaries. (For more information on piers, see the Buildings and Structures section of this chapter). The portion of the waterway within the memorial's boundaries are navigated by canoes and kayaks, as the

waterway is too shallow for larger craft, partially due to accumulation of silt along the channel's bottom.

Analysis:

The Boundary Channel retains its function as a constructed water feature within LYBA's cultural landscape. The channel provides an important part of the views from the memorial's Pentagon Reservation entrance and acts as a recreational waterway. It also contributes to the character of the island's shore by distributing seeds of volunteer vegetation. These functions are all consistent with this water feature's use during the period of significance. LYBA retains high integrity of its constructed water features.



Constructed Water Features - (Full size graphics are located at the end of this report).



View of the Boundary Channel taken from the pedestrian bridge, facing southeast. (NPS 2021)

Feature Name	Feature Contribution	CRIS-HS Name	CRIS-HS Number	Type of FMSS Record	FMSS Record Number	FMSS record an exact match?
Boundary Channel	Contributing	N/A	N/A	Asset	1629939	Yes

Small-Scale Features

Small-scale features are elements that provide detail and diversity for both functional needs and aesthetic concerns in the landscape.

Lighting

Historic Condition:

Palmer introduced three styles of light posts as part of his design during Phase I of construction and three additional lighting elements during Phase II (Palmer and the Mills & Petticord

Partnership 1975: C12, C13). There are four styles of light posts within LYBA's boundaries that were not introduced as part of Palmer's design for the memorial. One along the GWMP, two within the Columbia Island Marina on the island, and the fourth along the median of the Pentagon Reservation parking lot. Each of these lighting elements are discussed in detail below.

Prior to the Period of Significance

In 1965, the NPS installed lighting along the Boundary Channel and Columbia Lagoon within the Columbia Island Marina. The plans specify installation of 17 shore-mounted light posts and 26 pier-mounted light posts fixed to the piles of the floating docks. The posts were round, tapered aluminum with a satin finish measuring ten feet in height and between three and four inches in diameter topped by a single light with a curved reflector (National Capital Region 1965: sheet 3).

During the Period of Significance (1974-1977)

Plans for Phase I of LYBA's construction included three light posts in the lighting fixture schedule with no other lighting for the ground plane specified (Palmer and the Mills & Petticord Partnership 1975: C12). All three fixture types were produced by Gardco. Two of the lighting fixture types measure 15 feet in height with a square post mounted on a circular concrete base and feature square lights mounted to the top of the post. The difference between these two light posts is that Type 1 had only one light affixed perpendicular to the post while Type 2 had two lights joined at the corners affixed to the post between them. While these two lighting types are labeled separately on the Lighting Fixture Schedule, the plans showing the distribution of light posts throughout the site label all the light posts as Type 2, with the exception of three Type 3 lights discussed below. There is a revision cloud in the Lighting Fixture Schedule on the 1976 plan set around Type 2, which may indicate that this second fixture was a later addition to the schedule. The Type 2 lights were sited near the paths in the memorial grove and generally alternate from one side of the path to the other spaced approximately 90 feet apart. The light posts within the meadow area were situated directly across the path from a bench and trash receptacle, small-scale features that are discussed in more detail below. A total of 27 Type 2 lights were included throughout the memorial grove and meadow.

The third light post type Palmer specified during Phase I was a spotlight used to light the megalith at night. This light post featured a square post identical to the other two lights described above topped by a square light box set with a lamp in its center projecting forward towards the megalith. Three of these light posts were arranged in a circle around the memorial plaza pointed toward the megalith. All three light post types were black-painted steel.

The Lighting Fixture Schedule for Phase II of LYBA's construction specified four fixture types in the design and the plans retained a fifth existing lighting type on the parking lot median (Palmer and the Mills & Petticord Partnership 1976: C12, C13). Palmer included only one light post type, still manufactured by Gardco, with a catalog number matching that of the Type 1 light post from Phase I of construction, except with a higher voltage. The design team specified five of this light post type – four in the parking lot and one in the planter on the deck. The three remaining fixtures are the light boxes set into the handrails of the decks and bridge, lights installed into the risers of the stairway northeast of the retaining wall, and two spotlights installed in the planting bed to illuminate the wooden routed letter entry sign.

Post-Historic and Existing Conditions:

After the Period of Significance

The section of GWMP adjacent to LYBA was originally part of the MVMH. The MVMH consultants previously worked for the Westchester County Park Commission and they chose light posts that were based on those used in Westchester County, New York (Earley and Fanning 2005: 37). The light posts were typically installed 75 feet apart along the highway from Alexandria to Columbia Island and were in place by May 1932. During the Depression and World War II, the federal government turned off the lights of the parkway and in the 1950s replaced most of the original lighting with Cobra-headed standards (Earley and Fanning 2005: 124). In 1998, GWMP underwent a Section 106 review to replace the Cobra-headed standards along the parkway with a light post that closely replicated those that were installed by 1932. These are designed by Union Metal and the style is known as the "Union Metal Standard," characterized by a fluted post topped by a finial that supports a pendant light at the end of a perpendicular post with the globe pointing towards the ground. NPS installed eight of these

replacement light posts within the LYBA boundaries in 1998, although their spacing along the parkway is irregular ranging in distance between approximately 170 feet to 300 feet apart.

Existing Condition

The lighting on site remains largely unaltered since its period of significance. While there are no cut sheets included with the 1975 or the 1976 plan sets for LYBA, the lights found at the site match the brief descriptions in the lighting fixture schedules included with these documents and there is no record that GWMP has changed out the lights installed when LYBA was constructed. Furthermore, plans from JMA's rehabilitation do not indicate that the lighting fixtures would be switched out or modified. The existing light boxes installed in the deck and bridge railings were salvaged and reused when the NPS replaced the railing during this rehabilitation project. However, there are no longer lights in the risers of the stairway, which means these were likely removed by JMA during their rehabilitation project. Given this information, this CLI considers the light posts on the site to be original to Palmer's design and considers them contributing. On the island, there are 31 light posts from Phase I of LYBA's construction, one of the models with two lights, three spotlights, and the remaining are the one light model. All five light posts on the Pentagon Reservation from Phase II remain, all with one light.

The five light posts facing Boundary Channel Drive located in the median of the parking lot of the main entrance at the Pentagon Reservation were replaced between October 2017 and April 2018 (US Geological Survey 2017; US Geological Survey 2018). Prior to the change, the light posts were topped with standard cobra-headed fixtures. The current light posts are approximately the same height as the previous model, but the design comprises a circular aluminum pole with an unadorned perpendicular arm holding a rectangular light.

There are three extant light posts dating to 1965 located adjacent to the asphalt spurs along the path west of the marina parking lot. Two of the three light posts are missing their lights and the third is missing its reflector. Within the Columbia Island Marina's parking lot medians there is currently a light post on a tall, polygonal pole. These feature between two and three rectangular lights at the top that swivel to be positioned in different directions. Further research is needed to

determine when these light posts were installed at the marina. Seven of the eight Union Metal Standard light posts installed along the GWMP in 1998 are extant.

Benches

Historic Condition:

During the Period of Significance (1974-1977)

Palmer included two different styles of benches in Phase I of LYBA's construction. He custom designed the first, which were located within the memorial grove and featured bases made of two blocks of the same "Sunset Red" granite used to sculpt the megalith and topped by a bench constructed of four planks. The blocks at their base measured 12 inches in height by seven-and-one-quarter inch in width and were spaced about fifty inches apart on the inside. The seats were constructed of three-and-a-half-inch squared dimensional lumber and measured seven-feet long. There was a total of eight benches of this type, two at the entrance from the Columbia Island Marina parking lot and six arranged in pairs around the perimeter of the memorial plaza facing the megalith.

Palmer installed the second style of bench within the meadow. This type had an aluminum frame supporting slatted wooden seats and backs comprising four planks each. The overall length of the bench was about six feet, the seat was about one foot wide with an overall height of 32 inches, measuring 16 inches to the seat. The planks were two-and-one-half-inch dimensional lumber. The 1975 plans called for 14 of these benches to be distributed throughout the meadow area. Along the larger meadow loop, the benches generally alternated which side of the path they were on across the path from a light post and were paired with a trash receptacle. The pea gravel topped asphalt path of the large meadow loop flared slightly from eight-feet wide to nine-feet four-inches wide to accommodate the width of the bench (Palmer and the Mills & Petticord Partnership 1975: C7). (For more information on the paths in the meadow, see the Circulation section of this chapter).

Palmer used the same style of bench with aluminum frame during Phase II of construction at the Pentagon Reservation entrance. The 1976 plan set indicates that four benches of this type were

installed within a niche west of the large planter within the parking lot framing the entry sign in pairs (Palmer and the Mills & Petticord Partnership 1976: C3). Three longer benches, likely of a different style were indicated for the two decks – two along the southeastern edge of the deck on the Virginia side and one along the southeastern edge of the island deck (Palmer and the Mills & Petticord Partnership 1976: C3, C4).

Post-Historic and Existing Conditions:

After the Period of Significance

When JMA rehabilitated LYBA, they included an inventory of extant benches noting that there were two at the Columbia Island Marina parking lot (likely the two at the entrance to the memorial), 11 along the meadow path, six at the memorial plaza, four at the Pentagon Reservation parking lot, and three on the bridge decks. JMA noted that there were two benches missing from the meadow path that would be replaced in-kind as part of the project (John Milner Associates 2000: A-6d). JMA's total count for benches in the meadow path was 13 and was missing one of the benches indicated in Palmer's 1975 plan located on the meadow path directly northwest of the entry from the bridge over the Boundary Channel. It is possible that JMA miscounted the extant benches during their survey, but more likely that it was missing.

As part of this project, the firm anticipated replacing up to 25% of the oak seat and back slats of the benches on site and salvaging the rest of the existing material, sanding and refinishing the wood before reinstalling it on the historic bench frames (John Milner Associates 2000: A-6d). JMA repaired the two benches with granite bases at the marina parking lot entrance and the six surrounding the megalith, refinishing or replacing the wooden planks of the seats (John Milner Associates 2000: A-4b, A-5b). In the meadow, two of the steel bench frames were missing from the southeast edge of the loop and were replaced in-kind as part of this project. The wood of the benches at the Pentagon Reservation was all refinished and reused (John Milner Associates 2000: A-2a). The as-built drawing set includes detailed specifications for the style of bench used in the meadow and at the Pentagon Reservation parking lot (John Milner Associates 2000: A-6d).

The rehabilitation plans noted that the three benches on the bridge decks would be removed and replaced with new wooden benches (John Milner Associates 2000: A-3a, A3e, A3f). The plan set has specifications for the deck benches likely matching the design of the originals (John Milner Associates 2000: A3e).

The PEPC entry for the 2008 First Bloom project included the in-kind replacement of two benches missing from the paths of LYBA. It is unclear whether benches were replaced as part of this project and the location of the two benches are not noted in the plans submitted for review (NPS PEPC: 21481).

Existing Condition

While a small number of the benches included in the original design for LYBA are missing as detailed below, the arrangement and locations of the remaining benches are consistent with the property's period of significance. All remaining benches are contributing character-defining features of this cultural landscape.

The eight benches with granite bases in the memorial grove remain in situ. Four steel frame benches are missing from the paths of the meadow. One of the missing benches, immediately north of the granite fountains, was included in JMA's rehabilitation plans. The plans specified the existing bench be reinstalled in new concrete footings in the as-built plan set (John Milner Associates 2000: A-5d). A second missing bench, just northwest of the entry from the Boundary Channel, was not included in the firm's rehabilitation plan set and so has been missing since at least 2000 (Palmer and the Mills & Petticord Partnership 1975: C6). The remaining two benches are missing from the east side of the large meadow loop.

The three benches on the wooden decks, two on the Virginia side of the Boundary Channel and one on the island side, are missing. The as-built rehabilitation plans called these out for replacement (John Milner Associates 2000: A-3a, A3e, A3f). It is unclear if they were replaced during this time and if so when they were removed from the site. All four benches adjacent to the Pentagon Reservation parking lot remain.

Drinking Fountains

Historic Condition:

During the Period of Significance (1974-1977)

Palmer included two "Sunset Red" granite drinking fountains in the Phase I design for LYBA. Palmer designed the polished granite fountains located east of the flagstone path in the transitional area between the memorial grove and the meadow. Each fountain measured one foot squared at its base with chamfered edges with the taller fountain measuring two feet, 11 inches in height and the shorter two feet. A ten-foot by nine-foot flagstone apron projected from the flagstone path and the fountains were placed near its center, set diagonally from each other (Palmer and the Mills & Petticord Partnership 1975: C6). The design team installed the fountains on an eight-inch-thick concrete foundation pad measuring four feet, six inches in width and set two feet, six inches below grade (Palmer and the Mills & Petticord Partnership 1975: C11).

The design team included a third fountain at the Pentagon Reservation entrance during Phase II of construction, although it was not custom designed as the fountains on the island were (Palmer and the Mills & Petticord Partnership 1976: C5, C6). Located southeast of the large planter in the parking lot, the drinking fountain was set on a polygonal concrete pad measuring eight feet, six inches adjacent to the sidewalk and tapering to four feet in width (Palmer and the Mills & Petticord Partnership 1976: C11). The concrete pad was four inches thick (typ.) and the prefabricated drinking fountain was bolted into the foundation. The extant plans do not include a cut sheet for the fountain, but it had a 13-and-a-half-inch circular base.

Post-Historic and Existing Conditions:

After the Period of Significance

Following his March 2000 visit to the site, Palmer provided written recommendations in response to JMA's proposed rehabilitation treatment plan. In this correspondence, Palmer stated that he was in favor of placing an ADA accessible drinking fountain across the flagstone path from the original granite ones, but that these should remain in situ. He proposed that either he or JMA could design a granite fountain made of the same material as the megalith (Lyndon B. Johnson Memorial Grove, Darwina Neal Beautification Files, National Capital Region). JMA did install a

new ADA accessible fountain across from the original fountains but used a prefabricated model. They installed a new nine-foot by ten-foot concrete pad paved with flagstone south of an existing light post to mount the new two-foot, eight-inch-tall drinking fountain (John Milner Associates 2000: A-2a, A-2b, A-2c).

The as-built plans from the rehabilitation do not indicate that the NPS would replace the drinking fountain in the Pentagon Reservation parking lot as part of JMA's rehabilitation project (John Milner Associates 2000: A-5d). However, JMA's written treatment plan does detail removing all features that did not comply with ADA requirements and listed drinking fountains in the features to remove (Lyndon B. Johnson Memorial Grove, Darwina Neal Beautification Files, National Capital Region). Also, the written project scope in the plan set noted that new ADA drinking fountains in the plural would be installed (John Milner Associates 2000: A-7d).

Existing Condition

The two Palmer granite drinking fountains on the island remain in situ consistent with their location during the period of significance. The accessible drinking fountain on the island also remains in place on the flagstone apron added during the rehabilitation project. The style of this fountain differs from the accessible fountain at the parking lot on the Virginia side, although it also measures two feet, eight inches in height. It is possible that it was installed by JMA at this time, but not certain, since this was not specified in project drawings as described above. The base of the fountain also differs from the specifications for the drinking fountain detailed in the original 1976 plan set for Phase II of LYBA's construction. Although additional research is needed to precisely date the fountain on the Pentagon Reservation, it post-dates LYBA's period of significance and is not a contributing character-defining feature.

Other Small-Scale Features

Historic Condition:

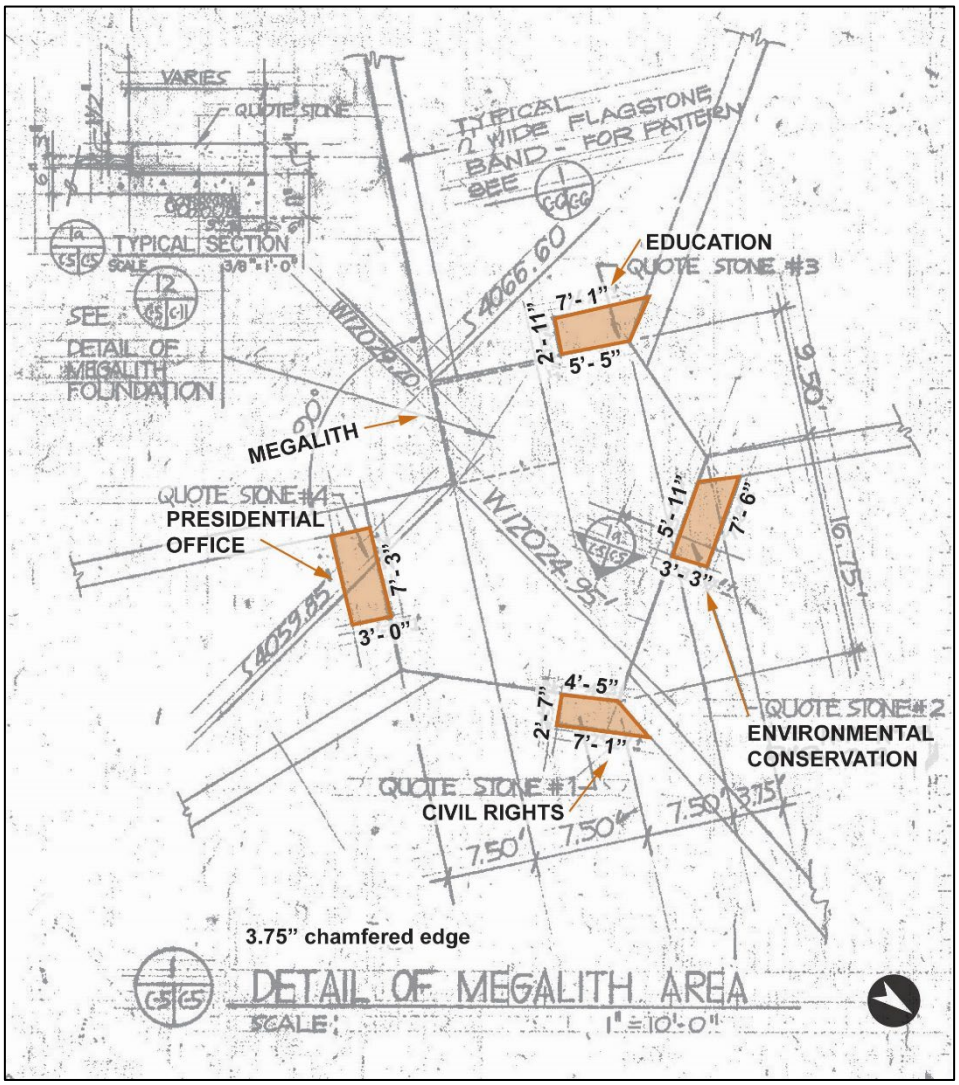
During the Period of Significance (1974-1977)

The design team created four "Sunset Red" granite pavers inscribed with quotations from Johnson's presidency to be placed around the base of the megalith. Lady Bird Johnson made the

final selection and the quotations with the help of a team that included Palmer and Vogel. Their selection conveyed the President's policies regarding civil rights, education, and the environment, as well as his views on his role as president (the quotations are listed respectively below):

> *The promise of America is a simple promise: Every person shall share in the blessings of this land.*
>
> *I believe that every boy and girl in this great land has a right to all the education he or she can use. I intend to work to make this right a reality.*
>
> *All my life I have drawn sustenance from the rivers and from the hills of my native state. I want no less for all the children of America than what I was privileged to have as a boy.*
>
> *I hope it may be said a hundred years from now, that by working together we helped to make our country more just for all its people. I believe at least it will be said that we tried.*

The quotation pavers vary in shape and dimension and are arrayed around the megalith and the polygonal planting bed northeast of it (Palmer and the Mills & Petticord Partnership 1975: C5). The subjects of the quotations relate to civil rights, environmental conservation, education, and the presidential office (for a transcription of the quotations, please see the Statement of Significance narrative portion of this report). Please refer to the figure below for measurements for each of the quotation stones. All stones had a three-and-three-quarter inch chamfered edge. The pavers were set over a six-inch concrete foundation.



Detail from Palmer's 1975 plan set for LYBA's construction annotated with the dimensions for the quotation pavers around the megalith. NPS Technical Information Center LYBA_835_80013A_[233270].

The trash receptacles the design team chose for the park were the tulip-style typical of Lady Bird Johnson's beautification projects throughout the city (Earley and Fanning 2005: 126). The National Democratic Women's Club fundraised to provide money for the receptacles throughout LYBA as well as the steel framed benches (see above) (Earley and Fanning 2005: 125). These receptacles featured wood slats arrayed vertically in a cylindrical metal frame mounted on a pole installed in a concrete footing measuring two feet, six inches below grade. The design team specified that the bottom of the receptacle should be set one foot above finished grade on the

island and nine inches above grade on the Pentagon Reservation (Palmer and the Mills & Petticord Partnership 1975: C11; Palmer and the Mills & Petticord Partnership 1976: C5). Palmer included 20 trash receptacles along the trails on the island during Phase I of construction with two at the marina entrance and one near the drinking fountains. Many of these receptacles were concentrated in the meadow area paired with the steel framed benches or adjacent to picnic tables. The design team did not place receptacles at the memorial plaza. (Palmer and the Mills & Petticord Partnership 1975: C4-C8). During Phase II of construction, Palmer specified four trash receptacles for the parking lot on the Pentagon Reservation adjacent to the entrance (Palmer and the Mills & Petticord Partnership 1976: C2, C3).

Palmer designed two routed letter wood signs with the full name of the memorial, one for the primary entrance at the Pentagon Reservation and one for the entrance at the Columbia Island Marina parking lot. The Phase I plan set did not indicate the sign locations, but they were indicated for the primary entrance in the Phase II plan set, so it is likely that the signs were designed and installed between 1976 and 1977 (Palmer and the Mills & Petticord Partnership 1976: C6). The rectangular sign measured approximately two feet by six feet. The NPS installed it on the Pentagon Reservation in the center of the large parking lot planter adjacent to the entrance and lit by two ground mounted lights.

The design team included 16 picnic tables clustered throughout the meadow in the Phase I drawings for LYBA (Palmer and the Mills & Petticord Partnership 1975: C6, C7, C8). There were no picnic tables within the memorial grove in keeping with the commemorative function of this space. The 1976 plan set did note that the picnic tables were not in the contract and do not indicate what style of table would be used. Given this information, they may have been installed at a later time and in a different configuration.

Palmer designed a custom flagstone drain measuring five feet squared set with a two-foot, six-inch squared flagstone grate. Below grade, the 26-inch squared cement parged retention container rested on top of an eight-inch concrete foundation (Palmer and the Mills & Petticord Partnership 1975: C11). The inlet is set at a topographic low point north of the flagstone path near

the pedestrian bridge and is connected to a pipe that feeds into the Boundary Channel. The drain detail is labeled as "typical," and there are two other inlets on the plan keyed into this detail, one west of the memorial grove and one west of the large meadow loop (Palmer and the Mills & Petticord Partnership 1975: C5, C7).

Phase I of LYBA's construction included installation of electrical equipment and an enclosure (Palmer and the Mills & Petticord Partnership 1975: C4, C13). The metal enclosure measured eight feet by two feet and was installed on a six-inch concrete foundation northwest of the Columbia Island Marina parking lot near LYBA's entrance.

Post-Historic and Existing Conditions:

After the Period of Significance

In 1998, GWMP ordered 20 tulip-style trash receptacles, some of which may have been installed within LYBA's boundaries, since GWMP staff included a letter detailing the expenditure in the park's files for the grove. However, the letter does not confirm where the receptacles were installed along the parkway (LYBA Files, GWMP Archive, National Park Service). JMA's rehabilitation plans recorded the extant trash receptacles on site at that time. The firm recorded 15 of the original 20 receptacles on the island (John Milner Associates 2000). One receptacle was missing from the intersection of the asphalt meadow path and the flagstone path near the pedestrian bridge and three were missing from the meadow loop. The location of the fifth missing receptacle north of the large meadow loop was not represented in JMA's drawings and so it is uncertain whether it remained. All four of the trash receptacles in the Pentagon Reservation remained in situ.

In 2002, both Palmer-designed wooden signs remained (Earley and Fanning 2005: 59, 125). The scope for the 2008 First Bloom project included the in-kind replacement of the two wooden entry signs, but it is unclear if the replacements were made at this time (NPS PEPC: 21481).

In 2011, GWMP installed three temporary wayside interpretive panels: two on the deck at the main entrance on the Virginia side of the Boundary Channel and the third on the memorial plaza

adjacent to the megalith (NPS PEPC: 39362). The wayside on the island included Lady Bird Johnson's narration describing the memorial grove. The wayside frames were made of Corten steel and measured approximately three feet in width by two feet in depth, and three and a half feet in height.

A 1979 newspaper article recorded that LYBA had eight picnic tables, half the number specified in Palmer's plan for the meadow suggesting that the picnic tables were installed in a different configuration than that specified by construction drawings (*TWES* May 12, 1979: 24). The article did not indicate design or material of the picnic tables. The JMA rehabilitation drawings did not depict the picnic tables or their locations (John Milner Associates 2000). The *Lady Bird Johnson Park CLI* (600245) indicates that there were wooden picnic tables in the meadow area but does not specify how many (Earley and Fanning 2005: 126). In 2005, GWMP included the installation of eye anchors for 12 picnic tables at LYBA in a larger Section 106 review intended to prevent visitors from moving the tables but did not specify exact locations for the tables (NPS PEPC: 13618).

Existing Condition

The pavers around the megalith are in situ and consistent with the property's period of significance. However, there have been alterations to many of the other small-scale features described above since LYBA's period of significance. Only two trash receptacles of the original 20 remain on the island, the two stationed at the entrance adjacent to the marina parking lot. The receptacle on the west side of the entrance appears to be a relatively recent in-kind replacement based on its condition. None of the four trash receptacles at the Pentagon Reservation parking lot remain. The two remaining trash receptacles are contributing character-defining features.

Only one of the two wooden entrance signs designed by Palmer remain on the site, the one installed in the planter at the Pentagon Reservation parking lot. It measures approximately six feet by two feet. The posts holding the sign are dimensional lumber and likely not original as the patina of the wood of the posts differs from that of the sign. This remaining entry sign is an important character-defining feature. There is a standard brown NPS entry sign along the GWMP

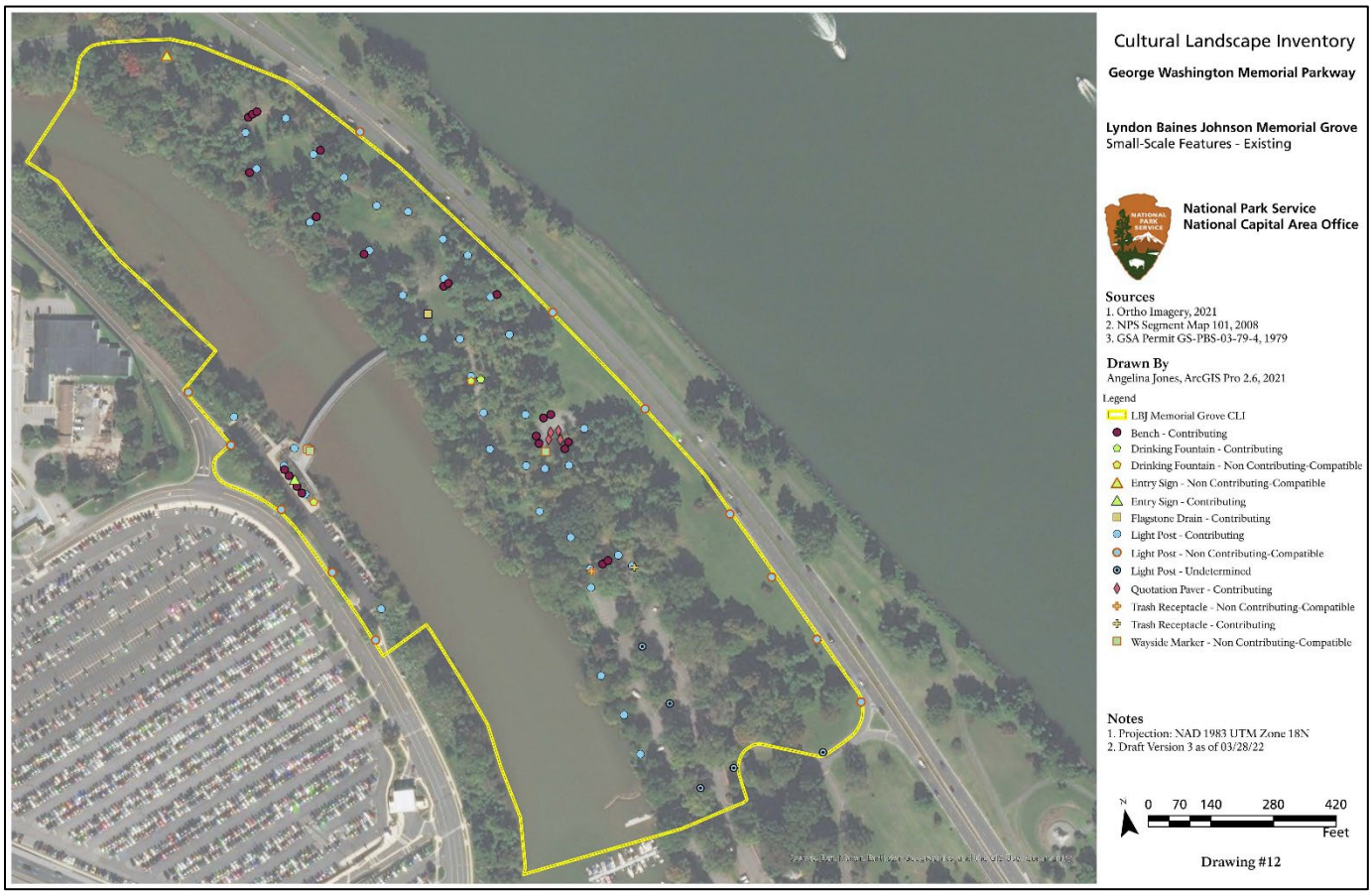
at the northern boundary to the site, but further research is needed to determine when it was installed. The three temporary waysides installed in 2011 remain in their original locations, but the audio recording at the megalith is no longer functional.

There are several different styles of mass-produced picnic tables scattered throughout the meadow, memorial grove, and adjacent to the marina parking lot; some wooden and metal models and one plastic model (see photographs below). During field work, NCR staff counted a total of 28 picnic tables. The original design did not locate picnic tables in the memorial grove since this recreational use is incompatible with the commemorative function of this part of LYBA. The original design did not call for picnic tables adjacent to the marina parking lot either, but most of this area was outside of Palmer's project boundaries. Visitors have moved many of the tables to the periphery of the site along the GWMP and the Boundary Channel. Those relocated along the GWMP are positioned to have views to the monuments across the Potomac River. Since these features are moved so frequently, NCR staff did not take GPS points for the picnic tables in the field. Further research is needed to determine the design and installation dates of the original picnic tables. Therefore, the historic status of the extant picnic tables is undetermined.

One of the three flagstone drains denoted in the Phase I drawings remains on site, located near the pedestrian bridge. This feature measures five feet by five feet and is a character-defining feature. The other two inlets do not have flagstone drains. The box housing the electrical equipment northwest of the Columbia Island Marina parking lot entrance is different than that depicted in the Phase I drawings for the site.

Analysis:

The extant small-scale features within LYBA are largely consistent with its historic condition. However, some of the character-defining features are reduced in number, such as the steel frame benches and tulip-style trash receptacles. Furthermore, the Palmer-designed entry sign adjacent to the marina is missing. These modifications are reversible, but currently diminish the overall integrity of the small-scale features on the property.



Small-Scale Features - (Full size graphics are located at the end of this report).



The three types of light posts introduced on the island by Palmer during Phase I of LYBA's construction (1974-1976). (NPS 2021)



Union Standard light post along the GWMP (left), Columbia Island Marina parking lot light post (center), and Columbia Island Marina light post (right). (NPS 2020 & 2021)



Light post introduced on the Pentagon Reservation by Palmer during Phase II of LYBA's construction (1976-1977) (left) and light post along Boundary Channel Drive adjacent to the Pentagon Reservation entrance (right). (NPS 2021)



Benches designed by Palmer with granite bases in the upper row, memorial plaza (left) and marina entrance (right). Steel frame benches in the bottom row, Pentagon Reservation (left) and the meadow (right). (NPS 2020 & 2021)



The Palmer designed granite drinking fountains facing north. (NPS 2021)



Accessible drinking fountains, on the island (left) and at the Pentagon Reservation (right). (NPS 2021)



Quotation pavers around the megalith on the memorial plaza: civil rights (upper left), environmental conservation (upper right), education (lower left), and presidential office (lower right). (NPS 2020)



Trash receptacles at the Columbia Island Marina entrance, replaced trash receptacle (left) and historic receptacle (right). (NPS 2020 & 2021)



Wooden routed letter sign designed by Palmer at the Primary entrance of the Pentagon Reservation facing northeast. (NPS 2020)



Waysides introduced in 2011 on the Pentagon Reservation deck (left) and at the memorial plaza (right). (NPS 2020 & 2021)



Two styles of picnic bench found on the island side of LYBA. Note that visitors have pulled the bench on the left adjacent to the GWMP to gain a better view across the Potomac River. (NPS 2020 & 2021)



Flagstone drain in the meadow adjacent to the entrance from the pedestrian bridge, facing east. (NPS 2020)

Feature Name	Feature Contribution	CRIS-HS Name	CRIS-HS Number	Type of FMSS Record	FMSS Record Number	FMSS record an exact match?
Entry sign designed by Palmer at the Pentagon Reservation entrance	Contributing	LBJ Mem Grove on the Potomac; West Parking Area	230679	Location	27288	No
Benches with steel frames associated with Palmer's design	Contributing	N/A	N/A			

Benches with granite base designed by Palmer	Contributing	N/A	N/A			
Granite drinking fountains (two) designed by Palmer	Contributing	N/A	N/A			
Flagstone drain designed by Palmer	Contributing	N/A	N/A			
Quotation pavers (four) surrounding the megalith	Contributing	N/A	N/A			
Tulip-style trash receptacle east of the Columbia Island Marina parking lot	Contributing	N/A	N/A			
Light posts associated with Palmer's design throughout the memorial (31 on island, five at the Pentagon Reservation)	Contributing	N/A	N/A	Asset	1333327	Yes
Light posts (three) along the Boundary Channel adjacent to the Columbia Island Marina parking lot	Contributing	N/A	N/A			
Tulip-style trash receptacle west of the Columbia Island Marina parking lot	Non Contributing-Compatible	N/A	N/A			
Accessible drinking fountains (two) (one on island, one on Pentagon Reservation)	Non Contributing-Compatible	N/A	N/A			
Entry sign along the GWMP	Non Contributing-Compatible	N/A	N/A			
Wayside markers at Pentagon Reservation deck and memorial plaza	Non Contributing-Compatible	N/A	N/A	Asset	1629953	Yes

Light posts (seven) along the GWMP	Non Contributing-Compatible	N/A	N/A	Asset	408765	Yes
Electrical box west of the Columbia Island Marina parking lot	Non Contributing-Compatible	N/A	N/A			
Light posts along Boundary Channel Drive adjacent to the Pentagon Reservation entrance (five)	Non Contributing-Compatible	N/A	N/A			
Light posts in the Columbia Island Marina parking lot (five) and along Boundary Channel Drive (five)	Undetermined	N/A	N/A	Asset	1039783	Yes
Picnic tables (28 throughout island)	Undetermined	N/A	N/A			

Condition Assessment

Condition

Fair

Condition Date

January 6, 2022

Narrative

The Condition Assessment Date refers to the date the park superintendent concurred with the findings of this CLI.

An assessment of Fair indicates the inventory unit shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without the appropriate corrective action, the cumulative effect of the deterioration of many of the character defining elements will cause the inventory unit to degrade to a poor condition.

The LYBA cultural landscape is currently in fair condition. Notable impacts include the loss of some vegetation and small-scale features, social trails around the memorial plaza, and deteriorated wooden members of the wooden decks and pedestrian bridge. The 2009 *Vegetation of the George Washington Memorial Parkway Central Section: Alexandria to Arlington Memorial Bridge Cultural Landscape Report* noted impacts in need of correction such as the loss of a number of the mature white pines in the memorial grove and depletion of the shrub layer. Other impacts are noted in the table below.

Impacts

Type	Impact Type – Other	Internal Source	External Source	Narrative	Date Identified
Adjacent Lands		No	Yes	An increase in high rise development along the Virginia shoreline in Rosslyn, Pentagon City, and Crystal City since the period of significance has changed the views to the northwest, southwest, and south of the property. While the vegetation along the western shoreline on the island largely blocks views of this new development, it is visible from the Boundary Channel, the pedestrian bridge over the channel, and LYBA's Pentagon Reservation entrance.	11/03/2020
Deferred Maintenance		Yes	Yes	The development associated with LYBA on the Pentagon Reservation and the pedestrian bridge are deteriorating due to deferred maintenance. Since this space is owned by GSA but managed by the NPS, the impact is both internal and external. One of the contributing benches adjacent to the Pentagon Reservation parking lot is broken. The slats of the back need to be screwed back into the steel frame. The stairs leading from the Pentagon Reservation parking lot to the entrance deck have missing aggregate in several locations and exposed rebar on one landing. Some wooden members of the balustrade adjacent to the parking lot are damaged or missing and the planks of the decks and pedestrian bridge are deteriorating throughout. The structure of the entrance deck has a tree growing out of it north of the entrance deck and it is	11/05/2020 03/19/2021

				possible that there are similar impacts in other parts of the structure. The mortar of the retaining wall and planting bed adjacent to the entry deck is missing in several places and some of the blocks of these structures are missing.	
Deferred Maintenance		Yes	No	There are also some signs of deterioration from deferred maintenance to LYBA on the island. There are areas of the flagstone path where mortar is missing that should be replaced and portions of the asphalt path where the steel edging is missing. One of the three benches dating to the period of significance located at the far northwestern end of the meadow loop has been incompatibly repaired. The park replaced the missing slats with wooden boards. The original steel frame remains in situ.	11/03/2020
Disruption/Loss of Plant Species		Yes	No	The wildflowers from Palmer's planting plan dating to LYBA's period of significance are no longer extant and most of the daffodil beds from this time are also missing. The shrub layer from Palmer's plan has been in decline at least since 2009 but has deteriorated precipitously since 2015. There are no extant rhododendrons and most of the azaleas have died. There are currently 467 contributing white pines throughout LYBA. Palmer estimated that they planted around 900 pines throughout the grove and the 2009 CLR reported that 700 were planted around the memorial plaza during the period of significance. This suggests a significant decline in the number of	1/11/2021 04/09/2021

				white pines throughout LYBA. Yellowing of the pines on the island suggests that there is a problem with the culture of the soil that is in need of amendment.	
Inappropriate Maintenance		Yes	No	The coping of the low retaining wall around memorial plaza is chipped in several places, likely the result of mowers hitting the wall. The soil and mulch mounds around some of the trees in the meadow are too high and cover the root flare of the trees. The root flares and bases of some of the tree stems show signs of mechanical damage from maintenance equipment. The turf has been taken over by weeds including strawberries and broadleaf plantain in many parts of meadow.	11/05/2020 01/11/2021
Pruning Practices		Yes	No	The mature, contributing cherrylaurel shrubs are sheered in several areas. They are not thinned on the inside during pruning. This has led to the center of the plants dying while the outside of the shrub is still alive.	01/11/2021
Removal/Replacement		Yes	No	All but two of the original 24 trash receptacles throughout the memorial remain, which means that visitors do not have places to dispose of trash, leading to an increase in accumulation of litter throughout the site. One of the original wooden entrance signs is missing and four of the steel framed benches in the meadow have been removed without replacement.	11/03/2020 03/19/2021
Soil Compaction		Yes	No	There are social trails around the memorial plaza, along the western shore of the island, and north of	11/03/2020

				the meadow. These trails have compacted the soil in these areas. There are also trees with girdled roots in the meadow, indicating that the soil is compacted.	
Vandalism/Theft/Arson		Yes	No	There is a small amount of graffiti carved into the railing of the pedestrian bridge and decks.	11/03/2020 03/19/2021
Visitation		No	Yes	The picnic tables throughout the meadow have been moved by visitors to the periphery of the island and are now located in both the meadow and the memorial grove. Palmer's design specified picnic tables in the meadow only.	11/03/2020 03/19/2021
Vegetation/Invasive Plants		Yes	Yes	Autumn clematis (*Clematis terniflora*) is growing along western shore of the island. There is English ivy growing on several of the white pines throughout LYBA on the island.	01/11/2021

Treatment

Stabilization Measures

Narrative

The following stabilization measures are recommended for LYBA:

- Stabilize elements at the Pentagon Reservation entrance that have deteriorated due to deferred maintenance. This includes damaged aggregate and exposed rebar on the stairs, damaged members of the pedestrian bridge and decks, and missing stones and mortar of the retaining wall and planting bed adjacent to the parking.
- Stabilize flagstone path between the pedestrian bridge and the memorial plaza.
- Stabilize the extant vegetation dating to Palmer's planting plan, particularly the remaining mature white pines of the memorial and the shrub layer.
- Revise maintenance practices to guard against damage to the base of trees and other features on site.
- Modify pruning techniques used on the mature cherrylaurel bushes throughout the memorial.
- Remove social trails by aerating the soil and replanting groundcover in these locations.
- Aerate the soil around trees to alleviate soil compaction.
- Repair benches that have been damaged.
- Remove Autumn clematis and other invasive vegetation along the Boundary Channel shoreline.

Approved Treatments

Type

Restoration

Completed

No

Document

Cultural Landscape Report (CLR)

Narrative

In 2009, the GWMP approved a CLR for the vegetation of the central section of the parkway, including LYBA. This document recommended the restoration of the memorial grove where there were large gaps in the canopy, restoration of the cottonwoods through replacement with genetically identical scions, restoration or rehabilitation of the shrubs and perennial plantings throughout the memorial, removal of invasive plants in the woodlands, and restoration of the view of the pedestrian bridge from the flagstone path on the island. The intention of the treatment recommendations outlined in the CLR is to restore Palmer's planting plan for the memorial during the site's period of significance.

Estimated Cost ($)

None given.

Treatment Cost ($)

None given.

Estimated Cost Date

N/A

Estimate Level

B – Preliminary Plans/HSR or CLR

Estimator

N/A

Cost Narrative (Optional—4000 characters)

N/A

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Kelsch, Paul; Annalisa Miller, Irene Mills, and Jacye Swallow	Cultural Landscape Report: The Vegetation of the George Washington Memorial Parkway, Central Section: Alexandria to Arlington Memorial Bridge	2009	National Park Service, Washington, DC
Koman, Rita G.	"…To Leave This Splendor for Our Grand Children": Lady Bird Johnson, Environmentalist Extraordinaire	2001	Oxford University Press on behalf of Organization of American Historians
Koski-Karell, Daniel	The Pentagon Building, National Register Nomination	1992	National Park Service, Washington, DC
Kuhn, Patti; Sarah Groesbeck, and John Bedell	George Washington Memorial Parkway Historic District, National Register Nomination (Draft Update)	2020	National Park Service, Washington, DC
Land Resources Division	George Washington Memorial Parkway Tract Register	2004; Revised 2008	National Park Service, Washington, DC
Land Resources Division	Lyndon Baines Johnson Memorial Grove Tract Register	1979; Revised 2008	National Park Service, Washington, DC

LBJ Presidential Library	Birthday Observance for President Lyndon B. Johnson Set for Tuesday August 27	2013	LBJ Presidential Library, Austin, Texas
LBJ Presidential Library	We Remember President Lyndon B. Johnson's Birthday on August 27th	2020	LBJ Presidential Library, Austin, Texas
Leach, Sara Amy	Johnson Grove Pedestrian Bridge, Spanning Boundary Channel at pedestrian trail, Arlington, Arlington County, VA	1994	Historic American Engineering Record, National Park Service, Washington, DC
Long Bridge Project	Welcome to the Long Bridge Project	2020	Long Bridge Project, Washington, DC
Long Bridge Project	Appendix E3: Long Bridge Project Section 106 Assessment of Effects Report	2018	Long Bridge Project, Washington, DC
Long Bridge Project	Appendix D2: Long Bridge Project Environmental Impact Statement	2019	Long Bridge Project, Washington, DC
López, Noel	Fishing Study	2020	Unpublished email
Louis Berger Group, Inc.	Historic Context Statement for Washington's LGBTQ Resources	2019	District of Columbia Office of Planning
Mackintosh, Barry	George Washington Memorial Parkway Administrative History	1994	Park History Program, National Park Service, Washington, DC
Meersman, Roger	The John F. Kennedy Center for the Performing Arts: From Dream to Reality	1980a	Historical Society of Washington, DC
Meersman, Roger	The John F. Kennedy Center for the Performing Arts: The Early Years of Operation	1980b	Historical Society of Washington, DC
Moss, Saylor	National Park Service Cultural Landscapes Inventory: Theodore Roosevelt Island	2016	National Park Service, Washington, DC
Moss, Saylor	"DC's Island Sanctuary: Managing Nature and Culture on Theodore Roosevelt Island" in Rethinking Protected Areas in a Changing World: Proceedings of the 2011 George Wright Society Biennial Conference on Parks, Protected Areas, and Cultural Studies	2012	The George Wright Society

National Capital Region	GWMP Floral Enhancement, Darwina Neal Beautification Files	[Various]	National Park Service, Washington, DC
National Capital Region	Lyndon B. Johnson Memorial Grove, Darwina Neal Beautification Files	[Various]	National Park Service, Washington, DC
National Capital Region	Lady Bird Johnson's Beautification Program Files	[Various]	National Park Service, Washington, DC
National Capital Parks	Elevations on Bottom of Lagoon	1955	National Park Service, Washington, DC
National Capital Region	Water Supply and Dock Lighting (LYBA_835_83165A_[60297])	1965	National Park Service, Washington, DC
National Capital Region	Composite Planting Plan (LYBA_835_80191)	1971	National Park Service, Washington, DC
National Capital Region	Berm Study and Topographic Study (LYBA_835_80017)	1977	National Park Service, Washington, DC
National Capital Region	Repairs to LBJ Pedestrian Bridge (LYBA_835_80021_[32726])	1980	National Park Service, Washington, DC
National Park Service	Audio Station Lyndon B. Johnson Memorial Grove (LYBA_835_15001_[207877])	1977	National Park Service, Washington, DC
National Park Service	Lyndon Baines Johnson Memorial Grove Segment 101 (LYBA_835_92004)	1979	National Park Service, Washington, DC
National Park Service	Rehabilitation of Columbia Island Marina Roadways and Parking Area (LYBA_835_80229_[176610])	1995	National Park Service, Washington, DC
National Park Service	Reservation 344, Reservation Files	[Various]	National Park Service, Washington, DC
National Park Service - Planning,	Installation of Anchors at Picnic Tables	2005	PEPC, National Park Service

Environment & Public Comment (NPS PEPC)			
National Park Service - Planning, Environment & Public Comment (NPS PEPC)	LBJ Grove Revive Landscape Plantings and First Bloom Project	2008	PEPC, National Park Service
National Park Service - Planning, Environment & Public Comment (NPS PEPC)	LBJ Grove Audio System Wayside	2011	PEPC, National Park Service
National Park Service - Planning, Environment & Public Comment (NPS PEPC)	Treatment for the Pedestrian Bridge at the Lyndon B. Johnson Memorial Grove	2017	PEPC, National Park Service
National Park Service - Planning, Environment & Public Comment (NPS PEPC)	Vegetative Restoration of Boundary Channel Shorelines in Virginia and Washington, DC	2017	PEPC, National Park Service
National Park Service - Planning, Environment & Public Comment (NPS PEPC)	2018 Exotic Removal & Plantings: Lady Bird Johnson Park & Lyndon B. Johnson Memorial Grove	2018	PEPC, National Park Service
National Park Service - Planning, Environment & Public Comment (NPS PEPC)	PEPCO Potomac River Substation Oil Spill Damage Assessment and Restoration Plan (DARP)	2018	PEPC, National Park Service
National Register of Historic Places (NRHP)	National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation	1990; Revised 1991-1997	National Park Service, Washington, DC
National Weather Service	Advanced Hydrologic Prediction Service	2019	National Oceanic and Atmospheric Administration, Washington, DC
Ossi, Damien	DOEE Data for NPS Lands	2021	Unpublished email

Palmer, Meade	Narrative Report to Accompany Plans for Proposed President Lyndon B. Johnson Grove	1974	Unpublished manuscript
Palmer Meade	Limits of Project (LYBA_835_80012_[127931])	1975	National Capital Region, National Park Service, Washington, DC
Palmer, Meade and the Mills & Petticord Partnership	Lyndon B. Johnson Memorial Grove (LYBA_835_80013A_[233270])	1975	National Capital Region, National Park Service, Washington, DC
Palmer, Meade and the Mills & Petticord Partnership	Lyndon B. Johnson Memorial Grove Phase II (LYBA_835_80014_[54450])	1976	National Capital Region, National Park Service, Washington, DC
Palmer, Meade and the Mills & Petticord Partnership	Lyndon B. Johnson Memorial Grove Planting Plan (LYBA_835_80020_A)	1984; Revised 1979-1984	National Capital Region, National Park Service, Washington, DC
Palmer, Meade and the Mills & Petticord Partnership	Lyndon B. Johnson Memorial Grove Planting Plan (LYBA_835_80020_B)	1990; Revised 1979-1990	National Capital Region, National Park Service, Washington, DC
Palmer, Meade and the Mills & Petticord Partnership	Lyndon B. Johnson Memorial Grove Planting Plan (LYBA_835_80020_C)	1991; Revised 1979-1991	National Capital Region, National Park Service, Washington, DC
Parsons, John G.	The Public Struggle to Erect the Franklin Delano Roosevelt Memorial	2012	University of Wisconsin Press
Perry, Nancy; Spencer Crew, and Nigel M. Waters	"We didn't have any other place to live": Residential Patterns in Segregated Arlington County, VA	2013	The University of North Carolina Press
Petroski, Henry	Engineering: The Washington Monument	2012	Sigma Xi, The Scientific Research Honor Society
Philadelphia Gay News	US Park Police Harassing Gays	1977	Reveal Digital

Pliska, Jonathan; Meghan Clemmens, Anne E. Kidd, and Cal J. Mincey	Historic American Landscapes Survey (HALS): Theodore Roosevelt Island (Analostan Island, Mason's Island)	2008	Historic American Landscape Survey, National Park Service, Washington, DC
Potter, Stephen R.	Commoners, Tribute, and Chiefs: The Development of Algonquian Culture in the Potomac Valley	1993	University Press of Virginia
Rainey, Reuben M.	The Choreography of Memory: Lawrence Halprin's Franklin Delano Roosevelt Memorial	2012	University of Wisconsin Press
Rives, Alfred	Report of the Secretary of the Interior Communicating the Report and Surveys Made in Obedience to a Resolution of Congress, Respecting the Construction of a New and Substantial Bridge across the Potomac	1857	Department of the Interior, Washington, DC
Robinson & Associates, Inc.	George Washington Memorial Parkway Administrative History 1985-2010	2011	National Park Service, Washington, DC
Savage, Kirk	Monument Wars: Washington, DC, the National Mall, and the Transformation of the Memorial Landscape	2011	University of California Press
Scanlon, Sandra	'That Bitch of a War': Lyndon B. Johnson and Vietnam	2008	Wordwell Ltd.
Scott, Pamela	Capital Engineers: The US Army Corps of Engineers in the Development of Washington, DC 1790-2004	2012	Office of History, US Army Corps of Engineers
Shanken, Andrew M.	Planning Memory: Living Memorials in the United States during World War II	2002	College Art Association
Smith, Nancy Kegan	Private Reflections on a Public Life: The Papers on Lady Bird Johnson at the LBJ Library	1990	Wiley on behalf of the Center for the Study of the Presidency and Congress
Starke, Barry	M. Meade Palmer Inquiry	2021	Unpublished email
Takahashi, Nancy ed.	The Work of Meade Palmer: Sixty Years of Landscape Architecture	1990	University of Virginia

Texas State Society of Washington, DC	Texas State Society History: 1980-1989	2019	Texas State Society of Washington, DC, Alexandria, VA
The Baltimore Sun	Dispute Recalls Days Spent at the Submarine Races	2001	The Baltimore Sun, Baltimore, MD
The New York Times	Grove is Dedicated to Johnson	1974	The New York Times, New York City
The New York Times	Johnson Quotations Selected for Memorial Grove	1975	The New York Times, New York City
The New York Times	Eisenhower Memorial, Delayed by Design Disputes, Opens This Week	2020	The New York Times (Online), New York City
The New York Times	Is It Possible That the Eisenhower Memorial Will Finally Get Built?	2017	The New York Times (Online), New York City
Pogrebin, Robin	Eisenhower Memorial Design Approved	2015	The New York Times (Online), New York City
The Washington Evening Star	180-Acre Island Park is Planned in Mid Potomac	1920	The Washington Evening Star, Washington, DC
The Washington Evening Star	Isle May Figure in Park System	1922	The Washington Evening Star, Washington, DC
The Washington Evening Star	Nation's Premier Amusement Isle Promised for DC	1922	The Washington Evening Star, Washington, DC
The Washington Evening Star	Free Ferry Provided New Bathing Beach	1922	The Washington Evening Star, Washington, DC
The Washington Evening Star	Reports Progress on Island Park	1923	The Washington Evening Star, Washington, DC
The Washington Evening Star	Island to Be Farm	1924	The Washington Evening Star, Washington, DC

The Washington Evening Star	Columbia Island Will Rise 20 Feet in Constructing Memorial Bridge	1925	The Washington Evening Star, Washington, DC
The Washington Evening Star	Sherrill Indorses [sic] Changes on River	1925	The Washington Evening Star, Washington, DC
The Washington Evening Star	Work Well Begun on Arlington Span	1925	The Washington Evening Star, Washington, DC
The Washington Evening Star	Columbia Island Survey is Sought	1927	The Washington Evening Star, Washington, DC
The Washington Evening Star	US Moves to Buy Analostan Island	1927	The Washington Evening Star, Washington, DC
The Washington Evening Star	Gravelly Point Site Favored as Airport for Capital City	1927	The Washington Evening Star, Washington, DC
The Washington Evening Star	Marine Memorial Dedication Soon	1935	The Washington Evening Star, Washington, DC
The Washington Evening Star	Scout Jamboree Will Bring 30,000	1936	The Washington Evening Star, Washington, DC
The Washington Evening Star	Parks Officails [sic] Will Weigh Plan to Fill Channel	1936	The Washington Evening Star, Washington, DC
The Washington Evening Star	LBJ Memorial Grove: View of DC Immortalized	1973	The Washington Evening Star, Washington, DC
The Washington Evening Star	Memorial Site Okd [sic] by Lady Bird	1973	The Washington Evening Star, Washington, DC
The Washington Evening Star	A Grove for LBJ in Park?	1973	The Washington Evening Star, Washington, DC

The Washington Evening Star	Seeking a Focal Point to a Living Memorial	1974	The Washington Evening Star, Washington, DC
The Washington Evening Star	Groundbreaking Set for LBJ Memorial	1974	The Washington Evening Star, Washington, DC
The Washington Evening Star	Memorial for "a Big Man, a Strong Man"	1974	The Washington Evening Star, Washington, DC
The Washington Evening Star	A Medal for Lady Bird	1975	The Washington Evening Star, Washington, DC
The Washington Evening Star	He's Turning Granite into a Symbol of LBJ	1975	The Washington Evening Star, Washington, DC
The Washington Evening Star	LBJ Memorial	1975	The Washington Evening Star, Washington, DC
The Washington Evening Star	LBJ Grove Completed	1976	The Washington Evening Star, Washington, DC
The Washington Evening Star	Bicentennial Guide	1976	The Washington Evening Star, Washington, DC
The Washington Evening Star	LBJ Grove Bridge Begun	1976	The Washington Evening Star, Washington, DC
The Washington Evening Star	Lady Bird Dedicates Footbridge	1977	The Washington Evening Star, Washington, DC
The Washington Evening Star	Local Notes…	1978	The Washington Evening Star, Washington, DC
The Washington Evening Star	There's a Picnic Site for Nearly Every Taste and Mood	1979	The Washington Evening Star, Washington, DC

The Washington Post	River Park Urged at Columbia Island by Fine Arts Body	1927	The Washington Post, Washington, DC
The Washington Post	LBJ Memorial Grove on Columbia Island is Dedicated: Ford Calls Former President "a Big Man, a Strong Man"	1974	The Washington Post, Washington, DC
The Washington Post	45-Ton Rock for LBJ Grove	1975	The Washington Post, Washington, DC
The Washington Post	A Budding Grove: LBJ: Past Recaptured a Memorial Grove for LBJ	1976	The Washington Post, Washington, DC
The Washington Post	Columbia Island is Largely Ignored	1966	The Washington Post, Washington, DC
The Washington Post	Landscape Architect M. Meade Palmer Dies	2001	The Washington Post, Washington, DC
The Washington Post	Judges Get Tough on GW Parkway Sex Cases	2001	The Washington Post, Washington, DC
The Washington Times	Hains Point Named for Its Engineer	2008	The Washington Times, Washington, DC
Thomas, Lindsay Kay, Jr.	Geomorphology and Vegetation of Theodore Roosevelt Island	1963	National Park Service, Washington, DC
Thompson, J. William and Woody Cady	Private Universe, Public Inheritance	1991	American Society of Landscape Architects
University of Chicago Press	An Interview with David K. Johnson	2004	University of Chicago Press
US Army Corps of Engineers	Photographic mosaic map, Washington, DC	1928	US Army Corps of Engineers, Washington, DC
US Army Corps of Engineers	Lagoon and Boundary Channel (GWMP_850_85215)	1943	National Capital Region, National

			Park Service, Washington, DC
US Census Bureau	QuickFacts Arlington County, Virginia; United States	2019a	US Census Bureau, Washington, DC
US Census Bureau	QuickFacts Washington City, District of Columbia; United States	2019b	US Census Bureau, Washington, DC
US Coast and Geodetic Survey	Photomap of Central Washington, DC and Adjacent Part of Arlington	1946	US. Coast and Geodetic Survey, Washington, DC
US Department of Agriculture	USDA Plant Hardiness Zone Map, 2012	2012	Agricultural Research Service, US Department of Agriculture (USDA), Washington, DC
US Department of Agriculture	Soil Survey Geographic Database	2020	Natural Resources Conservation Service, US Department of Agriculture (USDA), Washington, DC
US Geological Survey	Washington and vicinity, Maryland, Virginia, District of Columbia.	1944	US Geological Survey, Washington, DC
US Geological Survey	Satellite Photography of Washington, DC	2004	Google Earth/Digital Globe, Mountain View, CA
US Geological Survey	Satellite Photography of Washington, DC	2005	Google Earth/Digital Globe, Mountain View, CA
US Geological Survey	Satellite Photography of Washington, DC	2012	Google Earth/Digital Globe, Mountain View, CA
US Geological Survey	Satellite Photography of Washington, DC	2013	Google Earth/Digital Globe, Mountain View, CA
US Geological Survey	Satellite Photography of Washington, DC	2017	Google Earth/Digital

			Globe, Mountain View, CA
US Geological Survey	Satellite Photography of Washington, DC	2018	Google Earth/Digital Globe, Mountain View, CA
US Geological Survey	Topographic Lidar Surveys	2015	US Geological Survey, Washington, DC
Virta, Matthew	LBJ Memorial Grove CLI Question	2020	Unpublished email
Washington Service Center	Dredging Columbia Island Marina (LYBA_835_83172_[131665])	1966	National Park Service, Washington, DC

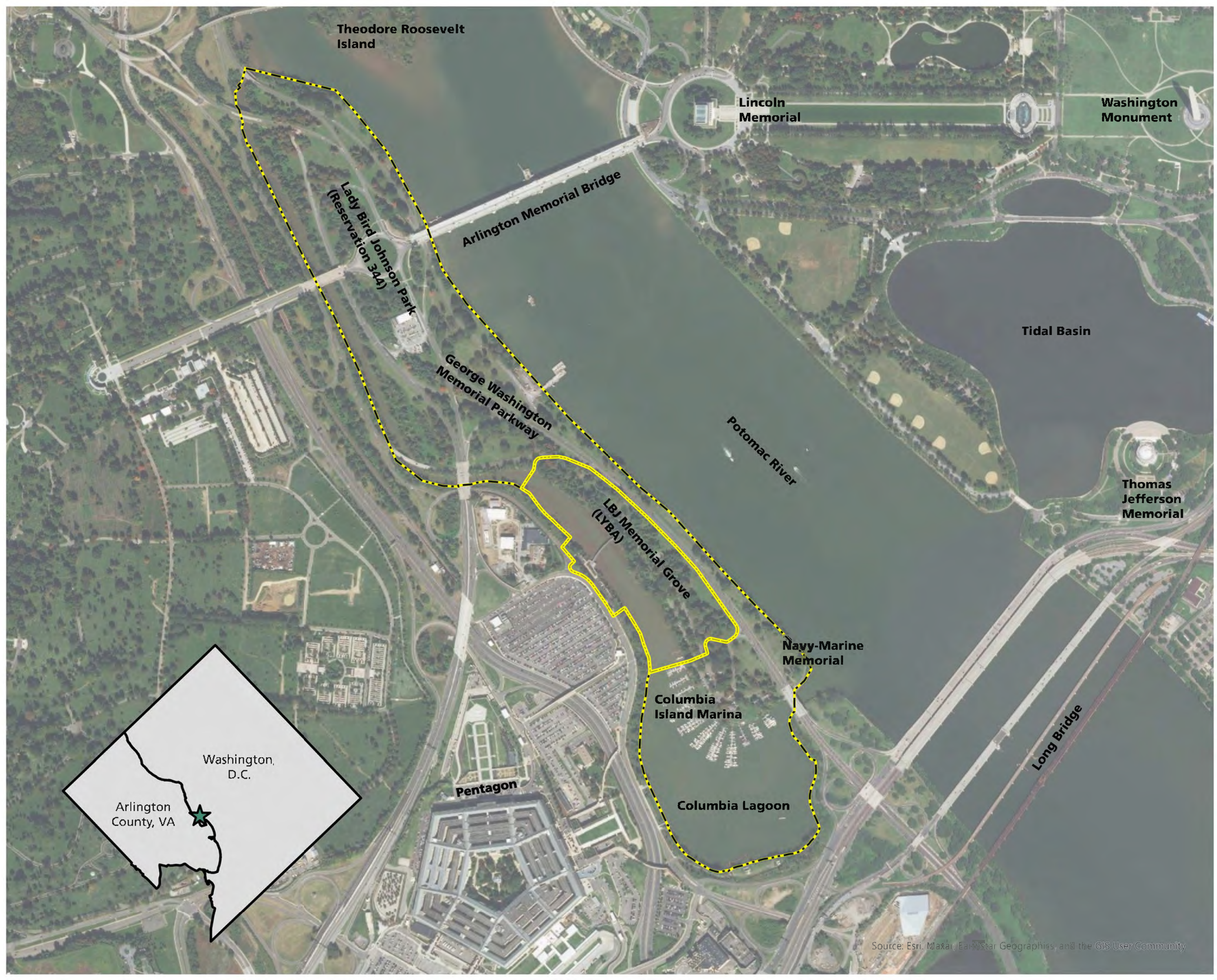
Supplemental Information

Supplemental Information Title	Supplemental Information Narrative
N/A	N/A

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Location Map



National Park Service
National Capital Area Office

Sources

1. Lady Bird Johnson Park CLI GIS, 2013
2. Ortho Imagery, 2021
3. NPS Segment Map 101, 2008
4. GSA Permit GS-PBS-03-79-4, 1979
5. Open Data DC, 2019
6. Arlington County Open Data, 2021

Drawn By

Angelina Jones, ArcGIS Pro 2.6, 2021

Legend

- LBJ Memorial Grove CLI (Component Landscape)
- Lady Bird Johnson Park CLI (Parent Landscape)

Notes

1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 3 as of 08/23/22
3. The Lady Bird Johnson Park CLI boundary includes both the Boundary Channel and Columbia Lagoon. The inclusion of the Boundary Channel within the boundaries of the LYBA CLI is consistent with the boundaries established by the Lady Bird Johnson Park parent CLI.

N

0 300 600 1,200 1,800
Feet

Drawing #1a

#	Resource Name
1	Meadow Path
2	Flagstone Path
3	Pentagon Reservation Parking Lot and Median
4	Pentagon Reservation Sidewalks Bordering the Parking Lot
5	Pentagon Reservation Sidewalk South of the Parking Lot
6	Path at Marina Entrance
7	Exposed Aggregate Sidewalk at Marina Entrance
8	Marina Parking Lot and Medians
9	Asphalt Paths along Shoreline and East of Marina Parking Lot
10	Asphalt Walk adjacent to Entry Drive
11	Retaining Wall and Planters at the Pentagon Reservation Entrance
12	Pedestrian Bridge and Decks
13	Retaining Wall Framing the Memorial Plaza
14	Flagstone Memorial Plaza
15	Rip Rap along Shoreline Installed in 1940 (Approx. Location)
16	Rip Rap along Shoreline Associated with Palmer's Design (Approx. Location)

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Site Plan- Existing

National Park Service
National Capital Area Office

Sources
1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.9.1, 2021

Legend

- LBJ Memorial Grove CLI
- Circulation - Non Contributing-Compatible
- Circulation - Contributing
- Buildings + Structures, Contributing
- Social Trails - Non Contributing-Incompatible
- Buildings + Structures, Contributing
- Buildings + Structures, Non Contributing-Compatible
- Buildings + Structures, Undetermined
- Small-Scale Features, Contributing
- Small-Scale Features, Non Contributing-Compatible
- Small-Scale Features, Undetermined
- Circulation, Non Contributing-Compatible

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 1 as of 08/23/22
3. This site plan combines Circulation, Buildings + Structures, and Small-Scale Features data. For detailed plans of these and other landscape characteristics, see the relevant section of the LYBA CLI Analysis and Evaluation.

N 0 70 140 280 420 Feet

Drawing #1b

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Physiographic Context - Existing

National Park Service
National Capital Area Office

Sources

1. USDA Soil Surveys, 2019, 2020
2. FEMA Flood Insurance Risk Map (FIRM), 2020
3. Ortho Imagery, 2021
4. NPS Segment Map 101, 2008
5. GSA Permit GS-PBS-03-79-4, 1979

Drawn By

Angelina Jones, ArcGIS Pro 2.6, 2021

Legend

- Lady Bird Johnson Park CLI (Parent Landscape)
- LBJ Memorial Grove CLI (Component Landscape)

Soils

- Udorthents (Survey VA013)
- Bibb Sandy Loam (DC001)
- Lindside Loam (DC001)
- Udorthents (Survey DC001)
- Udorthents - Sandy (Survey DC001)
- Udifluvents - Sandy (Survey DC001)
- Boundary Channel

FEMA Flood Data

- 1% annual chance of flood (the 100-year floodplain)
- Areas determined to be outside the 0.2% annual chance floodplain
- Areas with 0.2% annual chance flood
- No data

Notes

1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. The data displayed here is also presented in Drawing #4 at a different scale.

N

0 300 600 1,200 1,800
Feet

Drawing #2

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove

Cultural + Political Context - Existing

National Park Service
National Capital Area Office

Sources

1. Lady Bird Johnson Park CLI GIS, 2013
2. Ortho Imagery, 2021
3. NPS Segment Map 101, 2008
4. GSA Permit GS-PBS-03-79-4, 1979
5. Open Data DC, 2019
6. Arlington County Open Data, 2021
7. City of Alexandria Open Data, 2020

Drawn By

Angelina Jones, ArcGIS Pro 2.6, 2021

Washington, D.C.

Georgetown

Arlington County, VA

Potomac River

Anacostia River

City of Alexandria, VA

Old Town Alexandria

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Lady Bird Johnson Park CLI (Parent Landscape)
- LBJ Memorial Grove CLI (Component Landscape)
- Washington, D.C.
- Arlington County, VA
- Old Town Alexandria
- Georgetown
- City of Alexandria, VA
- Potomac + Anacostia Rivers

Notes

1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21

N

0 5,000 10,000 15,000

Feet

Drawing #3

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Natural Systems and Features - Existing

National Park Service
National Capital Area Office

Sources
1. USDA Soil Surveys, 2019, 2020
2. FEMA Flood Insurance Risk Map (FIRM), 2020
3. Ortho Imagery, 2021
4. NPS Segment Map 101, 2008
5. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.6. 2021

Legend
- LBJ Memorial Grove CLI
- Soils
  - Udorthents (Survey VA013)
  - Udorthents (Survey DC001)
  - Udorthents - Sandy (Survey DC001)
  - Udifluvents - Sandy (Survey DC001)
  - Boundary Channel
- FEMA Flood Data
  - 1% annual chance of flood (the 100-year floodplain)
  - Areas determined to be outside the 0.2% annual chance floodplain
  - Areas with 0.2% annual chance flood
  - No data

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. The natural system of water dynamics contributes to the cultural landscape. The soil and hydrological conditions presented in this map are shaped by this natural system, but are non-contributing features.
4. The data displayed here is also presented in Drawing #2 at a different scale.

N
0 70 140 280 420
Feet

Drawing #4

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Spatial Organization + Land Use - Existing

National Park Service
National Capital Area Office

Sources
1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.6, 2021

Legend
- LBJ Memorial Grove CLI
- Boundary Channel
- Marina Parking Lot
- Meadow
- Memorial Grove
- Pentagon Reservation Entrance

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. All features on this map are contributing resources.

N 0 70 140 280 420 Feet

Drawing #5

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Topography - Existing

National Park Service
National Capital Area Office

Sources
1. Open Data DC, 2008
2. Ortho Imagery, 2021
3. NPS Segment Map 101, 2008
4. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.6, 2021

Legend
- Topographic Contours
- LBJ Memorial Grove CLI
- Palmer-designed Berms
- Palmer-designed Plaza

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. Contour Interval= 2 Foot
4. Data unavailable for the Pentagon Reservation
5. All features on this map are contributing resources.

N 0 70 140 280 420 Feet

Drawing #6

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Plant Species Co	Plant Species	Count
Ame sp.	Amelanchier sp.	0
Aza sp.	Azalea sp.	9
Cle al	Clethra alnifolia	4
Ham vi	Hamamelis virginiana	18
Ile ve	Ilex verticillata	0
Pru la	Prunus laurocerasus	15
Vib sp.	Viburnum sp.	19
Ace ne	Acer negundo	1
Ace ru	Acer rubrum	9
Ace sa	Acer saccharinum	0
Ace sac	Acer saccharum	3
Ace sp.	Acer sp.	0
Aes hi	Aesculus hippocastanum	1
Cer ca	Cercis canadensis	0
Cor fl	Cornus florida	60
Ile sp.	Ilex sp.	0
Jug ni	Juglans nigra	0
Koe pa	Koelreuteria paniculata	3
Lir tu	Liriodendron tulipifera	0
Nys sa	Nyssa sylvatica	0
Pin st	Pinus strobus	467
Pla oc	Platanus occidentalis	6
Pop de	Populus deltoides	17
Pru sp.	Prunus sp.	1
Pyr sp.	Pyrus sp.	1
Que ph	Quercus phellos	30
Rob ps	Robinia pseudoacacia	0
Sal ba	Salix babylonica	1
Sty ja	Styphnolobium japonicum	9
Ulm sp.	Ulmus sp.	0

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Vegetation - Existing - Contributing

National Park Service
National Capital Area Office

Sources

1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By

Angelina Jones, ArcGIS Pro 2.6, 2021

Legend

LBJ Memorial Grove CLI

Planting Beds
- Narcissus spp
- Planter

Shrubs
- Aza sp.
- Cle al
- Ham sp.
- Pru la
- Vib sp.

White Pine Grove
- Planted at 1974 Groundbreaking
- Pin st

Understory Trees
- Cor fl

Other Canopy Trees
- Ace ne
- Ace ru
- Ace sac
- Aes hi
- Koe pa
- Pla oc
- Pop de
- Pru sp.
- Pyr sp.
- Que ph
- Sal ba
- Sty ja

Notes

1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. This map displays trees, shrubs, and planting beds at LBJ Memorial Grove within Meade Palmer's project boundaries. This excludes the naturalized island shoreline along the Boundary Channel and most of the vegetation east and west of the Columbia Island Marina parking lot.

N 0 70 140 280 420 Feet

Drawing #7a



Plant Species Code	Plant Species	Count
Ame sp.	Amelanchier sp.	2
Aza sp.	Azalea sp.	6
Cle al	Clethra alnifolia	0
Ham vi	Hamamelis virginiana	14
Ile ve	Ilex verticillata	3
Pru la	Prunus laurocerasus	5
Vib sp.	Viburnum sp.	0
Ace ne	Acer negundo	2
Ace ru	Acer rubrum	19
Ace sa	Acer saccharinum	6
Ace sac	Acer saccharum	0
Ace sp.	Acer sp.	5
Aes hi	Aesculus hippocastanum	0
Cer ca	Cercis canadensis	7
Cor fl	Cornus florida	14
Ile sp.	Ilex sp. Cluster	2
Jug ni	Juglans nigra	3
Koe pa	Koelreuteria paniculata	4
Lir tu	Liriodendron tulipifera	1
Nys sa	Nyssa sylvatica	7
Pin st	Pinus strobus	16
Pla oc	Platanus occidentalis	22
Pop de	Populus deltoides	0
Pru sp.	Prunus sp.	6
Pyr sp.	Pyrus sp.	0
Que ph	Quercus phellos	4
Rob ps	Robinia pseudoacacia	4
Sal ba	Salix babylonica	0
Sty ja	Styphnolobium japonicum	3
Ulm sp.	Ulmus sp.	2

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Vegetation - Existing
Non-Contributing and Undetermined

National Park Service
National Capital Area Office

Sources

1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By

Angelina Jones, ArcGIS Pro 2.6, 2021

Legend

- LBJ Memorial Grove CLI
- Planting Beds
  - Nar spp. - Non Contributing-Compatible
- Shrubs
  - Ame sp. - Non Contributing-Incompatible
  - Aza sp. - Non Contributing-Compatible
  - Ham sp. - Non Contributing-Compatible
  - Ile ve - Non Contributing-Incompatible
  - Pru la - Non Contributing-Compatible
- White Pine Grove
  - Pin st - Non Contributing-Compatible
  - Pin st - Undetermined
- Understory Trees
  - Cer ca - Non Contributing-Incompatible
  - Cor fl - Non Contributing-Compatible
  - Cor fl - Non Contributing-Incompatible
- Other Canopy Trees
  - Ace ne - Undetermined
  - Ace ru - Non Contributing-Compatible
  - Ace ru - Undetermined
  - Ace sa - Non Contributing-Compatible
  - Ace sa - Undetermined
  - Ace sp. - Undetermined
  - Ile sp. - Non Contributing-Compatible
  - Jug ni - Undetermined
  - Koe pa - Undetermined
  - Lir tu - Non Contributing-Compatible
  - Nys sa - Non Contributing-Incompatible
  - Pla oc - Non Contributing-Compatible
  - Pla oc - Undetermined
  - Pru sp. - Undetermined
  - Que ph - Non Contributing-Compatible
  - Rob ps - Undetermined
  - Sty ja - Undetermined
  - Ulm sp. - Undetermined

Notes

1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. This map displays trees, shrubs, and planting beds at LBJ Memorial Grove within Meade Palmer's project boundaries. This excludes the naturalized island shoreline along the Boundary Channel and most of the vegetation east and west of the Columbia Island Marina parking lot.

N

0 70 140 280 420

Feet

Drawing #7b

#	Resource Name
1	Meadow Path
2	Flagstone Apron Associated with Accessible Fountain
3	Flagstone Apron Associated with Granite Fountains
4	Flagstone Path
5	Pentagon Reservation Parking Lot and Median
6	Pentagon Reservation Sidewalks Bordering the Parking Lot
7	Pentagon Reservation Sidewalk South of the Parking Lot
8	Path at Marina Entrance
9	Exposed Aggregate Sidewalk at Marina Entrance
10	Marina Parking Lot and Medians
11	Asphalt Paths along Shoreline and East of Marina Parking Lot
12	Asphalt Walk adjacent to Entry Drive

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Circulation - Existing

National Park Service
National Capital Area Office

Sources
1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.6, 2021

Legend

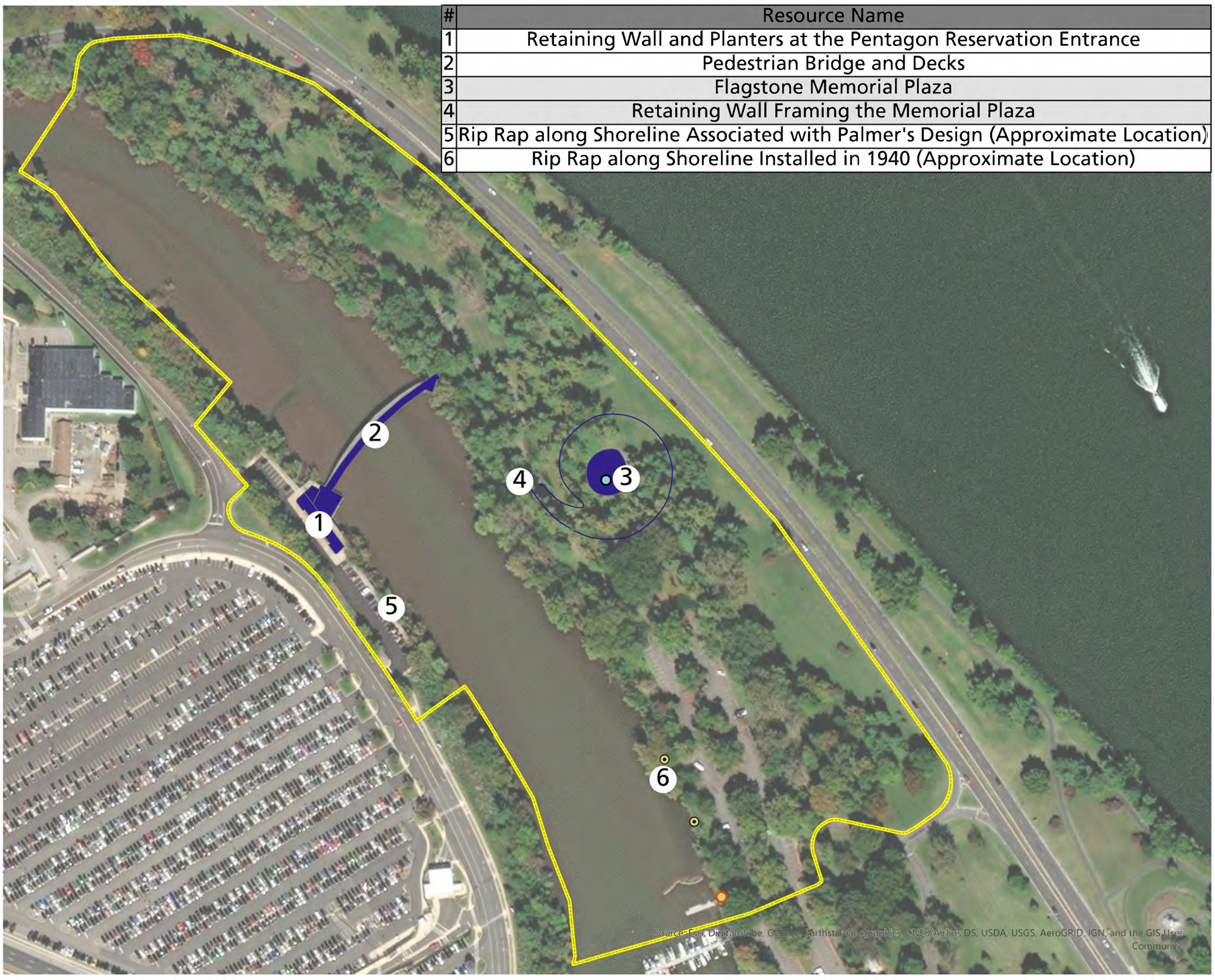
- LBJ Memorial Grove CLI
- Circulation - Contributing
- Circulation - Non Contributing-Compatible
- Boundary Channel
- Social Trails - Non Contributing-Incompatible
- Flagstone Edging - Non Contributing-Compatible

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21

N 0 70 140 280 420 Feet

Drawing #8

#	Resource Name
1	Retaining Wall and Planters at the Pentagon Reservation Entrance
2	Pedestrian Bridge and Decks
3	Flagstone Memorial Plaza
4	Retaining Wall Framing the Memorial Plaza
5	Rip Rap along Shoreline Associated with Palmer's Design (Approximate Location)
6	Rip Rap along Shoreline Installed in 1940 (Approximate Location)



Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Building and Structures - Existing

National Park Service
National Capital Area Office

Sources
1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.6, 2021

Legend
- LBJ Memorial Grove CLI
- Buildings + Structures - Contributing
- Megalith - Contributing
- Culvert Headwall - Undetermined
- Pier - Non Contributing-Compatible

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21

N
0 70 140 280 420
Feet

Drawing #9



A

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Views and Vistas - Existing
Pentagon Reservation

National Park Service
National Capital Area Office

Sources
1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.6, 2021

Legend
- LBJ Memorial Grove CLI
- Pentagon Reservation Entrance

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. All features on this map are contributing resources.

N 0 70 140 280 420 Feet

Drawing #10a


B


C


D

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Views and Vistas - Existing
Boundary Channel

National Park Service
National Capital Area Office

Sources
1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.6, 2021

Legend
- LBJ Memorial Grove CLI
- Boundary Channel

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. All features on this map are contributing resources.

N
0 70 140 280 420
Feet

Drawing #10b

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Views and Vistas - Existing
Memorial Grove



E



F



G



H



I

National Park Service
National Capital Area Office

Sources
1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.6, 2021

Legend
- LBJ Memorial Grove CLI
- Memorial Grove

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. All features on this map are contributing resources.

N 0 70 140 280 420 Feet

Drawing #10c



J



K

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Views and Vistas - Existing
Meadow

National Park Service
National Capital Area Office

Sources
1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.6, 2021

Legend
- LBJ Memorial Grove CLI
- Meadow

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. All features on this map are contributing resources.

N 0 70 140 280 420 Feet

Drawing #10d

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Constructed Water Features - Existing

National Park Service
National Capital Area Office

Lady Bird Johnson Park (Reservation 344)

Tidal Basin

Potomac River

Boundary Channel

Columbia Lagoon

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Sources
1. Lady Bird Johnson Park CLI GIS, 2013
2. Ortho Imagery, 2021
3. NPS Segment Map 101, 2008
4. GSA Permit GS-PBS-03-79-4, 1979

Drawn By
Angelina Jones, ArcGIS Pro 2.6, 2021

Legend

- LBJ Memorial Grove CLI (Component Landscape)
- Lady Bird Johnson Park CLI (Parent Landscape)
- Boundary Channel

Notes
1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 2 as of 06/30/21
3. All features on this map within LBJ Memorial Grove boundaries are contributing resources.

N

0 300 600 1,200 1,800

Feet

Drawing #11

Cultural Landscape Inventory

George Washington Memorial Parkway

Lyndon Baines Johnson Memorial Grove
Small-Scale Features - Existing

National Park Service
National Capital Area Office

Sources

1. Ortho Imagery, 2021
2. NPS Segment Map 101, 2008
3. GSA Permit GS-PBS-03-79-4, 1979

Drawn By

Angelina Jones, ArcGIS Pro 2.6, 2021

Legend

- LBJ Memorial Grove CLI
- Bench - Contributing
- Drinking Fountain - Contributing
- Drinking Fountain - Non Contributing-Compatible
- Entry Sign - Non Contributing-Compatible
- Entry Sign - Contributing
- Flagstone Drain - Contributing
- Light Post - Contributing
- Light Post - Non Contributing-Compatible
- Light Post - Undetermined
- Quotation Paver - Contributing
- Trash Receptacle - Non Contributing-Compatible
- Trash Receptacle - Contributing
- Wayside Marker - Non Contributing-Compatible

Notes

1. Projection: NAD 1983 UTM Zone 18N
2. Draft Version 3 as of 03/28/22

N 0 70 140 280 420 Feet

Drawing #12

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community