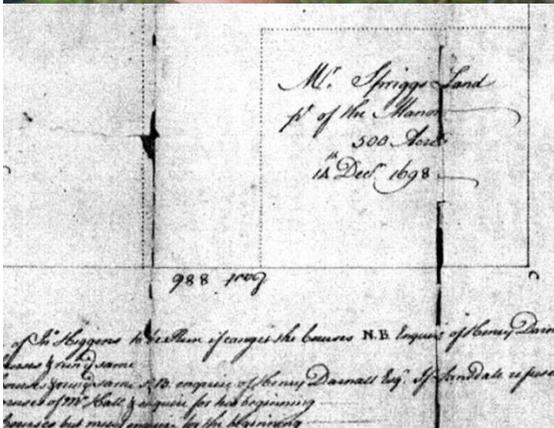


## **APPENDIX D: ARCHEOLOGICAL INVESTIGATION**

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**PHASE IA ARCHAEOLOGICAL INVESTIGATIONS CONDUCTED FOR THE JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS EXPANSION PROJECT IN WASHINGTON, D.C.**

DC SHPO Project No. 13-Not Yet Assigned



Prepared for:

U.S. National Park Service

National Capital Planning Commission

And

John F. Kennedy Center for the Performing Arts

Washington, D.C.

Prepared by:

Paul P. Kreisa, PhD, RPA

Jacqueline M. McDowell, MA

December 2013



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CONDUCTED FOR THE JOHN F. KENNEDY CENTER  
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IN WASHINGTON, D.C.**

**DC SHPO Project No. 13–Not Yet Assigned**

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**December 2013**



## MANAGEMENT SUMMARY

This report documents the results of Phase IA archaeological investigations undertaken by Stantec Consulting Services Inc. (Stantec) at the John F. Kennedy Center for the Performing Arts in northwest Washington, D.C., for the National Park Service, the National Capital Planning Commission, and the John F. Kennedy Center for the Performing Arts. The National Park Service, National Capital Planning Commission, and the John F. Kennedy Center for the Performing Arts have proposed a 60,000-square foot expansion project to meet the Center's current and expanding programs. The proposed addition will consist of either three land-based pavilions or two land-based pavilions with a river pavilion and constitutes an undertaking subject to Section 106 of the National Historic Preservation Act of 1966, as amended. The approach taken for the investigations and this report have been prepared in accord with the standards and guidelines set forth in the Secretary of the Interior's *Standards and Guidelines for Archeological and Historic Preservation* and the DC Preservation League's *Guidelines for Archaeological Investigations in the District of Columbia*.

Stantec consulted several sources of information for this archaeological site potential assessment, including detailed historic map review, GIS-aided review of shoreline migration and cut and fill events, geotechnical borings logs, and archaeological site file and submerged resources database reviews. Reviews of historic maps and aerial photographs from 1818 to 1963 and subsequent analysis of the Potomac River shoreline location and topographic elevations provide evidence for the migration of the shoreline to the west and south and the elevation of the Kennedy Center property by as much as 20 feet of fill. Geotechnical borings suggest that the fill is likely between 19 feet and 29 feet below current grade within the proposed expansion area.

This analysis indicates that the approximate eastern half of the Kennedy Center property comprises a Holocene epoch shoreline of the Potomac River, while the western half is made-land associated with river dredging conducted during the 1880s–1890s and later. The date when fill was placed over the entire property is not known, but it could be associated with one of the river dredging events. This review suggests that now-buried, intact terrestrial landforms, are potentially present across much of the terrestrial portion of the Kennedy Center Expansion project area of potential effects (APE). A potentially buried ca. mid-nineteenth wharf or shipyard is present in the remainder of the terrestrial portion of the Kennedy Center Expansion project APE.

The terrestrial portion of the Kennedy Center Expansion project APE has a high potential for both Native American and Historic period resources. Native American site locations are often clustered along large rivers such as the Potomac River, and the presence of the nearby Potomac River Flats may have provided easy access to riverine subsistence resources. Historic period resources expected in the Kennedy Center Expansion project APE include the former C&O Canal (aka Washington City Canal), wharves and shipyards, and structures associated with the wharves and shipyards. However, Langan Environmental and Engineering Services, Inc. (2013:Figures 7 and 8) suggests that as currently proposed, all excavations associated with the terrestrial portion of the proposed Kennedy Center expansion will be limited to fill deposits. Pilings will likely be driven into or perhaps below existing levels of fill, although there will be no excavations to install the pilings. Therefore, as currently planned, no additional archaeological investigations are warranted within the terrestrial portion of the proposed Kennedy Center

Expansion area. If construction excavations will continue to the depth of fill or below, geoarchaeological investigations should be conducted to determine whether intact land surfaces are present below fill. If such land surfaces are present and will be impacted by construction associated with the Kennedy Center Expansion project, a program of archaeological investigations to identify, evaluate, and mitigate any adverse effects to archaeological resources present should be implemented.

The river pavilion appears to be located in the Pleistocene epoch Potomac River channel and thus has a low potential for inundated terrestrial archaeological sites. As well, no shipwrecks are present at this location in databases reviewed for this project. Finally, the river pavilion is south of former nineteenth- and twentieth-century wharves. There appears to be no potential for archaeological resources associated with the river pavilion, as this location is to be within the Pleistocene epoch Potomac River channel. As such, no additional archaeological investigations are recommended at that location.

## PUBLIC SUMMARY

This report documents the results of Phase IA archaeological investigations undertaken by Stantec Consulting Services Inc. (Stantec) at the John F. Kennedy Center for the Performing Arts in northwest Washington, D.C., for the National Park Service, the National Capital Planning Commission, and the John F. Kennedy Center for the Performing Arts. These groups have proposed a 60,000-square foot expansion project to meet the Center's current and expanding programs. The proposed addition will consist of either three land-based pavilions or two land-based pavilions with a river pavilion and constitutes an undertaking subject to Section 106 of the National Historic Preservation Act of 1966, as amended.

Stantec consulted several sources of information for this assessment, including detailed historic map review, GIS-aided review of shoreline migration and cut and fill events, geotechnical borings logs, and archaeological site file and submerged resources database reviews. Reviews of historic maps and aerial photographs from 1818 to 1963 and analysis of the Potomac River shoreline location and topographic elevations show that the shoreline has expanded to the west and south of the Kennedy Center and that the elevation of the property has been raised by as much as 20 feet of fill, which geotechnical borings suggest is likely between 19 feet and 29 feet below current grade.

This analysis indicates that the eastern half of the property comprises a Holocene epoch shoreline of the Potomac River, while the western half is made-land associated with river dredging conducted during the 1880s–1890s and later. This review suggests that now-buried, intact landforms may be present across much of the terrestrial portion of the project area of potential effects (APE). A potentially buried ca. mid-nineteenth wharf or shipyard is present in the remainder of the terrestrial portion of the Kennedy Center Expansion project APE.

The terrestrial portion of the project APE has a high potential for both Native American and Historic period resources. Native American sites are often clustered along large rivers such as the Potomac, and the nearby Potomac River Flats may have provided easy access to riverine food resources. Historic period resources expected in the project APE include the former C&O Canal (aka Washington City Canal), wharves and shipyards, and structures associated with the wharves and shipyards. However, Langan Environmental and Engineering Services, Inc. (2013:Figures 7 and 8) suggests that as currently proposed, all excavations associated with the terrestrial portion of the proposed expansion will be limited to fill deposits. As currently planned, no additional archaeological investigations are warranted within the terrestrial portion of the proposed expansion area. If construction excavations will continue to the depth of fill or below, geoarchaeological investigations should be conducted to determine whether intact land surfaces are present below fill. If such land surfaces are present and will be impacted by construction associated with the project, a program of archaeological investigations to identify, evaluate, and mitigate any adverse effects to archaeological resources present should be implemented.

The river pavilion appears to be located in the Pleistocene epoch Potomac River channel and has a low potential for inundated terrestrial archaeological sites. Also, databases reviewed for this project show no shipwrecks at this location. Finally, the river pavilion is south of former nineteenth- and twentieth-century wharves. There appears to be no potential for archaeological resources associated with the river pavilion, as this location is to be within the Pleistocene epoch Potomac River channel. As such, no additional archaeological investigations are recommended at that location.



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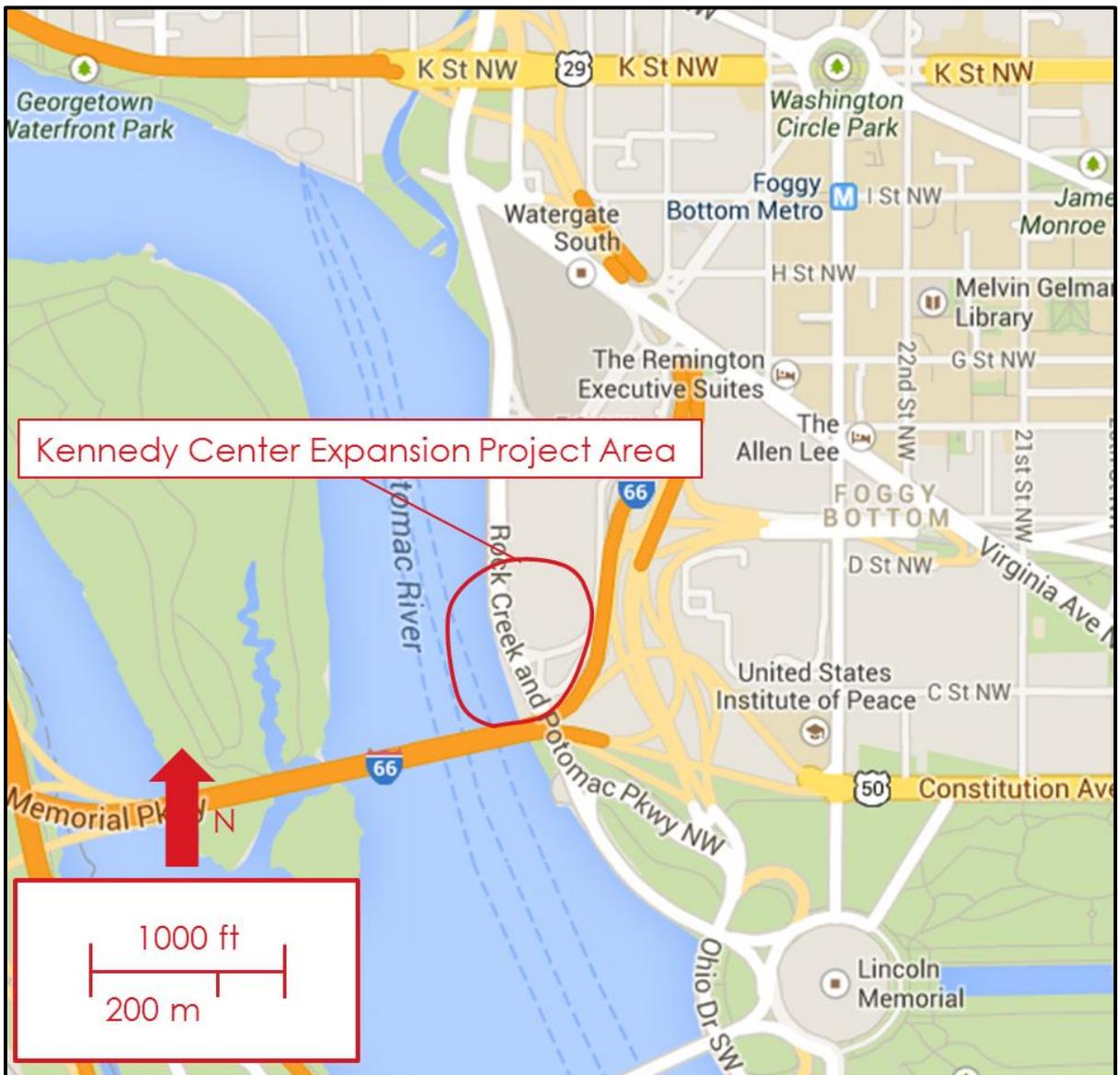
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## 1.0 INTRODUCTION

This report documents the results of Phase IA archaeological investigations undertaken by Stantec Consulting Services Inc. (Stantec) at the John F. Kennedy Center for the Performing Arts (hereafter the Kennedy Center) in northwest Washington, D.C., for the National Park Service, National Capital Planning Commission, and the Kennedy Center (Figure 1). The Kennedy Center is located at 2700 F Street NW at the intersection of New Hampshire Avenue NW and the Rock Creek and Potomac Parkway. Rock Creek Trail also passes the Kennedy Center.



**Figure 1. Location of the Kennedy Center (Google 2013).**

## 1.1 Proposed Undertaking

The John F. Kennedy Center for the Performing Arts, the National Park Service, and the National Capital Planning Commission propose to expand the Kennedy Center's existing Edward Durell Stone building's facilities by ca. 60,000 square feet to serve the Kennedy Center's current and expanding programs. The proposed project area is located between the south façade of the Kennedy Center's existing Edward Durell Stone building and the entrance ramp to the Theodore Roosevelt Memorial Bridge. The proposed project area also would extend across the Rock Creek and Potomac Parkway into the Potomac River.

Two alternatives have been proposed for the Kennedy Center expansion project. The first consists of three land-based pavilions while the second consists of two land-based pavilions plus a river pavilion. The second alternative includes two possible options. The first option would be to construct an at-grade crossing that traverses the Rock Creek and Potomac Parkway. The second option would be to construct a bridge crossing over the Rock Creek and Potomac Parkway and Rock Creek Trail.

The proposed expansion constitutes a federal undertaking, and the project requires compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 USC 470), and its implementing regulations (36 CFR Part 800). The approach taken for the Phase IA archaeological investigations and this report have been prepared in accord with the standards and guidelines set forth in the Secretary of the Interior's *Standards and Guidelines for Archeological and Historic Preservation* (Federal Register 1983) and the DC Preservation League's *Guidelines for Archaeological Investigations in the District of Columbia* (DC Preservation League 1998, as amended).

## 1.2 Project Area Description

The Kennedy Center is located in northwest Washington, D.C., at the intersection of New Hampshire Avenue NW and the Rock Creek and Potomac Parkway (Figure 2). Significant nearby buildings include the Watergate Complex and Embassy of Saudi Arabia to the north and the Department of State to the east. The Lincoln Memorial is located to the southeast, and Theodore Roosevelt Island lies in the Potomac River to the west. The Kennedy Center itself occupies a prominent setting overlooking the Potomac River. The Kennedy Center functions not only as a center for the performing arts, but is also the only memorial to President John F. Kennedy in Washington, D.C.

## 1.3 Geology and Soils

The Kennedy Center is located close to the Fall Line between the Upland Section of the Piedmont Plateau Physiographic Province and the Western Shore Uplands Region of the Coastal Plain Province (Figure 3). The project area is part of the Potomac Estuary and Lowlands District, consisting of the Potomac River and its terraced lowlands and estuaries characterized by a mix of fluvial, estuarine, and marginal marine sands, silts, and clays with some fine to medium pebbles (Reger and Cleaves 2008:55). The *Preliminary Geology Map of the District of Columbia* places the project area in an area of recent alluvium and artificial fill consisting of gravel, sand, silt, and clay of the lowest stream terraces and bottoms with large areas of fill, especially along the Potomac and Anacostia Rivers (Froelich and Hack 1975).

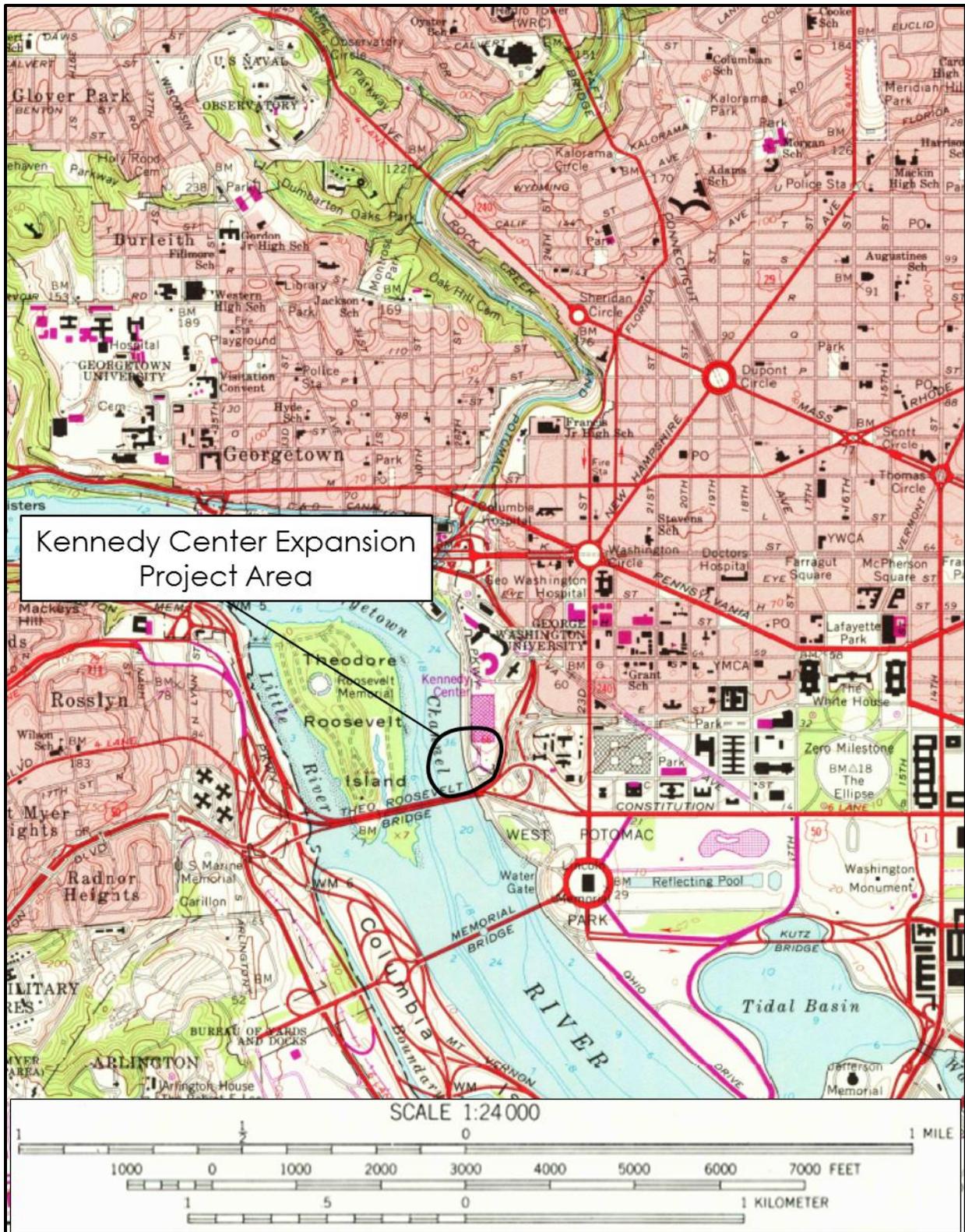
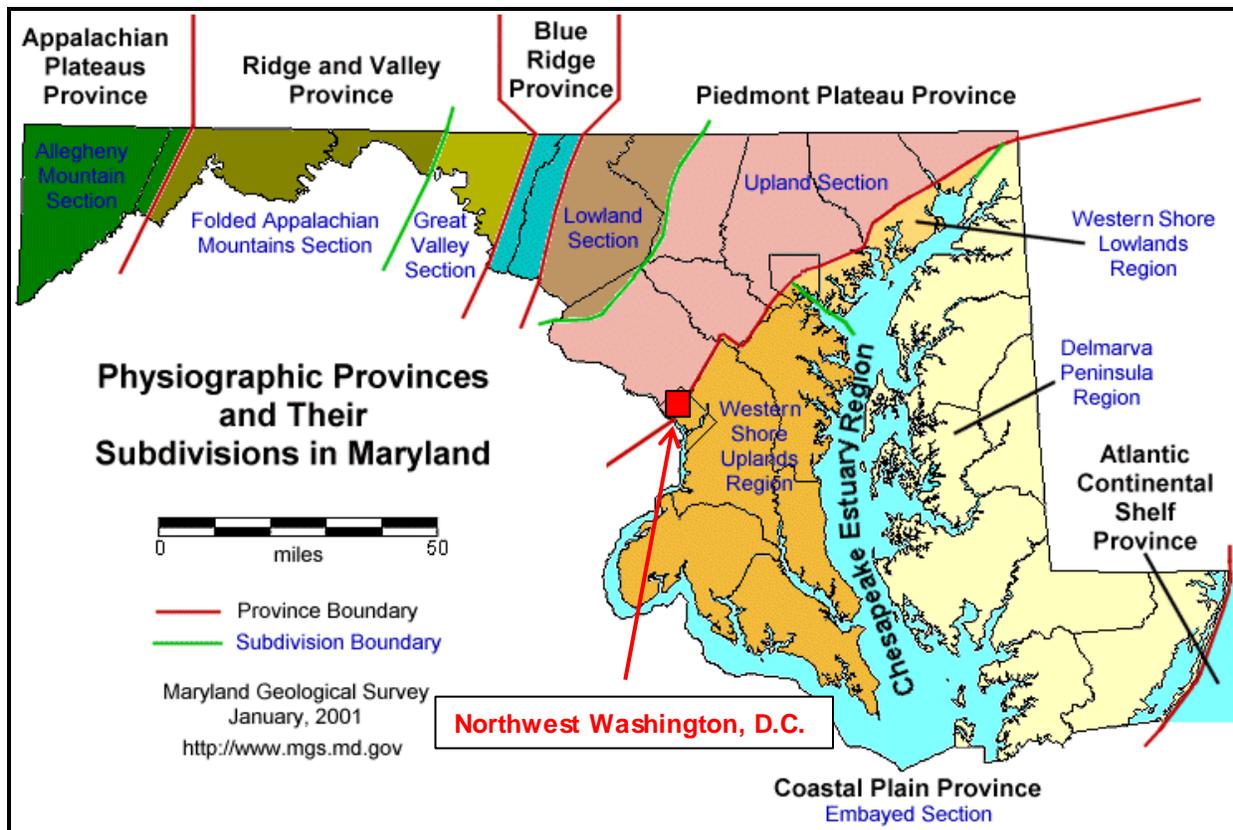


Figure 2. Washington West 7.5-minute quadrangle showing the Kennedy Center.



**Figure 3. Maryland and Washington, D.C., physiographic provinces (Maryland Geological Survey 2001; north to top of figure).**

The Kennedy Center lies within the Udorthents soil association, which consists of deep to moderately deep well-drained soils that consist of cuts, fills, or other disturbed land. This association is found on all landscape positions and ranges from nearly level to steep (Smith 1976). Specific soils in the project area consist of Udorthents, a heterogeneous, earthy fill material placed on poorly drained to somewhat excessively drained soils to provide sites for buildings, roads, railroads, recreation areas, and other uses (Smith 1976:45). Slopes are complex and irregular and fill thickness varies but is always at least 20 inches. The fill is a mix of organic and inorganic waste and sandy, gravelly, clayey, silty, and micaceous soil material. Permeability, water capacity, runoff, and internal drainage are all variable (Smith 1976:45).

#### 1.4 Report Organization

Following this Introduction, the report is presented in five additional sections: Research Methods; Cultural Context; Site Potential Assessment; and Summary and Recommendations. References Cited complete the body of the report. Qualifications of Key Personnel are presented in Appendix A, and a National Archeological Data Base (NADB) Form is provided in Appendix B.

## 2.0 RESEARCH METHODS

Research methods for this Phase IA archaeological investigation for the proposed Kennedy Center Expansion project consisted of archival research and GIS analysis of the project area.

### 2.1 Background and Archival Research

The identification of the potential for archaeological resources in and within the vicinity of the Kennedy Center began with background and archival research. The initial literature search consisted of a review of existing surveys and identified archaeological sites. This determined the level of previous identification studies and the nature of archaeological sites within the general project area. Contract reports documenting the results of previous archaeological investigations conducted in the general project area were reviewed, as were the District of Columbia archaeological site files. The District archaeological site files were reviewed to determine whether any archaeological sites in or near the subject properties had previously been registered with the District of Columbia Historic Preservation Office.

Background research entailed the evaluation of written and cartographic material from applicable repositories, including online resources, such as the Library of Congress, Ancestry.com, and National Environmental Title Research. These efforts involved the examination of historic maps, topographic maps, nautical charts, and aerial photographs. Secondary resources reviewed include applicable District of Columbia histories and historic contexts. As well, a detailed geotechnical report prepared for the Kennedy Center was available for review (Langan Engineering and Environmental Services, Inc. 2013).

### 2.2 GIS Methods

An analysis of changes in elevation and topography for the Kennedy Center project area using GIS was conducted. This analysis compared the elevation above sea level and topography using the 1882 nautical chart of the Potomac River from Indian Head to Georgetown with that from the 2010 Washington West 7.5-minute topographic map. The methods proposed by Katz et al. (2012) were used in the current analysis. Katz et al. (2012:17) suggest that 2.2 feet be subtracted from nineteenth-century elevations when comparing to modern elevations to account for changes in vertical data. In addition, Katz et al. (2012) suggest that the accuracy of GIS-determined depth of historic land surfaces is within five feet.



### 3.0 CULTURAL CONTEXT

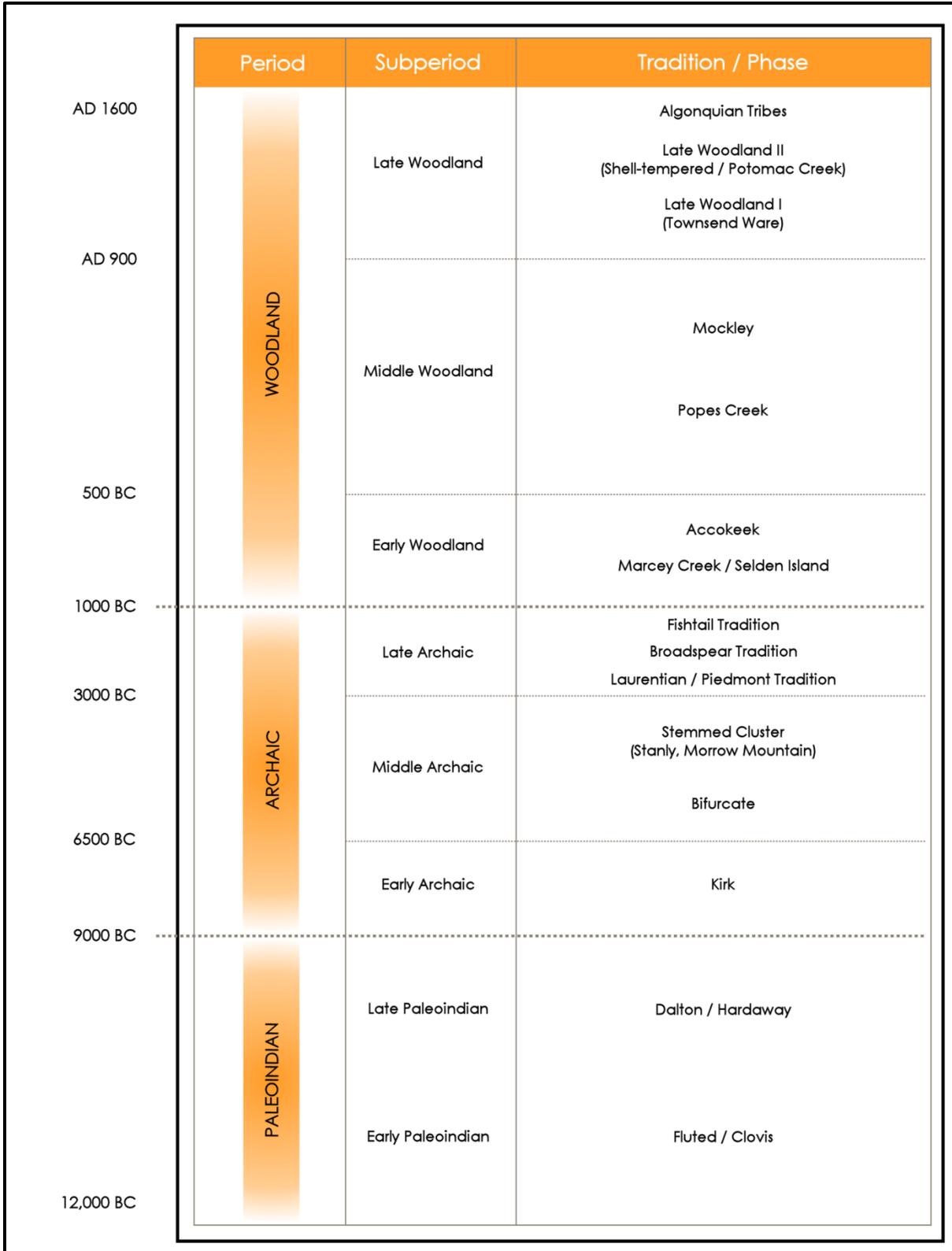
This section presents a general outline of precontact Native American and Euroamerican cultural development in the Mid-Atlantic region in general, and more specifically within the District of Columbia. It is based on specific studies that form the sequence of regional Native American history that is presented below. These contexts provide an interpretive framework for defining the types of Native American archaeological sites and remains that could be present within the Kennedy Center project area.

Given the unique nature of Washington, D.C. (a relatively small but highly urbanized area), the precontact context presented below relies on evidence from the archaeological record of nearby Mid-Atlantic states, an early overview by Humphrey and Chambers (1985), and more recent overviews included in Fiedel et al. (2008) and Knepper et al. (2006). Both the Maryland Historical Trust (Maryland Historical Trust 2005) and the Pennsylvania Historical and Museum Commission (Raber 1985; see also Carr and Adovasio 2002; Raber and Cowin 2003; Raber et al. 1998) have published precontact Native American contexts for their states. The Council of Virginia Archaeologists has published a four-volume set that synthesizes the Native American history of that state (Reinhart and Hodges 1990, 1991, 1992; Wittkofski and Reinhart 1989), and Potter (1993) has published an interpretation of late precontact-contact period Native American cultures along the Potomac River. These overviews, and other more specific studies, form the basis for the sequence of regional Native American history that is presented below (Figure 4).

#### 3.1 Paleoindian Period (12,000 – 9000 BC)

The Paleoindian period reflects a pattern of cultural adaptation based on environmental conditions that marked the shift from the Late Pleistocene to the Early Holocene epoch (Figure 4). During this period of glacial retreat, the climate was probably three to eight degrees colder than at present, and vegetation initially consisted of spruce, pine, fir, and alder (Brush 1986:149; LeeDecker and Holt 1991:72). By the end of this period, vegetation patterns comprised a mosaic of microhabitats, with mixed deciduous gallery forests near rivers, mixed coniferous forests and grasslands in foothill and valley floor settings, and coniferous forests on high ridges (Custer 1984; Kavanagh 1982).

Dent (1995:132–133) suggests that three distinct environmental zones can be identified within the Chesapeake Bay region during the Paleoindian period. The first zone consists of areas along the ancestral Susquehanna River and its tributaries, including those along the modern Potomac and Anacostia Rivers. This zone is seen as providing ample resources to early inhabitants. The second zone lies to the west and is the interior Coastal Plain region where resources were more diffuse. Last, the third zone is the area where the inner Coastal Plain transitions to the Piedmont region. Ecotonal diversity would have provided increased potential for subsistence resources while the area also contains ample lithic resources. Dent (1995:133–134) also suggests that the area of the Chesapeake Bay region south of the James River in Virginia differed significantly from those areas to the north. The area south of the James River contained more temperate plant species than areas to the north and had larger wetland areas, indicating that this area had a more diverse ecosystem than areas to the north.



**Figure 4. Regional precontact Native American chronology of the District of Columbia area.**

Traditional characterizations often suggest that Paleoindian settlements consisted of small hunting camps that were associated with sources of high-quality lithic raw materials. Gardner (1983, 1989) has identified six different functional categories for Paleoindian sites in the nearby Shenandoah Valley: lithic quarries, reduction stations, quarry-related base camps, base-camp maintenance stations, hunting stations, and isolated point find spots. Custer (1984) suggests that these site types may be applicable to the wider Mid-Atlantic region as a whole. Acquisition of high-quality lithics served as a focal point for this system with hunting as its subsistence base, which focused on large game such as moose, elk, and deer (Kavanagh 1982). In contrast, the Shawnee-Minisink site provides evidence that other foodstuffs were exploited as well. The remains of fish, edible seeds, and plants were found in Paleoindian deposits at that site (McNett 1985). Dent (1995:128) notes that there is virtually no evidence for subsistence practices in the Chesapeake Bay region, although he postulates that it was not based on hunting megafauna (Dent 1995:106).

More recently, Dent (1995) has reviewed Paleoindian sites and settlement patterns in the Chesapeake Bay region. At that time, attributes of 25 known Paleoindian sites were reviewed as were the characteristics of hundreds of isolated (off-site) finds reported in the Chesapeake Bay region. Most of the sites are surface manifestations, with relatively few intact, buried Paleoindian deposits having been located in the region (Dent 1995:122–124). Most sites and isolated finds have been identified south of the James River, while a more moderate number has been found north of the Potomac River. Interestingly, the fewest sites and isolates have been found between the James and Potomac Rivers (Dent 1995:120–121).

In contrast to the highly diverse site type model proposed by Gardner and accepted by Custer as discussed above, Dent (1995:137–138) suggests that only two site types can be defined for the Chesapeake Bay region. Larger residential bases, often with multiple, distinct artifact loci, are situated along the ancestral Susquehanna River and its tributaries and along the western margin of the Inner Coastal Plain. These sites tend to be located in areas where a higher diversity of resources would have been available to site inhabitants. The second site type is the “location.” Locations are smaller sites often located in less productive zones at which few or specific tasks were being undertaken. While many locations in the Chesapeake Bay region are situated near wetlands, the most extreme example of these sites is the isolated find. Dent (1995:138) suggests that this settlement system indicates a high degree of mobility in Paleoindian culture that perhaps was based on seasonal availability of resources and weather patterns. There is some indication that site locations were selected to maximize solar warming while minimizing exposure to prevailing winter winds (Dent 1995:124). Dent (1995) further suggests that sites deviating from this pattern may indicate an occupation during warm-season months.

In the archaeological record, early Paleoindian sites are usually characterized by the presence of large, fluted, lanceolate-shaped projectile points such as Clovis, while later Paleoindian components are identified with projectile point types such as Dalton and Hardaway (Dent 1995:124; Justice 1987). Clovis points have been found throughout North America, from the West Coast to the East Coast, and as far north as Nova Scotia. Most archaeologists suggest that preferred lithic materials for these projectile points were high-quality cryptocrystalline stones such as jasper and chert. Once again, Dent (1995) has questioned the applicability of these generalizations to the Chesapeake Bay region. In reviewing raw material types used at Paleoindian residential bases in the region, Dent (1995:124–127) notes that lower-quality

material comprises 25 percent to as much as 75 percent of these assemblages. Quartz, quartzite, silicified wood, slate, and jasper tend to dominate these assemblages. In contrast, high-quality cryptocrystalline materials dominate the location assemblages, and are an especially dominant raw material for isolated finds. Paleoindian tool kits in the Chesapeake Bay region include such items as fluted bifaces, end and side scrapers, generalized bifaces, spokeshaves, graters, awls, drills, denticulates, wedges, and cores (Dent 1995:124–127). Sites with high diversities of tools such as these are most often associated with residential camps. Also noted by Dent (1995:127) as present at residential camps are numerous utilized flakes.

Paleoindian materials are rare along the Anacostia and Potomac Rivers. In 1988, Turner (1989:80) indicated that fewer than five Paleoindian projectile points per county have been found in the Virginia counties that border the Potomac River. The continuing Virginia Paleoindian fluted point survey documented eight additional points in Fairfax County, six in Loudoun County, and one in Prince William County, between 1988 and 2011 (PIDBA 2011). The Smithsonian Institution collections, many obtained during the late nineteenth century when the area was more agricultural, include three Paleoindian projectile points from along the Anacostia River (Humphrey and Chambers 1985:8). Also of note, a Clovis point was recently found near the Aquasco district in south-central Prince George's County in Maryland (Gibb 2006). One reason for the paucity of Paleoindian projectile points and sites along these rivers may be the rise in water levels, in part due to the melting of the glaciers and the subsequent inundation of low-lying areas. While site burial has long been recognized in floodplain and terrace contexts, more recently site burial in upland formations has been demonstrated to have occurred (Wagner 2011).

### **3.2 Early Archaic Period (9000 – 6500 BC)**

The Pre-Boreal/Boreal climatic episode, dating from 8500 to 6700 BC, for the most part corresponds to the Early Archaic period (Figure 4). Glacial recession continued and deciduous forests expanded, possibly leading to a greater proliferation of game species during this period. This climatic period, and the cultural period as well, in many ways marks a transition from late Pleistocene to Holocene patterns. Summer temperatures became warmer while the winters continued to be wetter than at present. This resulted in an expansion of coniferous and deciduous trees at the expense of grasslands. The distribution of forests consisted of pine and hemlock on slopes, mixed coniferous-deciduous forests in valley floors, and hydrophytic gallery forests along rivers (Carbone 1976; Kavanagh 1982:9). Kavanagh (1982:9) suggests that while little faunal evidence is available for this period, the environment most likely supported bear, deer, elk, and a variety of small game that was adapted to a northern climate. Evidence for this view comes from the Cactus Hill site (44SX202) faunal assemblage, which contains species that are still common in the region today (Whyte 1995). After 7000 BC the spread of deciduous woodlands into upland areas, which had previously been predominantly spruce, hemlock, and pine forests, opened new habitats to be exploited by both animals and humans (Custer 1990).

Some researchers have emphasized that the Early Archaic period in the Mid-Atlantic region evidences continuity in lifeways from the Paleoindian period, with the exception of changes in projectile point styles (see Dent 1995). However, Dent (1995:167) notes that our understanding of the Early Archaic period in the Chesapeake region is still dependent on information from sites outside of this area. With that said, the most distinctive cultural characteristic of the Early

Archaic period was the appearance of notched projectile points, most notably the corner-notched types such as the Kirk varieties along with the Palmer, Charleston, and Amos types (Dent 1995:168; Justice 1987). Other point types associated with the initial portion of the Early Archaic period include Hardaway, Kessel, Taylor, and Big Sandy, all side-notched types, although the Palmer Side-Notched type may be more common in the District (Dent 1995:168; Fiedel et al. 2008:9; Justice 1987). These notched projectile points are more characteristic of the initial portion of the Early Archaic period, typically dating between about 10,000 and 8500 years ago (Dent 1995:157, 168). Dent (1995:157) suggests that the overall stone tool assemblages associated with the notched projectile points have similarities with the earlier Paleoindian assemblages, including an emphasis on the use of a core-flake manufacturing process and especially scraper styles (Dent 1995:169–170). Distinctive bifurcate base projectile points, including such types as LeCroy, St. Albans, and Kanawha, are more characteristic of the later portion of the period between approximately 9,000 and 7,250 years ago, with some types persisting into the Middle Archaic period (Dent 1995:156–157, 168). Unfortunately, few radiocarbon dates are available for Early Archaic period sites in the Chesapeake region. Stone tools associated with these projectile points are less formal, more expedient, and appear to evidence use of a bipolar reduction strategy (Dent 1995:157, 170). Utilized flakes also appear to be more common.

There was also a continuation in the use of high-quality lithic materials until the later portion of this period when quartz and quartzite began to be more frequently used. Archaeological investigations in the Patuxent River drainage show that the majority of Kirk points found are made of rhyolite. This indicates that people either traveled long distances to obtain preferred lithic raw materials or that long-range trade networks had been established by this time (Steponaitis 1980:68). However, Dent (1995:170) suggests that the choice of lithic material changed during this period. Assemblages associated with the notched projectile points, generally during the initial portion of the Early Archaic period, tend to be made from nonlocal materials. The later bifurcate base projectile point assemblages more commonly are made from local materials. Dent (1995:170) suggests that this change may be related to an increasing restricted social landscape that impacted group mobility. Lastly, the first ground-stone tools are associated with the Early Archaic period, including flaked and ground axes, celts, abraders, and adzes (Dent 1995:170).

Settlement systems and site locations during the Early Archaic period appear to reflect a dichotomy in landscape use between ecologically diverse floodplains and less ecologically diverse areas, such as uplands. Dent (1995:171) characterizes the distribution of Early Archaic period sites in the Chesapeake region as consisting of small sites widely distributed across the landscape. In a wider perspective, settlement appears to include larger residential camps that are located in the ecologically diverse floodplain settings and smaller, short-term occupation camps that are found in less ecologically diverse areas (Dent 1995:165). This bifurcation between floodplain and upland settings continues through the Middle Archaic period and may signal the initial reliance on aquatic resources. If so, this appears to signal an increasing shift toward a generalized use of many available food resources. Dent (1995:172) also views the widespread distribution of Early Archaic period sites in the Chesapeake region as an effort to both feed and integrate peoples through the minimization of risk by information and resource sharing. In the Southeast, subsistence strategies included the collection of a number of mast species, seeds, and fruits, and hunting of amphibians, reptiles, and mammals as well as fish (Dent 1995:165–166).

This pattern is mirrored to some extent in the Chesapeake region (Dent 1995:172–173). It has been suggested that the expansion of projectile point styles may be associated with the diversification of the Early Archaic period subsistence base.

Dent (1995:163, 170) notes that Early Archaic period sites are generally multicomponent sites, suggesting that in some instances this is due to frequent reoccupation. One aspect of the changing environment, increasingly predictable seasonal patterns, may have promoted repeated visits to locations through greater resource predictability (Dent 1995:195). Hearths are more frequent in number and more formal than the earlier Paleoindian hearths. They include the more formal prepared hearths as well as the less formal unprepared hearths, with prepared hearths more common in association with bifurcate point strata. Dent (1995:163, 198) suggests that this change may reflect a shift in lifeways and cooking techniques during the Early Archaic period. The less formal hearths are often clusters of fire-cracked rock measuring less than 1 m in diameter and most likely representing dumps of boiling stones (Dent 1970:171).

Several archaeological sites in the District have yielded Early Archaic projectile points, although intact deposits dating to this period have not been found. McNett (1972:33) and Barse (2002) both identify Kirk Corner-Notched projectile points at the Potomac Avenue site (51NW22) and Fletcher's Boathouse site (51NW13), respectively. Both sites are located on floodplain formations of the Potomac River. Fiedel et al. (2008:9) also suggest that some of the projectile points illustrated by Holmes (1897) date to the Early Archaic period.

### **3.3 Middle Archaic Period (6500 – 3000 BC)**

The beginning of the Middle Archaic period coincides with the Atlantic climatic episode, a warm, humid period associated with a gradual rise in sea level that led to the development of inland swamps (Barse and Beauregard 1994:9) (Figure 4). It was a time marked by increased summer droughts, sea level rise, grassland expansion into the Eastern Woodlands, and the appearance of new plant species (Carbone 1976:106; Hantman 1990:138). By 5000 BC there was the onset of a cooling trend. Gardner (1982) suggests that these climatic changes resulted in a zonally patterned floral and faunal species distribution across the region, leading to an increased emphasis on seasonal availability of resources. Unfortunately, Dent (1995:173) suggests that the Middle Archaic period is one the least understood period of precontact Native American history in the Chesapeake region.

Tool types which were common in Paleoindian and Early Archaic lithic assemblages, including unifacial tools and formal end scrapers, decreased in number during the Middle Archaic period (Dent 1995:175; Egloff and McAvoy 1990:64). Modified flakes increase in number and projectile points and generalized bifaces, many of which appear to be multifunctional tools, become the dominant chipped stone tool types (Dent 1995:175). The bifurcate tradition of projectile points, including the LeCroy, St. Albans, and Kanawha types, continued during this time, and ground-stone tools (axes, adzes, mauls, grinding stones, and nutting stones) also became widely utilized as subsistence and settlement patterns changed (Dent 1995:176). Ground-stones tools are completely pecked or ground during this period, in contrast to those associated with the Early Archaic period (Dent 1995:176). The other significant markers of the Middle Archaic period are stemmed projectile points (Dent 1995:157). The stemmed projectile points dating to this period include the Stanly Stemmed/Neville, Morrow Mountain I and II, Guilford, and Piscataway types

(Justice 1987). In general, these stemmed types date to the initial portion of this period, between about 8000 and 6000 years ago (Dent 1995:175). The Piscataway type is found late in this time period and at its earliest dates to the transition from the Middle Archaic to the Late Archaic period (Kavanagh 1982:50). Side-notched projectile points dating to the later portion of the Middle Archaic period, from 6000 to 5000 years ago, include the Halifax, Otter Creek, and Brewerton types (Dent 1995:175; Justice 1987). Dent (1995:175) also notes that Middle Archaic period points are less numerous in the northern part of the Chesapeake region. The use of high-quality lithic material for tools was not as common during this period as it was during the preceding periods, with the trend toward using local materials, first noted during the later portion of the Early Archaic period, continuing into this period (Dent 1995:176; Fiedel et al. 2008:10).

While many have characterized the Middle Archaic period settlement system as something of an enigma, the riverine base camp-upland short-term camps noted during the Early Archaic period seems to have continued, although this generally consisted of numerous small sites scattered across the landscape in the Chesapeake region (Dent 1995:165, 177). Middle Archaic sites in Maryland tend to be clustered along tributaries of rivers and not in the estuarine sections of drainages (Steponaitis 1980). Settlements consisted of small base camps located in or near inland swamps that were convenient to seasonally available subsistence resources, as well as smaller temporary upland hunting camps. Researchers have noted that few components dating to the Paleoindian and Early Archaic periods are present at Middle Archaic period sites. Gardner (1989:34) suggests that the immediate local ecology of the Paleoindian and Early Archaic sites became increasingly less suited to the needs of Native American groups as climate and vegetation changed during the Middle Archaic period.

Outside of the Chesapeake region, Middle Archaic period sites have yielded evidence of prepared floors and postmolds, some of the earliest direct evidence for the existence and nature of structures (Dent 1995:164). Formal cemeteries are also known. In the Chesapeake region sites appear to represent a series of reoccupations. Formal hearths become more common during this period and researchers have been able to identify discrete activity areas at such sites (Dent 1995:176). Such activities often include tool manufacture or maintenance and subsistence and processing activities. Turning to subsistence, the greater variety of plant resources allowed for an increase in general foraging as a supplement to hunting, continuing a trend first detected at Early Archaic period sites (Dent 1995:177; Kavanagh 1982:50). Dent (1995:177) suggests that this Middle Archaic period subsistence strategy represents a diffuse adaptation. However, Smith (1986) suggests that during this period, populations became increasingly focused on the exploitation of specific resources, such as mollusks or oysters.

A few sites in the District have yielded diagnostic projectile points dating to the Middle Archaic period, but similar to the Early Archaic period, intact deposits are rare. McNett (1972:33) identifies several projectile points dating to this period from 51NW22, including a LeCroy Bifurcate Base point and an unidentified serrated point found at the site by a local collector. Inashima (1985) reports several projectile points from 51NW80 as dating to the Early Archaic and Late Archaic periods, although Fiedel et al. (2008:24) suggest that these points are better classified as Middle Archaic types. All of these sites are located along the Potomac River in northwest Washington, D.C. Louis Berger & Associates (1986) identified Brewerton and Halifax points from the Howard Road site (51SE34) along the Anacostia River as dating to the Middle

Archaic period, although other researchers would identify the point types as Late Archaic. Fiedel et al. (2008:11) also suggest that the bifurcate base points illustrated by Holmes (1897) date to this period and that other illustrated points are examples of the Morrow Mountain and Guilford types.

### 3.4 Late Archaic Period (3000 – 1000 BC)

Dent (1995) views the Late Archaic period as a time when the region's occupants were adapting to a number of environmental changes (Figure 4). The environment during the Late Archaic period is characterized by a warmer and drier climate, a continued rise in sea level, the expansion of oak-hickory forests onto valley floors and hillsides, and the reappearance of grasslands (Carbone 1976:189). As well, the distribution of faunal species characteristic of the early Historic period was established at this time. For the Chesapeake Bay region, perhaps the most important change was the establishment of the estuary system, which resembled the modern system only near the end of the Late Archaic period (Dent 1995:199).

Dent (1995:160) suggests that the Late Archaic period can be divided into two time-based segments that may reflect the adaptation of groups to changes in the Chesapeake region environment. The earlier segment is characterized by a predominance of narrow-blade stemmed projectile points, such as Bare Island, Lackawaxen, Claggett, Holmes, and Piscataway, along with a few side-notched types more characteristic of the Middle Archaic period, such as Brewerton, Halifax, and possibly Otter Creek (Dent 1995:178–180). Dent (1995:180) suggests that these narrow-blade types date to the period of approximately 3000 BC to 1500 BC. Beginning at 2200 BC, and thus overlapping with the last half of the narrow-blade tradition, is the broad-blade tradition that continues to approximately 1000 BC (Dent 1995:181). Some researchers have designated this time period as the Terminal Archaic (for instance, see Fiedel et al. 2008:11; Kavanagh 1982). Characteristic of this tradition are types such as Savannah River, Susquehanna, Crispin, and Perkiomen, with derivatives such as Orient Fishtail and Dry Brook also present (Dent 1995:180). Dincauze (1976) suggests that the narrow-blade tradition evolved in situ from local Middle Archaic period populations while the broad-blade tradition is a result of diffusion from the Southeast. Dent (1995:201–202) appears to support this interpretation as well.

Turning to the remainder of the material culture assemblage associated with Late Archaic period sites, Dent (1995:161–162, 181) notes broad similarities between the artifact assemblages of the two projectile point traditions. Chipped-stone tools were made using both bipolar and biface reduction techniques, and projectile points were most likely multipurpose tools. The reliance on a multipurpose tool appears to have reduced the diversity of Late Archaic period tool types. Specific tool types include generalized bifaces, expedient flake scrapers, drills, perforators, and utilized flakes (Dent 1995:182). Drills and scrapers were often made from exhausted projectile points. Besides the formal chipped-stone tools used during the Late Archaic period, there appears to have been an increase in the production of expedient tools made from flakes and crude cores (Klein and Klatka 1991:98). Lithic material varies by location, although an emphasis on local materials is characteristic of both traditions, and some preference for quartzite appears to be associated with the broad-blade tradition (Dent 1995:182). Throughout this period, quartz and quartzite were the most frequently used lithics, although rhyolite and argillite were also occasionally used in stone-tool manufacture. However, large quarries, often centering on

quartzite acquisition, such as the Piney Branch quarries located in the District of Columbia, appear to be associated with the broad-blade tradition (Dent 1995:203; Fiedel et al. 2008). Nonlocal materials, when present, appear to have been procured from “down-the-line” trading networks (Dent 1995:182). The use of ground-stone tools also increased during the Late Archaic period and especially with the broad-blade tradition, perhaps reflecting an increase in woodworking activities (Dent 1995:182). Ground-stone tools include adzes, celts, gouges, axes, manos, metates, mortars, net weights, and atlatl weights (Dent 1995:182). Steatite or soapstone bowls are also produced during the Late Archaic period in the Chesapeake region, once again more so with the broad-blade tradition (Dent 1995:161, 182–183).

Aside from projectile point styles, Dent (1995) stresses that the greatest differences between the two traditions is in terms of settlement and site structure. Settlement patterns associated with the narrow-blade tradition consist of a large number of relatively small sites that are equally divided between riverine and upland locations, with wetlands, forests, diverse habitats near streams, and riparian floodplain plant communities offering predictable resources (Dent 1995:185, 197). Because of this, the Inner Coastal Plain was more heavily occupied than the Outer Coastal Plain (Dent 1985:197). Such a strategy also was effective in enhancing contact between groups and in terms of risk mitigation through information and resource sharing (Dent 1995:197). Sites that appear to be larger are most often the result of a palimpsest of frequent occupations by small groups through this time period, with the frequency of reoccupation associated with resource predictability (Dent 1995:199). Subsistence appears to have been based on forest mast, deer, and turkey (Dent 1995:187). Seasonal hunting and foraging continued, but exploitation of riverine resources rapidly became an important part of the subsistence base. Several settlement trends are associated with these changes, including an intensified occupation of the uplands, the initial establishment of large semi-sedentary base camps along rivers and streams, and an overall increase in the number of sites dating to this period. Internally, narrow-blade tradition sites evidence a limited range of features, including discrete activity areas and scatters of fire-cracked rock (Dent 1995:184).

The broad-blade tradition reflects an adaptation to the increased availability of estuarine environments in the Chesapeake region, an adaptation referred to as an intensification effort and characterized as an appropriation of nature (Dent 1995:188, 200). Dent (1995:205) characterizes this adaptational change as a shift to a logistically organized collector strategy. Dent (1995:201), suggests that, like the broad-blade projectile points themselves, the adaptation for intensification, which allowed populations to take advantage of the stabilized, ecologically productive coastal areas, was imported into the Chesapeake region. Reflecting this change in environment is a shift in site location that emphasizes proximity to linear river valleys that allowed an increase in the population and a subsistence focus on estuarine resources (Dent 1995:186, 201). Both site size and total number of sites increased, with sites as large as 2 ha present while smaller sites average 450 square meters (Dent 1995:186). Dent (1995:186) characterizes this settlement system as representing an annual cycle of fusion and fission with settlements including multiband base camps, band camps, and microband foray sites. In contrast, Steponaitis (1986:285) sees the settlement pattern of the Patuxent River area as being unchanged throughout the entire Late Archaic period. Features associated with the sites also became more diverse. Formal hearths and platform hearths, perhaps having a fish-processing function, are increasingly common. Shell accumulations, pits, and burial pits have also been reported. Definite evidence for structures, though, is lacking (Dent 1995:185). As may be

surmised from the shift in settlement toward estuarine environments, greater evidence for fish and shellfish use is associated with the broad-blade tradition (Dent 1995:187). Mast use appears to have been seasonally determined, as perhaps were aspects of hunting (Dent 1995:187).

The archaeological record in the District documents an increase in site numbers for the Late Archaic period in contrast to the Early Archaic and Middle Archaic periods. A number of sites in the Rock Creek/Potomac River area of northwest Washington, D.C., have significant Late Archaic period components. One of the earliest recognized sites is 51NW1, the Piney Branch Quarry site first identified by William Holmes. Reanalysis of points collected by Holmes identified a series of Susquehanna Broadspear points made of rhyolite (Fiedel et al. 2008). In the same region, Fiedel et al. (2008) located small but intensively occupied base camps along Maddox Branch that contain Late Archaic period components. Site 51NW158 is perhaps the best example, having yielded a number of Halifax, Lamoka, Holmes, and Savannah River points. Quartz and quartzite dominate the debitage assemblage, although rhyolite is also well-represented. Inashima (1985) also identified a Vernon and Holmes or Bare Island point, suggesting the presence of a Late Archaic component, at 51NW79. Closer to the Potomac River, McNett (1972:33) identified a series of small side-notched and square-stemmed points, as well as Piscataway points, as evidence for a Late Archaic period occupation at 51NW22. Finally, Fletcher's Boathouse (51NW13), at the confluence of Rock Creek and the Potomac River, yielded Lamoka, Wading River, Savannah River, and Susquehanna Broadspear points, but no intact deposits dating to this period (Barse 2002).

In southeast Washington, D.C. two sites have been identified as having Late Archaic period components. A single untyped projectile point was identified as Late Archaic from the Jenkins Farm site (51SE4) (LeeDecker and Holt 1994). More substantial is the number of Late Archaic period points found at the Howard Road site (51SE34) (Louis Berger & Associates 1986). The Howard Road site is interpreted to be a large base camp that was repeatedly occupied. Projectile points associated with this component include Halifax, Vernon, Crispin Broadspear, Lackawaxen, and Brewerton. In addition, investigators identified a biface finishing area as dating to the Late Archaic period at this site. Cobble reduction and tool manufacture were important activities, with late-stage manufacturing debris more common than early-stage decortication debris, although early-stage manufacture is well-represented by 35 cores and numerous biface blanks and performs at this site.

### **3.5 Early Woodland Period (1000 – 500 BC)**

The Early Woodland period, roughly dated between 1000 BC and 300 BC, generally coincides with the Sub-Boreal climatic episode, an episode that approximates modern conditions although attenuated cycles of climatic change have been identified (Carbone 1976) (Figure 4). Johnson and Peebles (1983) and Brush (1986) indicate that by this time period, forest composition was essentially similar to that of the modern period although differences in the frequency of species may have been present. Similarly, Eshelman and Grady (1986) suggest that a modern array of faunal species were present in the region at this time.

Culturally, ceramic manufacture and increased sedentism traditionally mark the beginning of the Early Woodland period. The earliest types of ceramics found along the Coastal Plain of Maryland are the steatite-tempered Marcey Creek and Selden Island wares, which are associated

with fishtail-type points, including Orient and Dry Creek. Some researchers have characterized these ceramic types as “experimental” wares (e.g., Dent 1995:225; Wise 1975) and can be described as trough- or bowl-shaped vessels with flat bottoms molded from slabs of clay (Dent 1995:225). Egloff (1991) suggests the early ware types, such as Marcey Creek and Seldon, are derived from Southeast pottery traditions. The Marcey Creek and Seldon Island wares were replaced by the sand- or crushed-quartz-tempered Accokeek wares. These ceramics are associated with Calvert and Rossville point types (Wesler et al. 1981:183). Accokeek ware is the earliest example of this pottery technology on the Western Shore. By about 900 BC, coil production techniques began to be used, with globular vessels having cord- or net-impressed exterior surfaces being fashioned (Dent 1995:227). Aside from projectile points, much of the Early Woodland lithic assemblage is similar to that of the preceding Late Archaic period (Dent 1995:228).

Researchers have suggested that the Early Woodland settlement pattern reflects an intensification of the logistical-collector strategy adopted during the broad-blade tradition of the Late Archaic period (Dent 1995:230). It appears that part of this intensification included increased sedentism, with larger sites being occupied for longer periods of time (Dent 1995:230; Mouer 1991). These larger sites were serviced by smaller resource-extraction sites (Dent 1995:230; Gardner 1982). The larger sites were riverine-based and often located at the junction of freshwater and brackish streams in interior regions. Smaller camps were established seasonally in areas where there was high potential for the exploitation of numerous and differing resources. Gardner (1982:60) has proposed that the settlement-subsistence system of this period included a series of base camps where populations aggregated to exploit seasonal resources. Groups occupying the base camps harvested anadromous fish in the spring and early summer and exploited estuarine resources in the fall and early winter. The increased sedentism is reflected by the features identified at the large base camps. It is during the Early Woodland period that the earliest evidence for food storage is found. Small food-storage pits are common, as are formal hearths with dense deposits of fire-cracked rock (Dent 1995:230). Other characteristics of the large base camps indicative of increased sedentism include dense midden deposits, including shell middens. However, few remains of structures have been identified (Dent 1995:230).

A number of sites with Early Woodland period components have been investigated in the District. Again, a number of these sites are located in the Rock Creek/Potomac River locality. Inashima (1985) reports the recovery of Accokeek ceramics at 51NW79 while Fiedel et al. (2008) note their presence at sites 51NW51 and 51NW158 in Rock Creek Park. Site 51NW158, a large base camp along Maddox Branch, also yielded Marcey Creek and Seldon Island ceramics. The Peter House (51NW103) and Whitehust West (51NW117W) sites, located in the Whitehurst Freeway vicinity, yielded Accokeek ceramics and a number of Early Woodland projectile point types (Knepper et al. 2006). Along the Potomac River, Orient Fishtail points were found at the Fletcher’s Boathouse site (Barse 2002) while Susquehanna Broadspear and Drybrook-like points were identified in a collection from the Potomac Avenue site (McNett 1972:33). No intact Early Woodland deposits were found at any of these sites. The Howard Road site (51SE34) in the Anacostia neighborhood also yielded Accokeek ceramics and an Orient Fishtail projectile point, but no intact deposits dating to this period were encountered (Louis Berger & Associates 1986).

### 3.6 Middle Woodland Period (500 BC – AD 1000)

Dent (1995:235) suggests that the Middle Woodland was a period of technological homogenization, in that ceramic and projectile point type variability decreases in the Chesapeake region. In contrast, a diversification of ceramic vessel sizes, forms, and styles of surface decoration, including net-, cord-, and fabric-impressed, characterizes the Middle Woodland period (Dent 1995:221). The major ceramic type in the region was the shell-tempered Mockley type (characteristic of the Mockley phase), which evolved from the sand-tempered Popes Creek type (Barse and Beauregard 1994:14; Dent 1995:221, 235) (Figure 4). Popes Creek ceramics typically date from about 2500 years ago to 1800 years ago and are thick-walled and sand-tempered with net-impressed exteriors (Dent 1995:235–236). Projectile points associated with Popes Creek ceramics include Calvert and Rossville types as well as unnamed stemmed types (Dent 1995:236). Mockley ceramics date from 1,800 to 1,100 years ago and are shell-tempered with cord- and net-impressed exteriors (Dent 1995:236). Projectile point types associated with the Mockley phase are Fox Creek, and Selby Bay (knives), types (Dent 1995:237). The presence of non-local rhyolite, argillite, and jasper lithics at a few sites suggests that localized exchange networks may have operated between the Coastal Plain and areas in both western Maryland and at the New Jersey fall line (Barse and Beauregard 1994:15; Dent 1995:222, 237). There is some suggestion that the rhyolite was traded into the region in the forms of blanks and preforms (Dent 1995:237; Stewart 1992:21). However, much of the stone-tool assemblage associated with the Middle Woodland period is similar to that of the preceding Early Woodland period, although bone tools are more common (Dent 1995:239).

Settlement during the Middle Woodland period continues the generalized pattern of seasonal aggregation and dispersal that perhaps began as early as the Middle Archaic period. In general, it appears that base-camp settlements located at freshwater/brackish water junctions, a common location for Early Woodland period camps, were abandoned in favor of broad floodplain sites where maximal resource exploitation of tidal and non-tidal aquatic resources was possible (Davis et al. 1997; Dent 1995:222). Dent (1995:241) discusses the Popes Creek site, which appears to represent a major settlement during the fall and winter seasons. The group would disperse during spring to take advantage of anadromous fish runs and to collect shellfish and hunt during the summer. Potter (1993) suggests that during the later portion of this period, smaller groups would seasonally congregate and disperse, whereas by the end of the period, larger, village-sized groups would seasonally congregate. Custer (1989) presents a similar model for the northern portion of the Chesapeake region. However, he identifies mortuary and exchange centers as additional elements of this system. These sites tend to be located in ecologically unproductive areas but are well-situated along potential lines of trade. Such sites are seen as indicators of increased regional interactions and also the coalescence of distinct territories (Dent 1995:242).

As the previous paragraph implies, Middle Woodland sites exhibit an extensive range in size, in one part of the Chesapeake region from 0.1 ha to 5 ha, that appears to be correlated with site function (Dent 1995:240). Features associated with Middle Woodland sites include dense midden rings, shell middens, subterranean storage pits, storage pits reused as trash receptacles, hearths, roasting pits, and concentrations of fire-cracked rock (Dent 1995:240). However, structural remains are not well-represented in the archaeological record. Available evidence suggests that houses had prepared floors, interior pits, and a pole-supported structure. Many of

the subsistence trends noted for the Early Woodland period continue into the Middle Woodland period, especially the large-scale exploitation of oysters and other shellfish (Dent 1995:242). Deer, turkey, small mammals, and other bird species were important as well. Nuts and seeds were collected, with the increase in the representation of seeds such as amaranth and chenopod at sites suggesting that these species were intensively promoted and harvested (Dent 1995:243). Analyses of human remains indicate an increase in carbohydrate consumption when compared with earlier populations, possibly reflecting the increased consumption of amaranth, chenopod, as well as wild rice (Dent 1995:243). Dent (1995:243) suggests that the subsistence strategy during the Middle Woodland period can be characterized as a mix of hunting, foraging, and agriculture.

More substantial artifact assemblages, and sites with intact deposits, have been found in the District dating to the Middle Woodland period. Once again, several of the most important sites are located in the Rock Creek/Potomac River locality. Sites 51NW158 and 51NW171, located along Maddox Branch and interpreted as base camps, have yielded Mockley and Albemarle ceramics and Selby Bay projectile points (Fiedel et al. 2008). Moving toward the Potomac River, one of the earliest of such sites recognized is the Potomac Avenue site (51NW22) (McNett 1972). The American University excavations uncovered a line of post molds and two small pit features, which McNett (1972) interprets as a wall of a large structure and associated pit features dating to the Middle Woodland period. While no diagnostic artifacts were found in the post molds or pits, the preponderance of Middle Woodland artifacts at this site led the investigators to date the features to that time period (McNett 1972:34). Ceramics from the site include Popes Creek and Accokeek types. McNett (1972:34) suggests the site was a small fishing camp.

The nearby Fletcher's Boathouse site excavations yielded nine large circular pits, several smaller pits, and post molds, along with ceramics, lithics, and fire-cracked rock (Barse 2002). While the site yielded artifacts suggesting its occupation from the Early Archaic through the Middle Woodland periods, the features and most temporally diagnostic artifacts are attributed to the Middle Woodland period. The Middle Woodland ceramics include Albemarle, Popes Creek, and Mockley wares that represent the remains of four different jar forms, and Selby Bay, Rossville, Yadkin, and Piscataway projectile points. Lithic debris is dominated by late-stage reduction flakes, and quartz and quartzite are the most common materials used, although rhyolite was also recovered. The large pits, about 8 feet in diameter and 5 feet deep, are refuse-filled storage pits. Two radiocarbon dates place the Middle Woodland occupation of 51NW13 at 100 BC. Barse (2002) suggests that this site represents repeated occupations by small Middle Woodland groups.

Also in the Rock Creek/Potomac River locality, Middle Woodland artifacts were found at the Peter House and Whitehurst West sites (Knepper et al. 2006). Mockley and Popes Creek ceramics and projectile points dating to the Middle Woodland period were found at the two sites. Two radiocarbon assays dating to the Middle Woodland period were also obtained from somewhat mixed deposits at the Peter House site (Knepper et al. 2006). Excavated during the same Whitehurst Freeway project, the nearby Ramp3 site has yielded perhaps the single-most important Middle Woodland feature in the District (Knepper et al. 2006). An intact Middle Woodland oval pit feature located at that site contained a cremation burial and a large number of grave goods, including Popes Creek ceramics. A radiocarbon assay securely dates the feature to the Middle Woodland period. The remains were of a female aged 40 years, and the grave

goods included an elaborate incised antler comb, antler discs, perforated shark teeth, ground-stone pendants, a wooden bead, and a phallic effigy. Knepper et al. (2006) suggest that the artifacts and burial have similarities with those of the Kipp Island phase of New York and Ontario. The artifacts found with the Ramp3 burial are interpreted to indicate external influences on Middle Woodland populations in the Coastal Plain region, although whether these influences are due to diffusion or population movement is not known. The authors favor a movement of proto-Algonquian speakers from the north into the Middle Atlantic region during the Middle Woodland period.

Finally, along the Anacostia River, Louis Berger & Associates (1986) document what appears to be a large Middle Woodland occupation at the Howard Road site (51SE34). The Howard Road site is interpreted to be a large base camp that was repeatedly occupied. The Middle Woodland period component is represented by Mockley and Popes Creek ceramics and Selby Bay projectile points. However, no intact deposits dating to this period were identified at this site.

### **3.7 Late Woodland Period (AD 900 – 1600)**

The single most important, and common, element across much of eastern North America during the Late Woodland period was the adoption of agriculturally based subsistence systems (Anderson and Mainfort 2002). In the Mid-Atlantic region, the establishment of a system of stable agriculture during the Late Woodland period led to the development of sedentary floodplain village communities, some of which were fortified by palisades (Turner 1992). Kavanagh (1983) notes four major changes that occurred during the Late Woodland period in the Monocacy River valley: the appearance of large, permanent or semipermanent villages made possible by the cultivation of maize, beans, and squash; the presence of ceramics at numerous sites, including open camps and habitations; an intensification of riverine orientation through time; and a shift towards the use of local lithic resources, implying a breakdown in procurement networks. Hunting, gathering, and fishing were still practiced but to a lesser extent than before.

The predominant Coastal Plain ceramics of the period include the fabric-impressed Townsend series and the cord-marked Potomac Creek series (Figure 4). The Townsend series ceramics have the same distribution as that of the Middle Woodland Mockley ware, and Dent (1995:244) notes that some archaeologists view Townsend as a derivative of the earlier Mockley ware. Ceramic decoration and embellishment appear to be very important and increasing at this time. Townsend ware has been divided into four distinct types that appear to evidence both temporal and geographic variation, with some types continuing into the Contact period. The Potomac Creek ceramics becomes abundant after AD 1300 in the western shore of Maryland (Dent 1995:245). Potomac Creek ceramics are believed to have been made by Piscataway groups. Dent (1995:245) also emphasizes that while the Late Woodland ceramic types have been shown to have a core area of use, their area of distribution is often larger. This dispersal is attributed to extensive interaction between regional groups. Triangular projectile points possessing a variety of names are almost exclusively associated with the Late Woodland period (Dent 1995:245). The stone-tool assemblage largely consists of local materials with tools made from small expedient cores and flakes (Dent 1995:247). The tools include a variety of scrapers, perforators, choppers, and hoes, along with ground-stone items such as axes, mauls, mortars, pestles, grinding stones, and abraders (Dent 1995:248). Bone and antler points were also fashioned, as were other bone

tools and ornaments, during the Late Woodland period. Clay tobacco pipes and copper beads and pendants are also attributed to the Late Woodland period (Dent 1995:249).

Late Woodland period site patterns appear to consist of varying-sized larger sites surrounded by smaller sites, with the size and complexity of the larger sites increasing after about AD 1300 (Dent 1995:250). This site pattern may reflect a larger permanent village that was associated with smaller, resource extraction hamlets. Village location may have been influenced by proximity to agriculturally suitable soils (Potter 1993). And as across much of eastern North America, Late Woodland groups in the Chesapeake region were becoming increasingly sedentary, with sites described as nucleated or dispersed villages and small hamlets (Dent 1995:249–250). Refuse and shell middens can be substantial at Late Woodland sites, and ditches, trenches, and palisades were constructed at some sites. While some subterranean storage facilities are found on Late Woodland sites, Dent (1995:249) suggests that the period witnessed a shift toward the use of above-ground storage facilities such as warehouses and granaries. Domestic structures appear variable and include longhouses, semi-subterranean pit houses, and smaller, oval house structures (Dent 1995:249). Some of the variability might be explained by site function. One last site type is ossuary sites. Ossuaries are places of secondary interment of large numbers of individuals that are often associated with nearby village sites (Dent 1995:255).

In some respects, the Late Woodland subsistence pattern was similar to that of earlier periods. Faunal resources included deer, smaller mammals, ducks, turkey, and other birds, oysters and other shellfish, turtle, and a variety of fish, especially anadromous species (Dent 1995:251). Nuts, starchy and oily seeds, such as amaranth and chenopod, and tubers were also important. But the archaeological remains also indicate that fundamental changes to subsistence and diet occurred during this period. Eight-rowed flint variety maize was being grown as early as AD 825 in the region and evidence for the growing of squash and beans has also been found (Dent 1995:254). Potter (1993) suggests that the emphasis on tropical cultigens intensified after AD 1300.

After AD 1500 there was an increase in social and political activity among native tribes in Maryland and Virginia, and it has been suggested that an alliance of coastal plain Algonquian groups had formed prior to European contact (Potter 1993:151) (Figure 4). Dent (1995:267) identifies the date of about AD 1500 as marking the appearance of ranked societies known as chiefdoms in the Chesapeake region. There has been considerable debate among researchers as to the nature of Late Woodland social organization in this region prior to AD 1500. For instance, Turner (1992) characterizes the socio-political organization of groups settled on the Coastal Plain as being ranked, while Hantman and Klein (1992) indicate that, at least for the Piedmont region, archaeologists have interpreted Late Woodland societies as ranging from egalitarian, to temporary hierarchies, to chiefdoms. As noted here, with the transition to the Contact period, many of these issues are resolved.

Similar to the Middle Woodland period, a number of Late Woodland sites that contain intact deposits have been recently identified in the District. Once again, a number of these sites are located in the Rock Creek/Potomac River locality. All three sites investigated by Knepper et al. (2006) for the Whitehurst Freeway project yielded Late Woodland artifacts. Fire-cracked rock features associated with Townsend series ceramics were found at both the Peter House and

Whitehurst West sites. Small amounts of Potomac Creek ceramics and Levanna and triangular points were also recovered from these features. One fire-cracked-rock feature at Peter House yielded a radiocarbon assay that dates to the late Woodland period. At all three of the Whitehurst Freeway sites, the upper mixed midden-like levels were also dominated by Late Woodland artifacts. Fiedel et al. (2008) also located Late Woodland period artifacts at 51NW158, a base camp site along Maddox Branch. Materials from this site include Keyser, Potomac Creek, and Rappahannock Incised ceramics and Levanna projectile points. A Late Woodland period component was also identified at the Howard Road site in the Anacostia neighborhood (Louis Berger & Associates 1986). Potomac Creek ceramics and triangular projectile points were found at this large base camp site, although no intact Late Woodland deposits were identified.

### **3.8 Contact Period (AD 1600 – ca. 1650)**

English colonists from Jamestown beginning exploring the Chesapeake region in 1608, and fortunately the colonists provided many details on the settlements and cultures they encountered. Dent (1995:262) indicates that the region was populated by Algonquian speakers but was ringed by other groups: Iroquoian to the north, Siouan to the northwest, and various groups to the west. Smith recorded 166 different settlements and indicated the presence of social and political groupings by identifying villages with “King’s Houses” or “Ordinary Houses” (Dent 1995:261). Powhatan, the major group in the region, is located to the south of Maryland and the District of Columbia (Dent 1995:262). Groups in the District or Maryland areas may have been loosely allied with Powhatan or were independent. The Piscataway, living north of the Potomac River, were also well documented during the Contact period. This group was led by a paramount chief and consisted of six or seven groups each headed by a subchief (Dent 1995:264).

At the beginning of the seventeenth century, the lower Anacostia River area was populated by the Necostins, a tribe visited by Smith. The area now known as Anacostia was described in 1608 as having houses scattered among agricultural fields along the eastern bank of the Anacostia River (Figure 5). Also present was a palisaded village called Nacotchtank. Nacotchtank was the residence of the chief of the Necostins and was also said to contain religious structures. The Necostin settlement system appears to be typical of the southern coastal portion of the Mid-Atlantic region; Potter (1993) has documented similar settlement patterns among the Contact period groups along the Virginia Coastal Plain.

Increasingly, the relationship between the English and Necostins became based on trade, with trade in beaver pelts especially important. Evidently, Nacotchtank was a major center where hundreds would congregate, as trade was in part based on Necostin control of beaver pelts from the area. In 1622, a party of colonists from Jamestown, in alliance with other nearby tribes, plundered and burned Nacotchtank. An attempted return to Nacotchtank in 1623 by the Jamestown colonists, ostensibly to trade, was thwarted when the party was ambushed. Henry Fleet, a colonist taken prisoner during the 1623 conflict, was held captive for five years. After escaping, Fleet returned to Nacotchtank in 1632, marking the last mention of this village. Fiedel et al. (2008:19) suggest that the Necostin merged with the Piscataway by 1694, as evidenced by the mention of the presence of an Anacostin king with Piscataway leaders during a council held at St. Mary’s City.



**Figure 5. Smith map of 1606 depicting Nacotchtank (circled, map oriented with north to right) (Smith 1606).**

To date, the Necostin palisaded village of Nacotchtank has not been found. A site that is most likely similar to Nacotchtank is the Accokeek Creek site that was excavated during the 1940s (Stephenson et al. 1963). Investigations at this site yielded an outline of a circular palisade that had been rebuilt a number of times. At its largest, the palisade was 400 feet in diameter, enclosing an area of less than 3 acres. Within the palisade walls were up to 30 dwellings, although the exact number occupied at any one time is difficult to determine due to the numerous episodes of structure abandonment and rebuilding noted by the archaeologists. Similarly, the locations of the houses scattered among the agricultural fields mentioned by the Jamestown colonists have not been positively identified although numerous sites with Contact period artifacts have been located along the Anacostia River.

Not mentioned in relation to the Nacotchtank village by the Jamestown colonists is the use of ossuaries. Ossuaries, or communal graves in which the periodic re-interment of bundle burials took place, are associated with the late precontact time period (Late Woodland to Contact period) and have been documented in many parts of the Mid-Atlantic region (Boyd and Boyd 1992;

Curry 1999; Feest 1978; Hantman and Gold 2002; Herbert 2002). Two have been located and excavated at Bolling Air Force Base (AFB), containing 63 and 70 individuals, respectively, although no European trade goods were found at these sites (Stewart and Wedel 1937). These ossuaries are thought to be typically located within 1 km of a major village (Curry 1999). If correct, and if the ossuaries date to the Contact period, Nacotchtank would most likely be located within Bolling AFB. The exact location of this Contact period village has yet to be identified and fully accepted by researchers.

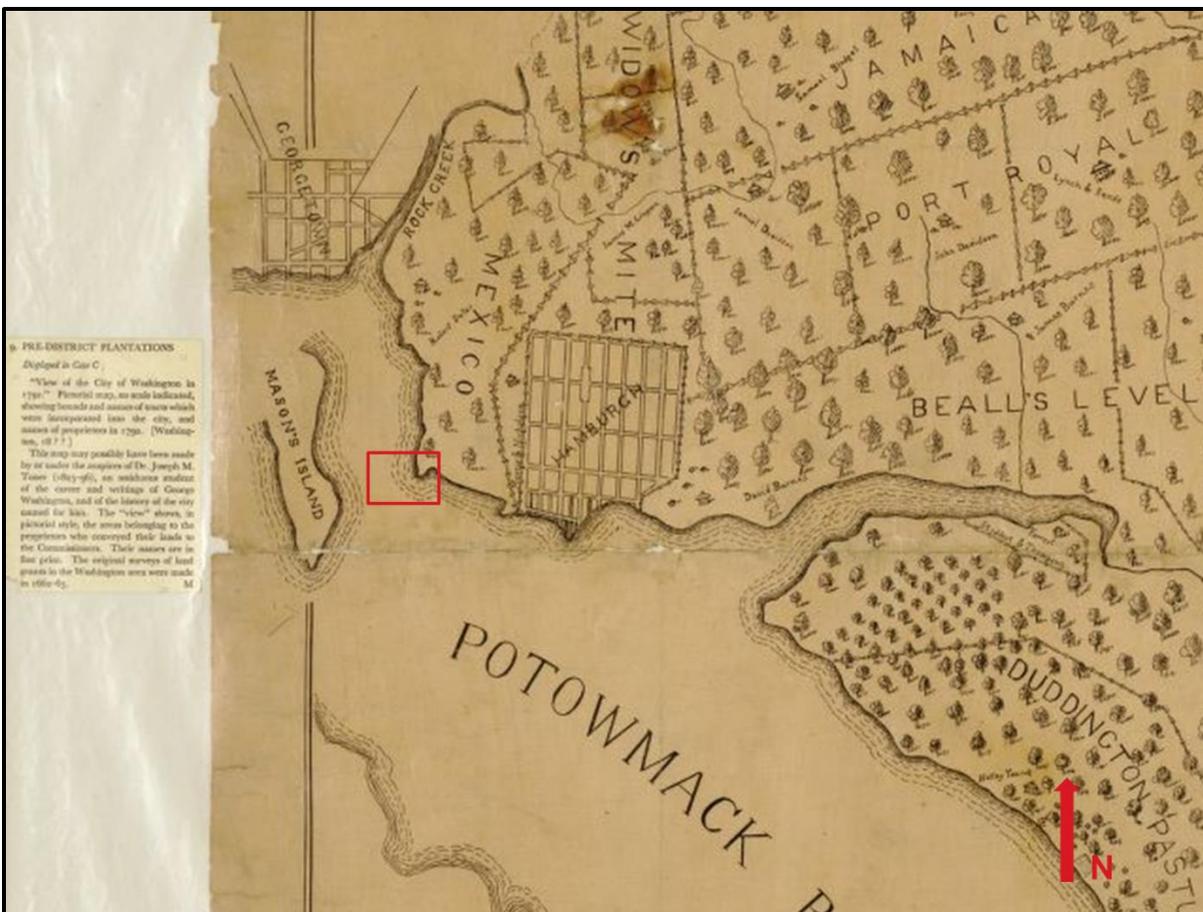
### 3.9 Euroamerican History of the Project Area

The following discussion provides a general history of the project area from the Colonial period through construction of the Kennedy Center. Detailed analysis of potential historic structures and features based on historic maps and aerial photographs within the project area is presented in Section 4.

The highly urbanized landscape that characterizes the modern District of Columbia did not begin to appear until the years following the Civil War. Prior to that time, much of the District was agricultural as it had been since Colonial times. The project area was originally part of Maryland until 1790, when that state ceded 69 square miles of territory to form the District of Columbia. Well before that event, during the seventeenth century, the first permanent European settlement in the proprietary colony of Maryland was at St. Mary's City. Throughout the seventeenth century, settlement spread northward from St. Mary's City along the Potomac River. Settlement was overwhelmingly agrarian in nature and was organized around large landholdings (Bryan 1914:14). This manorial-style system was based on land grants of tracts of 1,000 acres or more made to influential planters. The first and most important crop in Maryland was tobacco, which was shipped to European markets for sale and consumption.

The project area was part of the original thirty tracts of lands incorporated into the District of Columbia and had been part of Rock Creek Hundred since 1715. Originally part of Charles County, Maryland, it became part of Prince George's County before the District's formation. At the time of the District's formation, the Kennedy Center project area was part of the Mexico plantation, owned by Robert Peter. A house is depicted north of the project area on the map called "View of the City of Washington in 1792" (Anonymous 186?) (Figure 6). Mexico was formed from two original plantations, Vineyard and Widow's Mite (Herman 1996).

The project area's location along the Potomac River at Easby's Point made it a prime locale for riverside commerce as the District of Columbia developed. Even early nineteenth-century maps show wharves in the area. The importance of the River to the new capital was recognized by Pierre L'Enfant, tasked with the design of the city. L'Enfant's plan included the Washington City Canal, which would connect the Potomac and Anacostia Rivers through Tiber and James Creeks. The canal would allow goods to reach the interior of the city and provide Georgetown with access to the Anacostia River's deepwater ports. Construction of the Washington City Canal began in 1810 under Benjamin Latrobe and did not follow L'Enfant's original plan (LeeDecker and Baynard 2009:14).



**Figure 6. Map showing plantations and landowners in 1792 (Anonymous 186?).**

Although near the location of the Washington City Canal, modification of the land and river near the Kennedy Center project area was the result of construction of the C&O Canal, which by 1833 had been extended from Rock Creek to 17th Street NW and had cut through Easby's Point (LeeDecker and Baynard 2009:14). While the Washington City Canal was abandoned in the 1870s, the C&O Canal continued to operate until 1924, falling victim to the railroads and repeated floods (National Park Service 2013). Within the Kennedy Center project area, however, historic maps show that the extended stretch of the C&O Canal ceased operations at around the same time as the Washington City Canal. Historic maps dating to the period of canal operations show a shipyard in close proximity to the project area as well as several structures on both sides of the canal.

The canal within the Kennedy Center project area was covered over, but it was not made part of the sewer that was created from the abandoned Washington City Canal and that discharged onto the Potomac Flats at 17th Street. However, the Kennedy Center project area would be included when the District of Columbia undertook dredging and filling operations from 1870–1901 to deepen the Washington and Virginia Channels of the Potomac River to alleviate flooding, to maintain navigable depths on the river, and to reclaim the Potomac Flats. Dredged soils from the river were placed on the Potomac Flats, a practice which would continue into the early years

of the twentieth century (LeeDecker and Baynard 2009:17). Beginning in 1882, the stretch of flats between Easby Point and 17th Street NW was the first to be filled, in part to deal with the raw sewage that was spread across this area with the changing tides. The work also included construction of fill-retention structures to be anchored to the river bottom, requiring excavation to at least 20 feet in the river bottom, as well as retaining walls and a series of sluice canals (LeeDecker and Baynard 2009:21). The filling from Easby Point to 17th Street NW continued until 1901, and 31 acres of reclaimed land next to the Washington Monument became parkland. Reclamation work to the east continued through the first decade of the twentieth century (LeeDecker and Baynard 2009:23, 25).

Use of the Kennedy Center project area was commercial from the District's first days into the twentieth century. Both nineteenth- and twentieth-century maps depict enterprises such as Littlefield's Wharf and the Barber Asphalt and Paving Company. By 1932, no structures are depicted in the project area on maps or aerial photographs, although a number are located nearby. Much of the project area was included in West Potomac Park or extended into the Potomac River. The Rock Creek Potomac Parkway was also constructed through the project area. The area remained relatively unchanged until the 1960s, when major construction projects such as for Interstate 66 and the Kennedy Center were undertaken.

The Kennedy Center was constructed from 1964–1971 and is the only presidential memorial to John F. Kennedy in the District of Columbia (Robinson & Associates, Inc. 2013:12). A recent geotechnical engineering report indicates the north portion of the extant structure was constructed on piers placed on shallow bedrock and the central and south portions of the building are supported on a deep foundation system consisting of 2-ft to 8-ft diameter caissons on bedrock. The lowest floor of the building is an 8-inch to 15-inch slab with rock anchors (Langan Engineering and Environmental Services, Inc. 2013:17). The geotechnical borings showed that subsurface conditions at the site generally consist of topsoil or asphalt pavement surface materials overlying a layer of fill and successive strata of silt and clay, clayey/silty sand, decomposed rock, and bedrock (Langan Engineering and Environmental Services, Inc. 2013:18).

### 3.10 Previous Archaeological Investigations

A number of archaeological investigations have been conducted within one-half mile of the Kennedy Center project area. Three intensive archival studies were undertaken at West Potomac Park for a Corps of Engineers flood control project (Goodwin et al. 1988), in the eastern Georgetown Historic District for a National Park Service Grant (Artemel et al. 1993), and at the 17th Street NW levee for a renovation project (LeeDecker and Baynard 2009).

A Phase I reconnaissance-level survey was conducted at the Potomac Annex for the Naval Facilities Engineering Command (The Louis Berger Group, Inc., 2007). Three Phase I intensive surveys include a project at the Cooper Houses (Seifert 1990), one for the Whitehurst Freeway (Artemel et al. 1991), and an American University class project at the north end of Theodore Roosevelt Island (McNett and Ayers 1974).

In 1999, Archeological Testing and Consulting undertook a combined Phase I/Phase II investigations of the American Red Cross Headquarters (Hill 1999). Engineering-Science also conducted Phase II excavations for the Whitehurst Freeway project in Foggy Bottom (Glumac et

al. 1993). Two non-compliance excavation projects also have been completed, one at Lenthall House on 19th Street NW (Kavanagh and Swasta 1978) and one at the Octagon House (Boyd 1992; Boyd and Lapham 1994; Theobald 1991).

Of closest relevance to the Kennedy Center Expansion project are the studies conducted by the Louis Berger Group, Inc., for the Potomac Park Levee within the National Mall and Memorials Parks (LeeDecker 2013; LeeDecker and Baynard 2009) and for the Potomac Annex (The Louis Berger Group, Inc. 2005, 2007). The Phase IA study of the Potomac Park Levee revealed a wealth of historic documentation detailing the construction and use of the 17th Street Wharf and information regarding groups and individuals associated with the wharf and the businesses that made use of it, especially during the later nineteenth century (LeeDecker and Baynard 2009). Archaeological monitoring of the levee construction project in 2011 and 2012 revealed deposits associated with the 17th Street Wharf and the outlet of the Tiber Creek sewer (LeeDecker 2013).

The Department of the Navy's Potomac Annex is located just east of the Kennedy Center, adjacent to 23rd Street NW. This was originally the location of the first Naval Observatory and later home to various naval medical institutions. Subsurface testing during the archaeological survey revealed landscape integrity in upland portions of the property around the core of the observatory (The Louis Berger Group, Inc. 2005). The 2007 cultural resources survey report recommended that the proposed Potomac Annex Historic District is eligible for listing in the NRHP under Criteria A, C, and D (The Louis Berger Group, Inc. 2007).

These project show that intact cultural deposits are present below fill in this part of the District and could be encountered in the Kennedy Center expansion project area.

### **3.11 Previously Recorded Archaeological Sites**

Information regarding previously recorded archaeological sites within one-half mile of the Kennedy Center project area was provided by the District of Columbia State Historic Preservation Office. The SHPO records indicate 11 archaeological sites have been recorded in this vicinity (Table 1). Most are historic period sites, some of which also include Native American components. Several have been listed in the NRHP, all of which include standing structures. Two known historic resources, a Commissioner's Wharf and a glass works, are known only from historic maps. The presence of both Native American and historic period sites in proximity to the Kennedy Center suggests that such resources might also be present within the project area.

**Table 1. Previously recorded archaeological sites within 0.5 miles of the project area.**

<i>Site No.</i>	<i>Site Name</i>	<i>Site Type</i>	<i>Report Reference</i>	<i>NRHP Status</i>
51NW019	(Theodore Roosevelt Island)	Precontact and Historic	None	Not Evaluated
51NW100	Octagon House	Historic domestic	Boyd 1992; Theobald 1991	Listed in NRHP
51NW103	Peter House/ Whitehurst Fwy	Middle Archaic; Early, Middle, and Late Woodland settlement; 18th and 19th century domestic	Knepper et al. 2006; Crane et al. 2006	Eligible
51NW118	Planing Mill/Whitehurst Fwy	19th century mill and 20th century school	Crane et al. 2006	Not Eligible
51NW120	Lime Kiln/Whitehurst Fwy	19th century lime kiln	Knepper et al. 2007	Not Evaluated?
51NW125	American Red Cross DC Chapter House	1870–1935 domestic, industrial	Hill 1999	Not Determined
51NW176	Potomac Annex-Old Naval Observatory Grounds	Unidentified Precontact; 19th and 20th century military	The Louis Berger Group, Inc. 2007	Not Evaluated
51NW218	A. Ray House	19th century domestic	Troccoli and Harris 2008	Listed in NRHP
51NW236	Woodhull House Site	Unidentified Precontact; 19th and 20th century domestic	In preparation	House Listed; Site Eligible
H68	Commissioner's Wharf	Late 18th—early 20th century wharf	None	Not Located
H69	Washington City Glass Works	Early 19th century glass works	None	Not Located

## 4.0 SITE POTENTIAL ASSESSMENT

The preferred alternative for the Kennedy Center Expansion project envisions the expansion of the south façade of the Kennedy Center, the construction of two office pavilions to the south of the Kennedy Center and one office pavilion (known as the river pavilion) within the Potomac River connected to the Kennedy Center property by a pedestrian bridge, and below ground parking. An alternative option does not include the river pavilion but instead includes a third land-based pavilion. These pavilions would be constructed to the south of the Kennedy Center and north of the Theodore Roosevelt Bridge. With the potential to construct an office pavilion within the Potomac River, the assessment of these areas for the potential presence of Native American and Historic period archaeological resources by necessity includes both terrestrial and submerged resources. Initially, archaeological resources had been dismissed as a topic during the environmental assessment process for this project as the Kennedy Center property was thought to be located in its entirety on made-land reclaimed from the Potomac River. This analysis, as presented in Figure 7, indicates that the eastern half of the Kennedy Center is the Holocene epoch eastern shore of the Potomac River, including areas within the Kennedy Center Expansion project area of potential effects (APE). The western half of the property does include made-land, but it is made-land that could include archaeological resources dating to the nineteenth century.

Initial efforts centered on a review of previous archaeological research and identified archaeological sites located within approximately 0.5 miles of the Kennedy Center that was presented in Section 3. The assessment of terrestrial archaeological potential at the Kennedy Center draws on a review of Native American site location models as detailed in Section 3, and for Historic period resources a review of historic maps and aerial photographs from the 1810s to the 1960s that is presented below. For the proposed office pavilion located within the Potomac River, a review and analysis of Potomac River dredging and databases for submerged resources (e.g., shipwrecks) was conducted. Prior disturbances to the Kennedy Center property were identified. This includes a GIS-based cut and fill analysis and a review of impacts associated with the construction of the Kennedy Center. Finally, the results of geotechnical borings as documented in Langan Environmental and Engineering Services, Inc. (2013) were taken into account. These elements were evaluated to first assess the potential for the presence of archaeological resources within the Kennedy Center Expansion project area and secondly to determine whether prior construction or dredging impacts would have disturbed or destroyed any archaeological resources that are potentially present.

### 4.1 Terrestrial Native American Archaeological Resources

A 2013 Project Data Review conducted by the DC HPO for the Kennedy Center Expansion project indicated that no archaeological sites have been located within the property nor have any archaeological investigations been undertaken. However, the review of archaeological investigations and sites located within 0.5 miles of the project area presented in Section 3 indicates that, despite its urban character, archaeological resources remain in the vicinity of the Kennedy Center. The chronology of Native American occupation in the District presented in Section 3 indicates that significant habitation sites have been located in the vicinity of the confluence of Rock Creek and the Potomac River and along the Potomac River itself, as well as along the floodplain of the Anacostia River to the east. The Whitehurst Freeway project, located

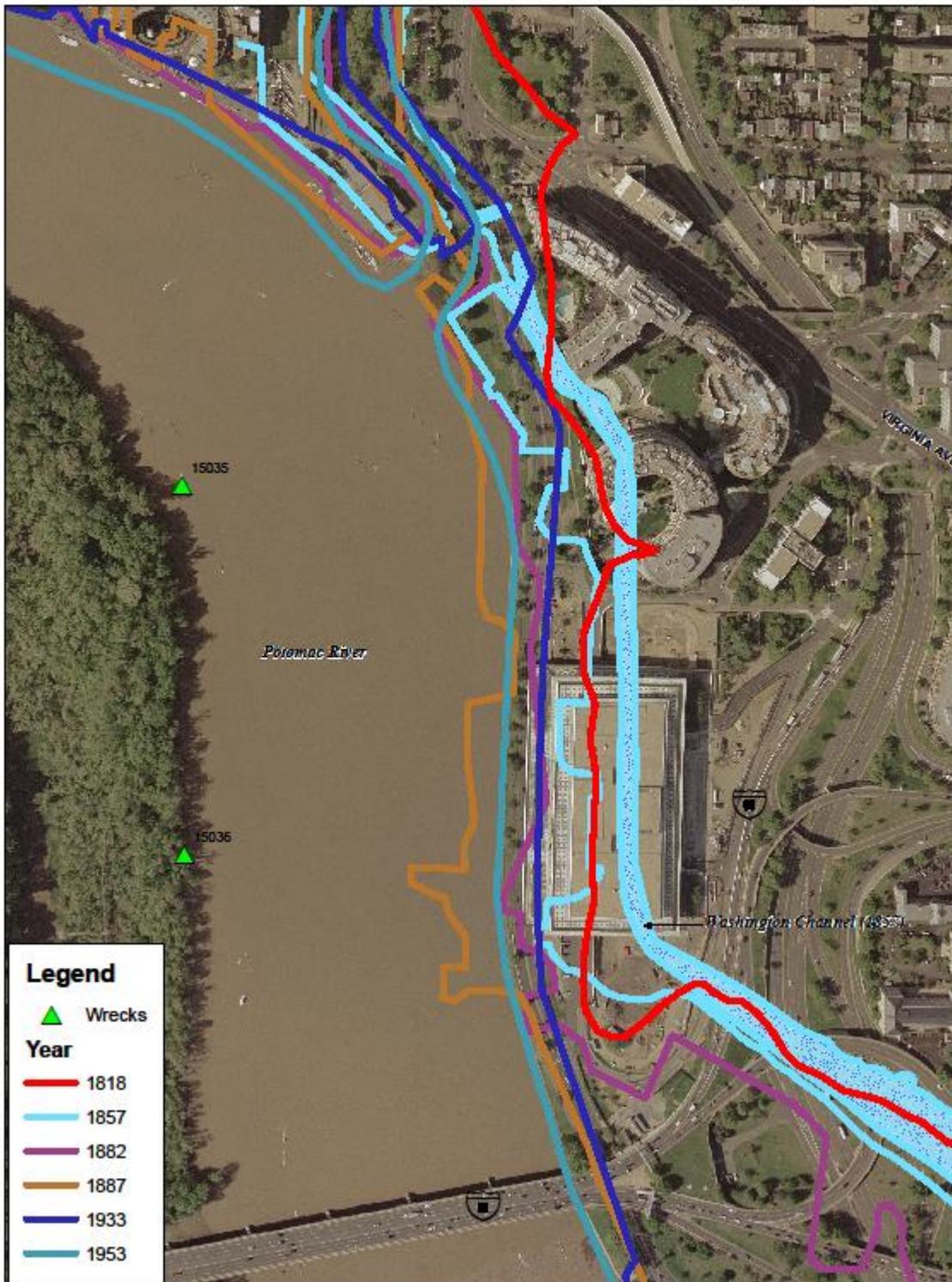


Figure 7. Analysis of nineteenth- and twentieth-century shoreline change adjacent to the Kennedy Center.

less than 0.5 miles to the north of the Kennedy Center, encountered a significant Archaic period and Middle Woodland period habitation site below thick deposits of fill during a highway expansion project (Knepper et al. 2006). While more limited in scope, archaeological investigations in the National Mall suggest the presence of now-buried land surfaces that could contain Native American archaeological resources along the now-buried south bank of Tiber Creek (LeeDecker and Baynard 2009). In both instances, depending on the specific land-use and developmental history of a landform, archaeologists noted the potential of fill to preserve archaeological resources.

The chronologic overview of Native American habitation along the Potomac River presented in Section 3 provides a set of expectations for the periods of occupation and types of Native American sites that could be present within the Kennedy Center property. These settlement models, and examples from the District, can be summarized here:

- **Paleoindian Period:** Dent (1995) identifies the Potomac River valley as an ample resource zone for Paleoindian groups, suggesting a preference for occupation within this area. However, evidence for Paleoindian occupation is generally limited to individual fluted projectile points, although there is a suggestion that sites dating to this period may be located on the now-flooded river floodplain.
- **Early Archaic Period:** Residential sites are located within river floodplains while camps are dispersed into upland settings. Two important sites, 51NW13 and 51NW22, have been located along the Potomac River floodplain.
- **Middle Archaic Period:** Larger residential sites are located at the confluence of streams, such as Rock Creek, and the Potomac River. Sites 51NW22 and 51NW80 both have significant components dating to this time period.
- **Late Archaic Period:** Site sizes increase but locations remain stable, with residential sites located at the confluence of streams, such as Rock Creek, and the Potomac River. Significant nearby sites include 51NW13 and 51NW22.
- **Early Woodland Period:** The Late Archaic period trend in site size increase continues while site locations remain the same. Significant nearby sites include 51NW13, 51NW22, 51NW103, and 51NW117W.
- **Middle Woodland Period:** Residential site locations shift from the confluence of streams and rivers to locations along rivers with larger, broader floodplain formations. Significant Middle Woodland components have been found at 51NW13, 51NW22, 51NW103, and 51NW117W.
- **Late Woodland Period:** Both larger (and possibly palisaded) villages and smaller outlying hamlets occur along river floodplain formations, especially adjacent to soils that are suitable for agriculture. Nearby significant late Woodland components include the Whitehurst Freeway sites.

This short review of Native American settlement models, emphasizing site types associated with large rivers, such as the Potomac River, provides both a basis for identifying the nature as well as time periods most likely to be located on a landform such as the Kennedy Center property. A portion of the Kennedy Center property consists of a floodplain formation along the Potomac River, with extensive flats, often a rich resource zone for subsistence activities, present to the south (Figure 7). As this property lies between the confluences of Tiber Creek and Rock Creek with the Potomac River, it has a reduced potential for the presence of a large habitation site dating from the Early Archaic, Middle Archaic, Late Archaic, or Early Woodland periods. Smaller occupation sites, such as camps positioned to collect resources from the nearby Potomac River Flats, are a more likely site type within the Kennedy Center property during these periods. However, with a shift in large habitation site location during the Middle Woodland and Late Woodland periods, the Kennedy Center property has an increased potential for the presence of archaeological resources during those two periods especially considering the proximity of the parcel to the Potomac Flats.

Native American site location models suggest that, theoretically, the Kennedy Center property has a high potential for the presence of Native American camps and habitation sites, especially dating to the Middle Woodland and Late Woodland periods. However, while a theoretical possibility, the continued existence of such sites is highly dependent on subsequent land use during the Historic period. Depending on the nature of land use during the Historic period, Native American sites could have been destroyed or serendipitously preserved.

#### **4.2 Terrestrial Historic Period Archaeological Resources**

The Kennedy Center Expansion project lies within what was to become Square 12 South at Easby Point along the east bank of the Potomac River, north of its confluence with Tiber Creek and south of its confluence with Rock Creek. Historic maps consulted for this Phase IA archaeological assessment indicate that the Potomac River shoreline has migrated to the west and south during the nineteenth and twentieth centuries through the addition of dredged fill at this location. This evolution of the Potomac River shoreline can be visualized using GIS to plot a series of historic maps onto the current Kennedy Center property and its immediate environs (Figure 7). Overall, approximately the eastern half of the property is located on the former shoreline of the Potomac River, including a prominent point known as Easby Point. Between 1822 and 1833 the C&O Canal (aka the Washington City Canal) was extended along the banks of the Potomac River north-to-south through the Kennedy Center parcel (LeeDecker and Baynard 2009). Near the southeast corner of the Kennedy Center, the canal changed orientation along with the Potomac River toward the southeast, eventually emptying into the mouth of Tiber Creek at the 17th Street wharf. The use of the canal was short-lived, for it was abandoned during the 1870s (LeeDecker and Baynard 2009).

The earliest detailed map, dating to 1851, locates a shipyard at Easby Point to the west of the C&O Canal (Figure 8) (Keily 1851). While the Boschke 1857 and 1861 maps do not designate this area as a shipyard, both depict several structures in the vicinity of the project area, including one structure at the location of the northeasternmost office pavilion (Figures 9 and 10). By 1879, the Hopkins map no longer depicts the C&O Canal along the bank of the Potomac River within the project area, indicating its abandonment and filling by this time (Figure 11). However, an apparent wharf is present to the west of the Kennedy Center location.



**Figure 8. 1851 Keily map with the Kennedy Center Expansion project area highlighted.**

The subsequent years witnessed the migration of the shoreline to the west and south by filling with materials dredged from the Potomac River (Figure 7). By 1882, the Potomac River shoreline was near its present location west of the Kennedy Center, while the area south of the property reached its current location by 1887 (Figure 7). Wharfs were constructed into the Potomac River north of the proposed office pavilions and to the west of the Kennedy Center. A birds-eye view of this area indicates that the wharf was the location of A. Littlefield Wharfage Storage and the Baker Asphalt Paving Works (Figure 12) (Sachse 1884). A wood-frame structure is depicted at the Littlefield wharf, while several more substantial structures, present in the vicinity of the southeast corner of the Kennedy Center, likely constitute the Baker Asphalt Paving Works. There are approximately seven structures associated with this business within or adjacent to the project area. The subsequent 1887 Silversparre map indicates that the location of the proposed pavilion within the Potomac River is south of a wharf, and the southwest pavilion straddles Square 12 South and an adjacent road (Figure 13).

The Baist maps of the early 1900s provide greater detail on the nature of land use within the project area. Littlefield's wharf is present with a structure depicted, as are the Baker Asphalt Paving Works buildings at the northeast corner of the project area (Figure 14) (Baist 1903).



Figure 9. 1857 Boschke map with the Kennedy Center Expansion project area highlighted.

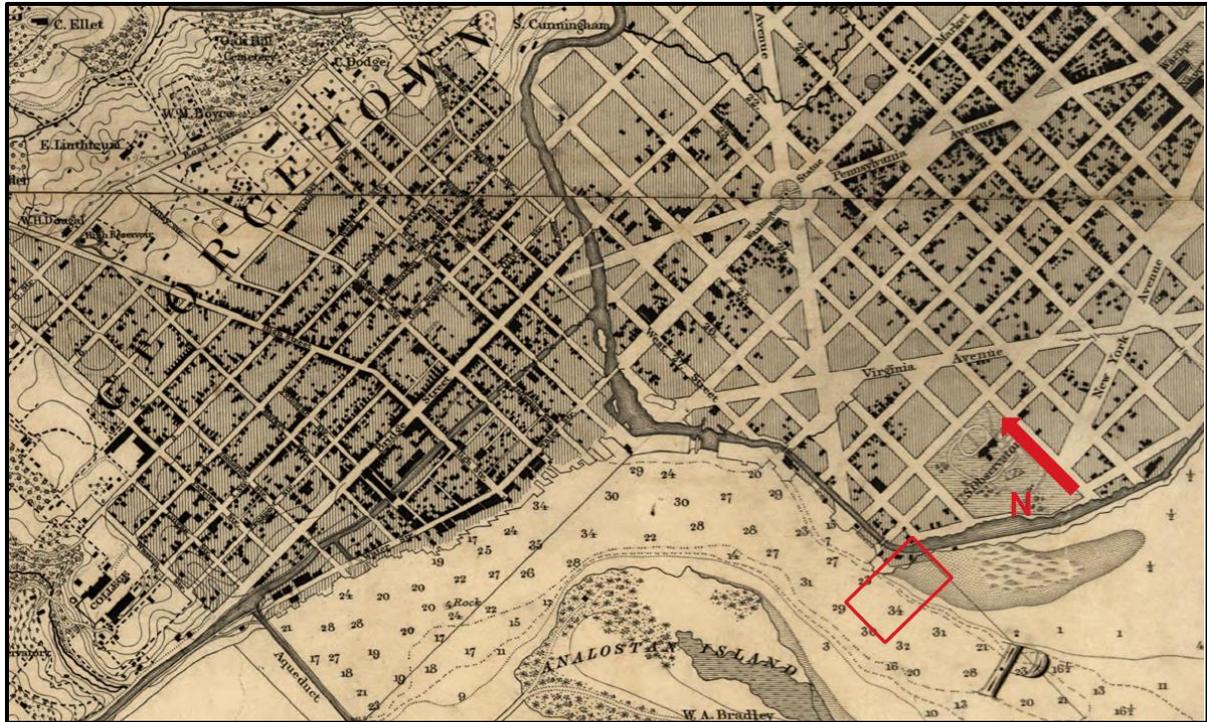


Figure 10. 1861 Boschke map with the Kennedy Center Expansion project area highlighted.

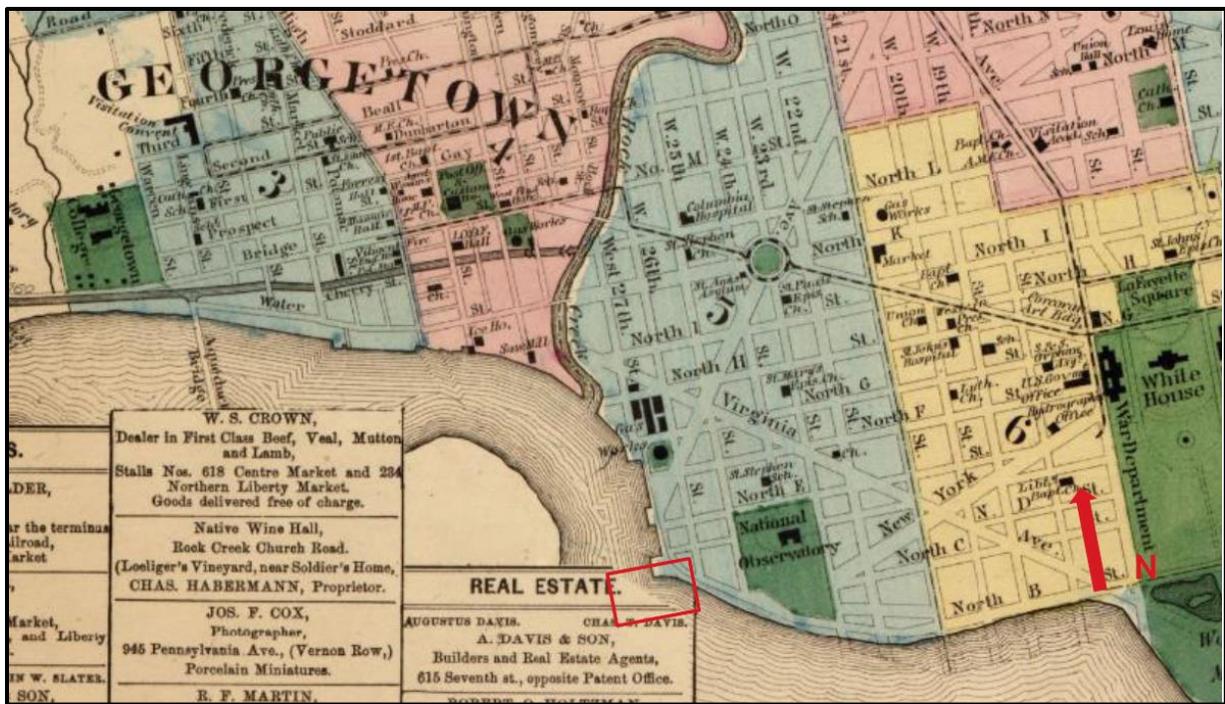
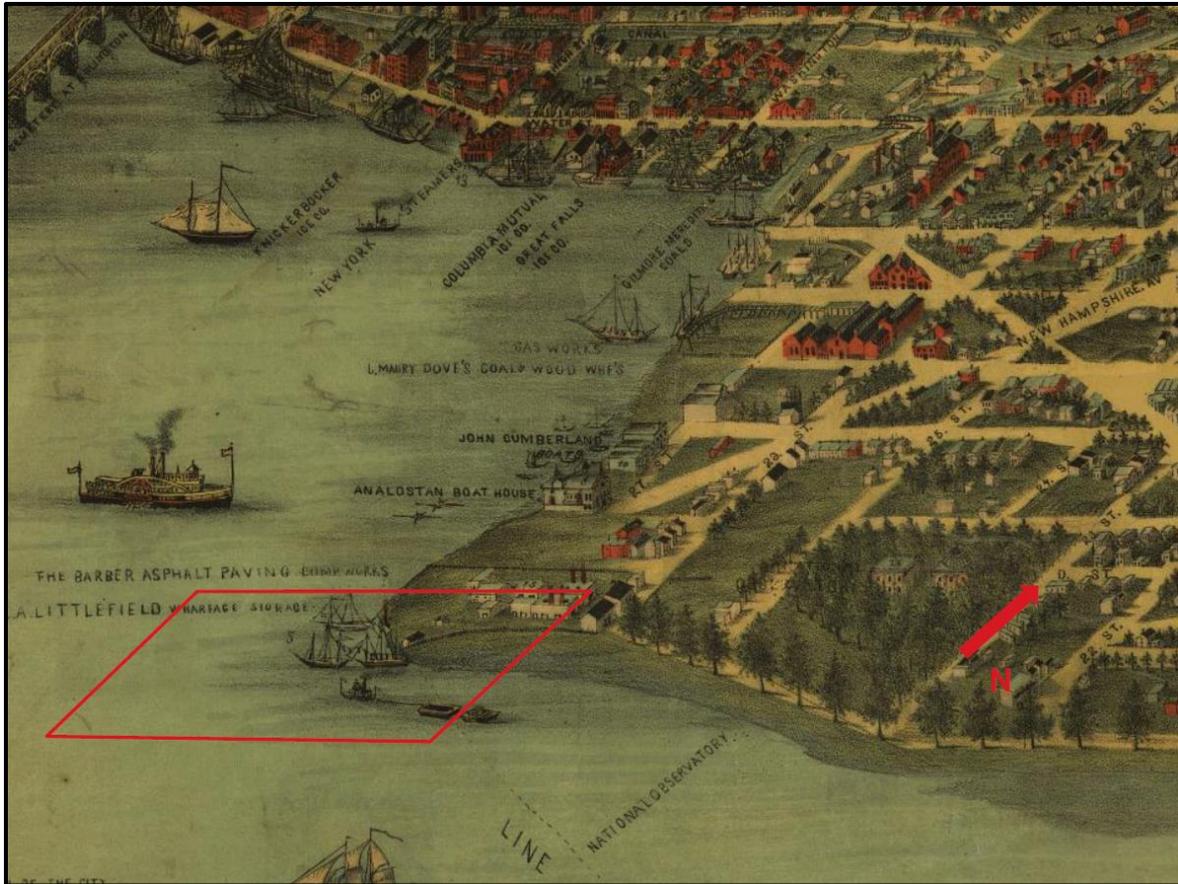


Figure 11. 1879 Hopkins map (page 11) with the Kennedy Center Expansion project area highlighted.



**Figure 12. 1884 Sasche birds-eye view map with the Kennedy Center Expansion project area highlighted.**

Three other unnamed structures are scattered throughout the general project area. By 1919 the wharf remains, but the Baker Asphalt Paving Works buildings and three unnamed buildings are no longer present (Figure 15) (Baist 1919). As well, the area to the south and west of the Kennedy Center location, the now-filled Potomac Flats, is designated as Potomac Park. The final map reviewed for the Kennedy Center Expansion project, dated 1932, reveals significant changes to the area (Figure 16) (Baist 1932). The Littlefield wharf had been demolished and Rock Creek Potomac Parkway had been constructed. No structures remain within the project area.

Two historic aerial photographs depict the modern development of the Kennedy Center Expansion project parcel. A 1951 aerial photograph indicates that a large structure had been constructed on Square 12 South between 1932 and 1951 (Figure 17) (Nationwide Environmental Title Research 2013a). By 1963, substantial road construction was underway east of the Kennedy Center property, the Roosevelt Bridge was under construction, and the large building present on the 1951 aerial photograph had been removed, as the parcel was being prepared for the construction of the Kennedy Center (Figure 18) (Nationwide Environmental Title Research 2013b).

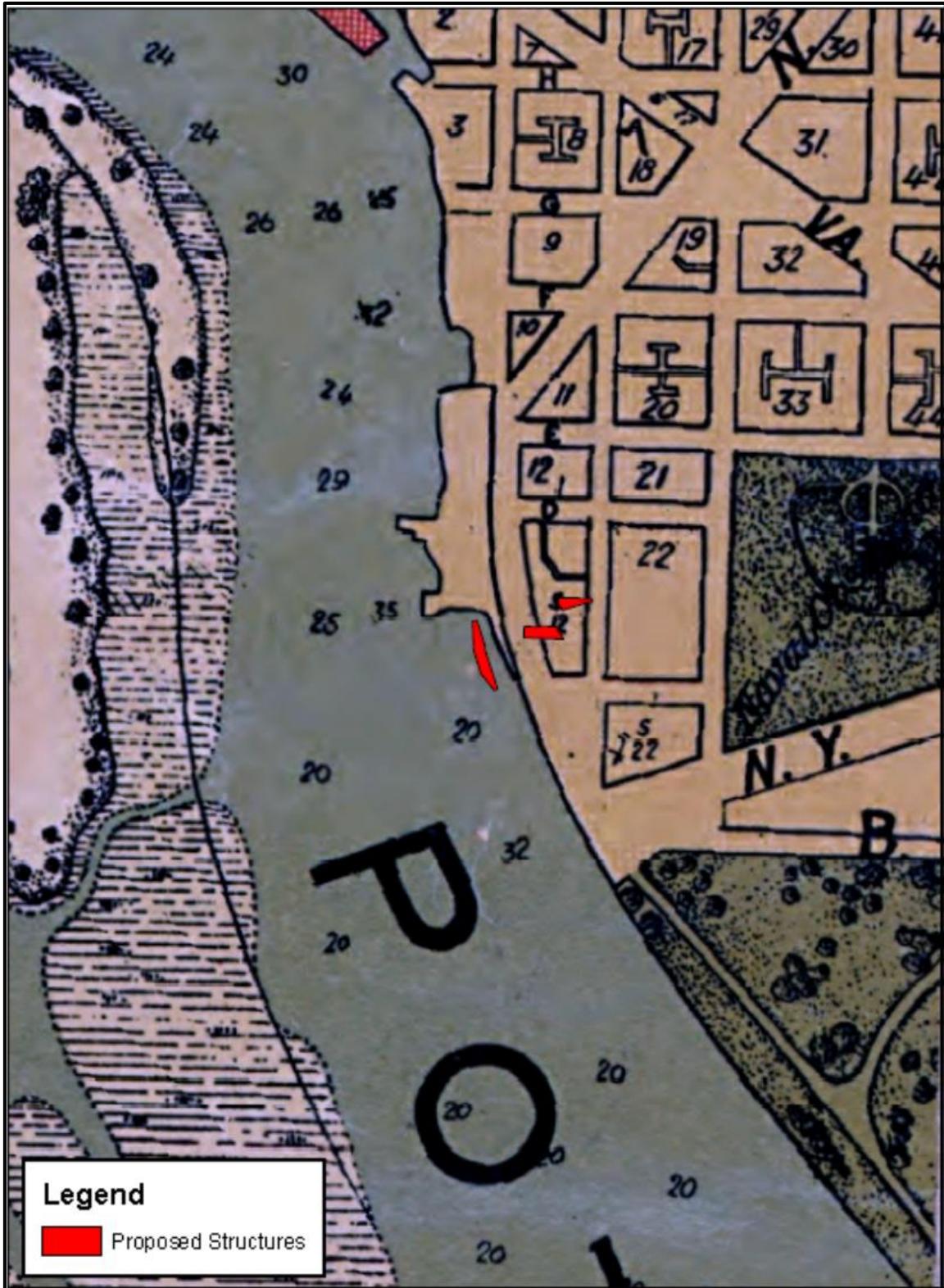


Figure 13. 1887 Silversparre map with the Kennedy Center Expansion project area highlighted.



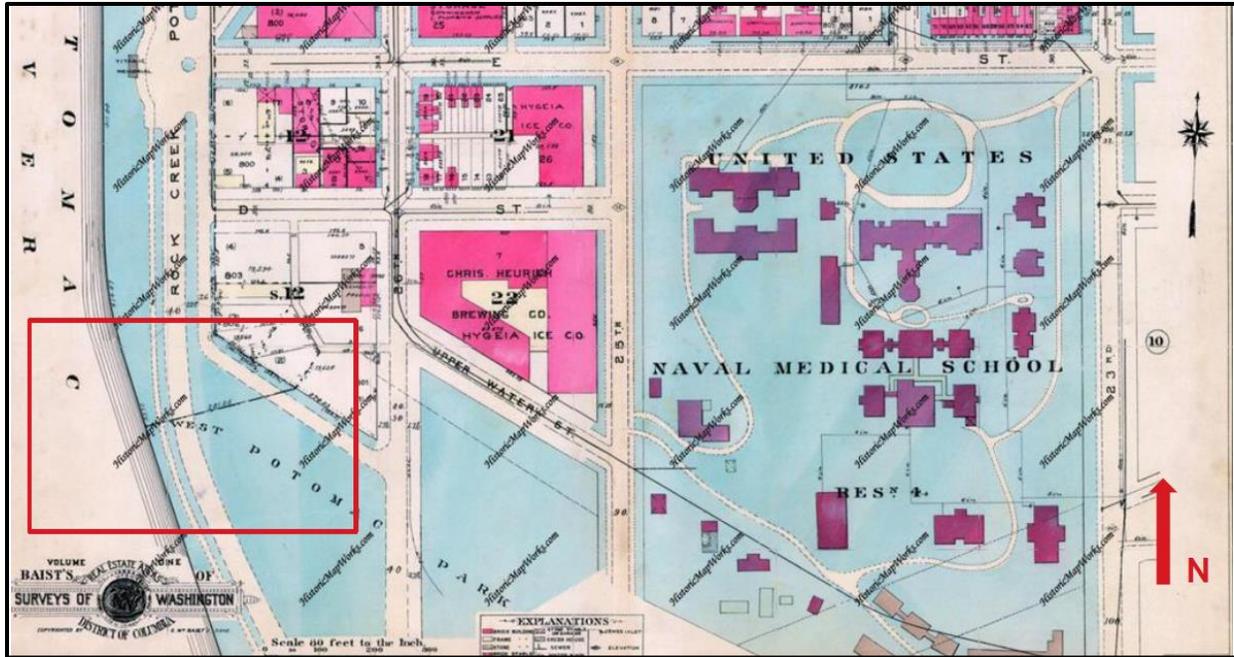
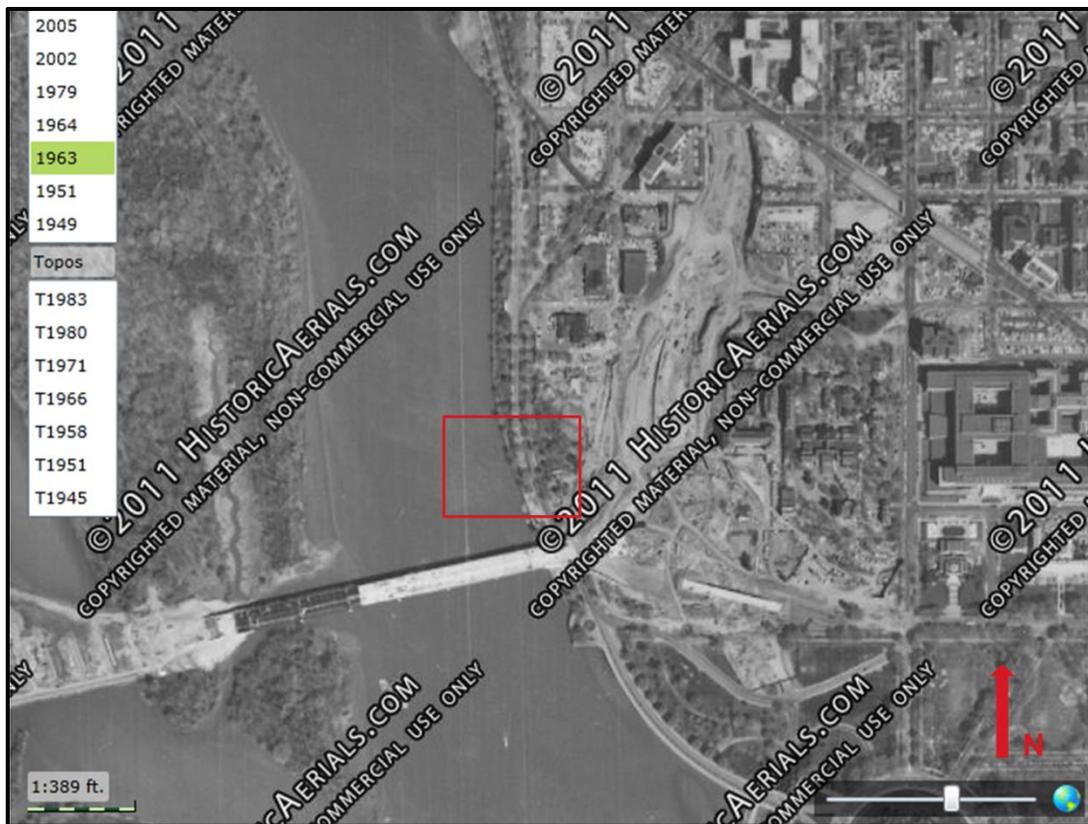


Figure 16. 1932 Baist map (Vol. 1, plate 4) with the Kennedy Center Expansion project area highlighted.



Figure 17. 1951 aerial photograph with the Kennedy Center Expansion project area highlighted (Nationwide Environmental Title Research 2013a).



**Figure 18. 1963 aerial photograph with the Kennedy Center Expansion project area highlighted (Nationwide Environmental Title Research 2013b).**

This overview of the land-use history of the Kennedy Center Expansion project provides a basis for identifying potential Historic period archaeological resources within the project area. The earliest resources identified, dating to the Antebellum time period, include a wharf identified in 1851 as a shipyard, and associated structures, at least one of which is present in the vicinity of the northeast office pavilion. The wharf continued in existence until after World War I, and was used as a landing for a storage company with an asphalt works further inland. The wharf and adjacent structures were removed after World War I, when the Potomac River shoreline attained its modern configuration. Finally, a large structure was constructed in the project area between 1932 and 1951, only to be demolished with the construction of the Kennedy Center.

Theoretically, the Kennedy Center Expansion project area has a high potential for Historic Period archaeological resources centering on a Potomac River wharf and shipyard and its associated structures. However, demolition of the wharf after World War I, the construction of a large structure between 1932 and 1951, and the subsequent demolition of that structure and construction of the Kennedy Center, could have negatively impacted the integrity of the wharf, shipyard, and associated structures. Alternatively, the placement of fill across the property could have preserved these potential resources.

### 4.3 Cut and Fill Analysis

The cut and fill analysis conducted for this Phase IA archaeological site potential assessment used the 1882 nautical chart as a terrestrial elevation base because the detailed late 1880s United States Coastal and Geodetic Survey topographic maps do not include this part of the District (U.S. Coast and Geodetic Survey 1882). Elevations from the 1882 map were compared with those from the 2010 District of Columbia topographic map. Figure 19 presents the results of that comparison, with fill depicted as a shade of green and cutting depicted as a shade of red. Slight changes in topographic elevation between the 1882 and 2010 maps are depicted as shades of yellow. Researchers in the District using this method typically assign an error factor of plus or minus five (5) feet to any elevational changes.

Figure 19 broadly depicts the historic changes described in Section 3. Areas to the south and east of the Kennedy Center contain thick deposits of fill. These areas are the former Potomac Flats within the Potomac River that were filled by dredge materials during the 1880s and 1890s. Areas to the north and east of the Kennedy Center are more often characterized by little to no elevational change or slight cutting, except for the area associated with the construction of nearby roads. The Kennedy Center property itself has a moderate level of fill present. GIS estimates at the proposed terrestrial office pavilion locations suggest that approximately 20 feet of fill is present. Including the 5-foot range of error, the terrestrial expansion locations will be situated atop 15 to 25 feet of fill over the 1882 land surface.

The results of geotechnical borings confirm the GIS-based cut and fill analysis results. Langan Environmental and Engineering Services, Inc. (2013:15) indicates that the borings identified fill deposits within the expansion area of up to 29 feet below the current grade. The three borings (LB-1, LB-2, and LB-6) closest to the south façade of the Kennedy Center evidence fill to between 20 feet and 28 feet below current grade. Those to the south (LB-3, LB-4, LB-5 and LB-7) evidenced fill between 19 feet and 29 feet below current grade. Below fill were soils described as brown silty sand originating as alluvially deposited soils (Langan Environmental and Engineering Services, Inc. 2013:15).

In at least one instance, Langan Environmental and Engineering Services, Inc. (2013) documents encountering a significant layer of concrete and brick. The layer, at approximately 4.5 feet below current grade, was encountered at Boring LB-5, near the proposed terrestrial pavilion location.

### 4.4 Construction Impacts

Construction of the Kennedy Center and its associated underground parking facility has likely disturbed all soil horizons with the potential for archaeological resources within the immediate footprint of the structure. Langan Environmental and Engineering Services, Inc. (2013:16) indicates that the north portion of the Kennedy Center rests on piers bearing on bedrock while the central and south portions of the structure are on a deep caisson foundation system. The construction of terraces, access roads, and parking lots and the installation of infrastructure such as water, sewer, and electrical lines, to the south of the Kennedy Center and adjacent to or within the Kennedy Center Expansion project APE, has likely caused near-surface disturbances to the soil horizons. However, these impacts are more restricted in terms of area disturbed and

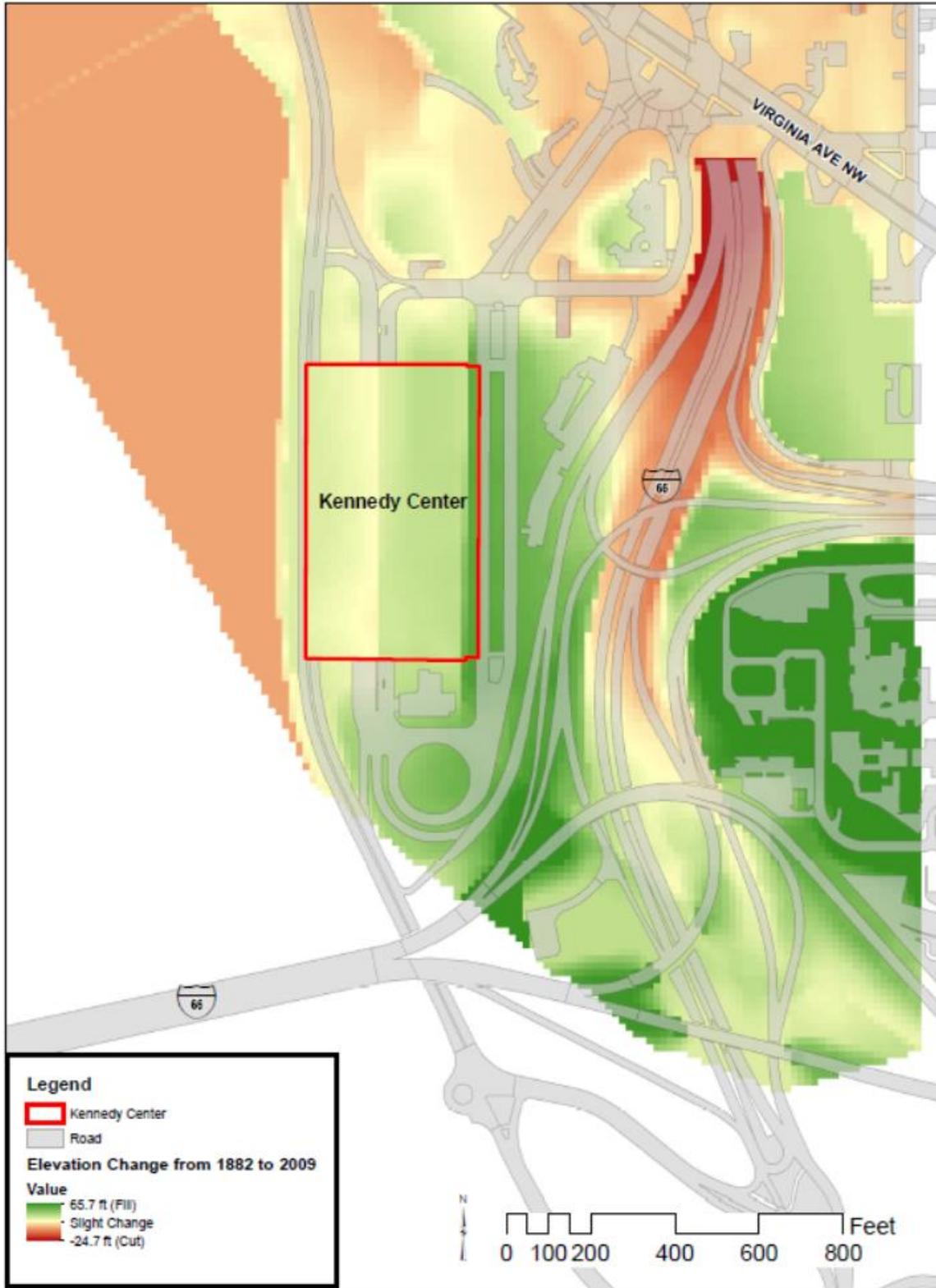


Figure 19. Cut and fill analysis of the Kennedy Center Expansion project area.

depth of disturbance than is the Kennedy Center structure itself. It is possible, and perhaps even likely, that the disturbances to the south of the Kennedy Center are restricted to fill horizons.

#### 4.5 Submerged Archaeological Resources

Three types of submerged resources are potentially present within the Potomac River at the location of the proposed river pavilion: Paleoindian occupations in former floodplain settings now flooded by the Potomac River; the remains of the Littlefield or earlier wharves; and finally, more traditional submerged resources such as shipwrecks. In the area of the Kennedy Center, the Georgetown Channel lies immediately adjacent to and approximately 550 feet west of the current bulkhead. This channel ranges in depth from slightly less than 20 feet north of the Kennedy Center to a maximum of 30 feet to the south of the Roosevelt Bridge. Immediately west of the Kennedy Center, the channel has a depth of 27 feet. To the west of the Georgetown Channel at the Kennedy Center location, the river becomes shallower (to between 2 feet and 10 feet deep) to the east of Roosevelt Island.

As discussed in Section 3 of this report, the area to the southeast of the Kennedy Center property (now the West Potomac Park and the National Mall and Memorials Park) was a recent creation dating to the late nineteenth century (see Figure 7). Historically, and especially from the late nineteenth century onward, land has been created, often initially in the form of wharves, along the eastern shore of the Potomac River. This has resulted in the filling of the original shoreline and a portion of the Georgetown Channel beneath the area between the Kennedy Center and the current bulkhead. The current bulkhead location would have been located within the Potomac River prior to the Civil War, and this shoreline location only stabilized during the 1880s.

The Georgetown Channel, therefore, has the potential to retain two distinctly different sets of cultural resources. First and most obvious is shipwrecks, while the second, and by far less obvious, is formerly terrestrial resources, both Native American and Historic period. A check of the NOAA Wrecks and Obstructions database (AWOIS) and the DC HPO archaeological site file search indicated that there are no known shipwrecks in Georgetown Channel adjacent to the Kennedy Center. However, the AWOIS database does depict the presence of two underwater obstructions (possible sunken vessels) to the west along Roosevelt Island (Figure 7). The most recent U.S. Coast and Geodetic Survey nautical charts indicate that there are no known shipwrecks within the archaeological APE as defined for river pavilion, although the two wrecks present in the AWOIS database are depicted to the west and north. Based on this review, any construction-related activities at the river pavilion location will likely not impact any known shipwrecks.

As discussed in Section 3, Dent (1995) posits that the paucity of Paleoindian archaeological sites in the region may be due to Holocene epoch rises in sea levels. During the Pleistocene epoch, worldwide glaciation, including that to the north of the Potomac River region, substantially reduced sea levels. The sea level decrease in turn reduced the width of the Potomac River and increased the width of associated floodplain formations. LeeDecker and Baynard (2009:10) suggest that the Georgetown Channel represents the extent of the Pleistocene epoch Potomac River. The wider expanse of exposed floodplain landforms in this vicinity may have been an attractive locale for the Native American inhabitants of the New World roughly 15,000 years ago. With the advent of warmer climatic conditions and the melting of glaciers during the late

Pleistocene epoch, sites associated with these inhabitants would have been submerged by the rising sea and river levels. Fluvial deposition could have buried such sites, if present, and, in the absence of subsequent activities that would disturb the river bottom, such sites could remain.

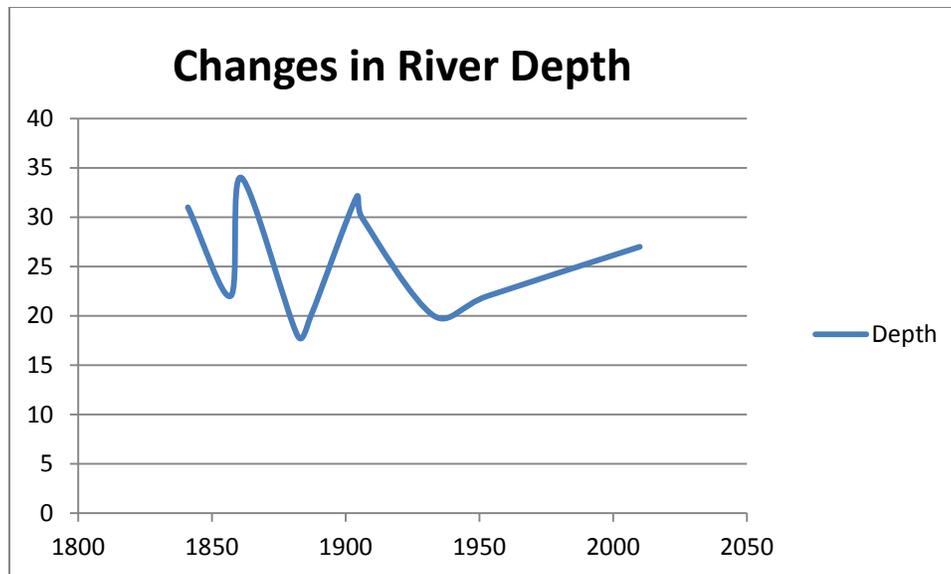
For submerged terrestrial resources, the history of the Georgetown Channel indicates that much of the area has been previously impacted by dredging, part of which was used to create the shoreline to the west of the Kennedy Center and the larger area of the former Potomac River Flats to the southeast of the Kennedy Center. To estimate the extent of the earlier dredging impacts, soundings were compared across a series of historic maps and more recent twentieth and twenty-first century U.S. Coast and Geodetic Survey nautical charts. These included U.S. Coast and Geodetic Survey nautical charts dating to 1933, 1953, and 2010. The historical maps consulted include the 1841 Kearney et al. map, the 1857 and 1861 Boschke maps, the 1882 Office of Coast Survey nautical chart, and the 1887 Silversparre map.

This sample includes four maps that predate the late 1880s Army Corps of Engineers dredging that created landforms to the west and southeast of the Kennedy Center now known as West Potomac Park and the National Mall and Memorials Park. These maps form a baseline against which the soundings from twentieth- and twenty-first-century nautical charts that postdate the late nineteenth century dredging can be compared. The topography of near-shore underwater landscapes has traditionally been mapped using depth soundings, also known as soundings. Originally such measures were taken using soundings poles or lines, but more recently by the use of sonar. Because of tidal influence in such waterways as the Potomac River, soundings presented on maps or charts are standardized to a low water tidal event. Aside from the nineteenth-century maps, in which the method or measure of standardization is not presented, the data on the maps and nautical charts through 1984 are corrected to (or displayed as) the depth at mean low water, or the average height of low waters during a 19-year period. After 1984, measurements are displayed as at mean lower low water, or the lower of the two daily low tides. This suggests that a fairly standard methodology was used to present the soundings depicted on the maps and nautical charts consulted for this analysis.

As indicated above, LeeDecker and Baynard (2009:10) suggest that the channel depicted to the west of the Kennedy Center on the 1841 Kearny et al. map, and with depths of 10 feet or more, is the ancestral channel of the Potomac River. This channel remains clearly visible on all subsequent nineteenth-century maps reviewed for this project. These nineteenth-century maps indicate that the Potomac River bottom at the location of the pavilion is between 18 feet and 34 feet during this period, with the shallowest level, at 18 feet, present in 1882. With the depth at that location in 1861 at 34 feet, approximately 16 feet of material was deposited in the channel at the location of the river pavilion in the 21 years between the creation of these two maps.

Of course, the largest expected change would be after the 1882 nautical chart was created, as this change would measure the impact of the 1880s–1890s dredging operation. A 1906 nautical chart places the depth at the location of the river pavilion to be at 30 feet, or 12 feet below the 1882 depth measurement.

Figure 20 presents a series of depths at the river pavilion location and, as can be seen, depths are fairly consistently between 20 feet and 30 feet within the Georgetown Channel. This pattern supports the LeeDecker and Baynard (2009:10) proposition that the Georgetown Channel is the



**Figure 20. Changes in river depth at the river pavilion location (depth in feet).**

Pleistocene epoch Potomac River channel. If correct, the river pavilion is being placed within the Pleistocene epoch Potomac River channel. Paleoindian and Early Archaic period groups could have potentially inhabited the now-flooded floodplain formations to the east and west of the Georgetown Channel, but the channel itself would have been the location of the river at that time.

The river pavilion appears to be located within the Pleistocene epoch Potomac River channel, indicating that this area would not have been available for Paleoindian or Early Archaic period occupation. No shipwrecks have been identified within the river pavilion APE, although two are nearby along Roosevelt Island. Lastly, the location of the river pavilion appears to be south to southeast of nineteenth- and twentieth-century wharves along the Potomac River. Based on the history of dredging in the Georgetown Channel, a review of databases and maps for submerged resources, and the location of the Pleistocene epoch Potomac River channel, there is a low probability for archaeological resources at the location of the river pavilion.



## 5.0 SUMMARY AND RECOMMENDATIONS

The John F. Kennedy Center for the Performing Arts, the National Park Service, and the National Capital Planning Commission propose to expand the Kennedy Center's existing Edward Durell Stone building's facilities by ca. 60,000 square feet to serve the Kennedy Center's current and expanding programs. The proposed project area is located between the south façade of the Kennedy Center's existing Edward Durell Stone building and the entrance ramp to the Theodore Roosevelt Memorial Bridge. The proposed project area also would extend across the Rock Creek and Potomac Parkway into the Potomac River.

Two alternatives have been proposed for the Kennedy Center expansion project. The first consists of three land-based pavilions while the second consists of two land-based pavilions plus a river pavilion. The second alternative includes two possible options. The first option would be to construct an at-grade crossing that traverses the Rock Creek and Potomac Parkway. The second option would be to construct a bridge crossing over the Rock Creek and Potomac Parkway and Rock Creek Trail.

### 5.1 Results and Interpretations

Several sources of information were consulted, including detailed historic map review, GIS-aided review of shoreline migration and cut and fill events, geotechnical borings logs, and archaeological site file and submerged resources database reviews, for the Kennedy Center Expansion project archaeological assessment. Reviews of historic maps and aerial photographs from 1818 to 1963 and subsequent analysis of the Potomac River shoreline location and topographic elevations provide evidence for the migration of the shoreline to the west and south and the elevation of the Kennedy Center property by as much as 20 feet of fill. Geotechnical borings suggest that the fill is likely between 19 feet and 29 feet below current grade within the proposed expansion area.

This analysis indicates that the approximate eastern-half of the Kennedy Center property comprises a Holocene epoch shoreline of the Potomac River, while the western-half is made-land associated with river dredging conducted during the 1880s–1890s and later. The date when fill was placed over the entire property is not known, but it could be associated with one of the river dredging events. This review suggests that now-buried, intact terrestrial landforms, are potentially present across much of the terrestrial portion of the Kennedy Center Expansion project APE. A potentially buried ca. mid-nineteenth-century wharf or shipyard is present in the remainder of the terrestrial portion of the Kennedy Center Expansion APE. Geotechnical borings located buried concrete and brick deposits, potentially associated with the structures located on the property prior to the construction of the Kennedy Center, as well as alluvially deposited sediments below the fill deposits.

The river pavilion appears to be located in the Pleistocene epoch Potomac River channel and thus has a low potential for inundated terrestrial archaeological sites. As well, no shipwrecks are present at this location in databases reviewed for this project. Finally, the river pavilion is south of former nineteenth- and twentieth-century wharves.

The terrestrial portion of the Kennedy Center Expansion project APE has a high potential for both Native American and Historic period resources. Native American site locations were often

clustered along large rivers such as the Potomac River, and the presence of the nearby Potomac River Flats may have provided easy access to riverine subsistence resources. Historic period resources expected in the Kennedy Center Expansion project APE include the former C&O Canal (aka Washington City Canal), wharves and shipyards, and structures associated with the wharves and shipyards.

## 5.2 Recommendations

It is not known whether the fill present within the Kennedy Center property has capped intact nineteenth-century land surfaces and associated deposits and features, or whether earlier development efforts on this property have negatively impacted potential archaeological resources. However, Langan Environmental and Engineering Services, Inc. (2013: Figures 7 and 8) suggests that as currently proposed, all excavations associated with the terrestrial portion of the proposed Kennedy Center expansion will be limited to fill deposits with the exception of piling that will be driven into fill and non-fill deposits.

Given that the terrestrial portion of the Kennedy Center Expansion project APE has a high potential for Native American and Historic period resources, and that there is a potential that fill has capped and protected those resources, additional archaeological investigations are warranted if final plans for the proposed project indicate excavations will continue below the currently documented depths of fill. If construction excavations will continue to the depth of fill or below, geoarchaeological investigations should be conducted to determine whether intact land surfaces are present below fill. If such land surfaces are present and will be impacted by construction associated with the Kennedy Center Expansion project, a program of archaeological investigations to identify, evaluate, and mitigate any adverse effects to archaeological resources present should be implemented. However, current plans suggest that only pilings will be driven to depths at which non-fill soil strata may be encountered. There will be no excavations for the pilings and therefore no opportunity for monitoring to determine whether archaeological resources are present at the terrestrial pavilion locations. As currently planned, no additional archaeological investigations are warranted within the terrestrial portion of the proposed Kennedy Center Expansion area.

In contrast, there appears to be no potential for archaeological resources associated with the river pavilion, as this location appears to be within the Pleistocene epoch Potomac River channel. As such, no additional archaeological investigations are recommended at that location.

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**APPENDIX A:  
QUALIFICATIONS OF KEY PERSONNEL**



**PAUL P. KREISA, PhD, RPA.** Senior Archaeologist, Principal Investigator  
PhD, Anthropology, University of Illinois at Urbana-Champaign, 1990  
MA, Anthropology, Northern Illinois University, 1984  
BA, Anthropology, University of Wisconsin, Oshkosh, 1981  
Register of Professional Archaeologists (RPA)

Dr. Kreisa is a Senior Archaeologist and Principal Investigator for Stantec (formerly Greenhorne & O'Mara). Since joining the company in 2005, he has directed the investigations of several Colonial and Antebellum plantation sites; conducted numerous survey and evaluation projects for public and private sector clients in Maryland, Pennsylvania, Virginia, West Virginia, and Washington, DC; and created a Postbellum archaeological context for Prince George's County, Maryland, and an archaeological resources management plan for the redevelopment of St. Elizabeths Hospital in Washington, DC. With more than 30 years' experience at all levels of archaeological consulting, Dr. Kreisa has directed numerous Phase I survey, Phase II evaluation, and Phase III mitigation investigations at Historic and precontact Native American sites in the Mid-Atlantic, Mid-South, Southeast, Midwest, and Great Plains. Clients have included DoD facilities, US Army Corps of Engineers districts, GSA, NPS, state transportation agencies, local governments, and private developers. He has experience in completing Section 106 and NEPA documentation and complying with state and local regulations. Dr. Kreisa was previously a member of the Wisconsin SHPO staff and president of the Council for Maryland Archeology, the organization of professional archaeologists in Maryland, from 2011–2012.

**JACQUELINE M. MCDOWELL, MA.** Background and Archival Research  
MA, Anthropology, Northern Illinois University, 1986  
BS, Anthropology, Northern Illinois University, 1984

Ms. McDowell joined Stantec (formerly Greenhorne & O'Mara) as a planner in 2009. Since 2005, she has conducted research for cultural resources projects in Maryland, Pennsylvania, Virginia, West Virginia, and Washington, DC. She has nearly 20 years' experience in conducting archival research with primary and secondary sources and incorporating the research into historic contexts and background research sections for reports. Ms. McDowell also has nearly 30 years of field and research experience in all phases of archaeological research and reporting in the Mid-Atlantic and Midwest, including both precontact Native American and Historic period sites. She has authored numerous reports for clients including DoD and GSA as well as state agencies and private developers for Section 106, NEPA, and state-level historic preservation legislation.



**APPENDIX B:  
NADB FORM**





9. INFORMATION ABOUT PUBLISHER/PUBLICATION

Follow the American Antiquity style guide for the type of publication circled.

Stantec Consulting Services Inc., Laurel, Maryland. Submitted to the U.S. National Park Service, the National Capital Planning Commission, and the John F. Kennedy Center for the Performing Arts, Washington, D.C. Report on file, District of Columbia State Historic Preservation Office

10. STATE/COUNTY (Referenced by report. Enter as many states, counties, or towns, as necessary. Enter all, if appropriate. Only enter Town if the resources considered are within the town boundaries.)

STATE 1 DC COUNTY \_\_\_\_\_ TOWN Washington, DC  
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STATE 2 \_\_\_\_\_ COUNTY \_\_\_\_\_ TOWN \_\_\_\_\_  
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STATE 3 \_\_\_\_\_ COUNTY \_\_\_\_\_ TOWN \_\_\_\_\_  
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Continuation, see 14.

11. WORKTYPE (circle all code numbers that are appropriate)

- 0 General Management Plan/Environmental Document
- 1 Cultural Resources Research Plan
- 2 Statement for Management
- 3 Outline of Planning Requirements
- 4 Cultural Resources Preservation Guide
- 5 Development Concept Plan
- 6 New Area Study/Reconnaissance Study
- 7 Boundary Study
- 8 Interpretive Prospectus
- 9 Special Planning/Management Study
- 10 Historical Study
- 11 Primary Document – Original
- 12 Primary Document – Translation
- 13 Advertisement
- 14 Popular Culture/History Document
- 15 Journal/Periodical
- 20 Historical Resource Study
- 21 Historical Base Map
- 22 Historical Handbook Text
- 23 Park Administrative History

- 24 Special History Study
- 30 Archeological General Considerations
- 31 Archeological Overview and Assessment
- 32 Archeological Identification Study (Phase I)
- 33 Archeological Evaluation Study (Phase II)
- 34 Archeological Data Recovery (Phase III)
- 35 Archeological Collections and Non-Field Studies
- 36 Socio-Cultural Anthropology Study
- 37 Social Impact Statement
- 38 Ethnohistory Study
- 39 Special Archeology/Anthropology Study
- 40 Field Reconnaissance, Sampling
- 41 Field Reconnaissance, Intensive
- 42 Paleo-environmental Research
- 43 Archeometrics
- 44 Archeoastronomical Study
- 46 Remote Sensing
- 47 Archeozoological Study
- 48 Archeobotanical Study
- 49 Bioarcheological Study
- 50 Historic Buildings Report-Beginning February 1956
- 51 Historic Buildings Report After February 1957-Part I
- 52 Historic Buildings Report-Part II
- 54 Historic Buildings Report-After March 1960-Part III
- 56 HSR-Administrative Data-After December 1971
- 57 HSR-Historical Data
- 58 HSR-Archeological Data
- 59 HSR-Architectural Data
- 61 Historic Structures Preservation Guide-After December 1971
- 62 Historic Structures Report-After October 1980
- 63 Cultural Landscape Report (Historic Grounds Report)
- 64 Ruins Stabilization and Maintenance Report
- 70 Scope of Collection Statement
- 71 Historic Furnishings Report-After October 1980
- 72 Collection Condition Survey
- 73 Collection Storage Plan
- 82 Collection Management Plan (Collection Preservation Guide)
- 83 Special Curatorial Study
- 84 Archeological Field Work, Indeterminant
- 85 Archeological Survey, Indeterminant
- 86 Field Reconnaissance, Minimal
- 87 Underwater Survey
- 88 Resource/Site Based Work, Indeterminant
- 89 Minimal/Informal Site Visitation
- 90 Oral History
- 91 Subsurface Activity, Indeterminant

- 92 Testing/Limited Excavation
- 93 Major Excavation
- 94 Underwater Resource/Site Based Work
- 95 Artifact/Collection Based Study/Report
- 96 Literature Synthesis/Review/Research Design
- 97 Intensive Determination of Surface Characteristics
- 98 Environmental Research
- 99 Geomorphological Study
- 100 Geological Study
- 101 Paleontological Study
- 102 Population Reconstruction
- 103 Rock Art Study
- 104 Architectural Photography
- 105 Architecture Site Plan
- 106 Architectural Floor Plan
- 107 HABS Drawing
- 108 Physical Anthropology Study
- 109 Boat Survey
- 110 Other (Furnish a Keyword in Keyword Category 1 to identify the nature of this study.)

## 12. KEYWORDS and KEYWORD CATEGORIES

- 0 Types of Resources (or “no resources”)
- 1 Generic Terms/Research Questions/Specialized Studies
- 2 Archeological Taxonomic Names
- 3 Defined Artifact Types/Material Classes
- 4 Geographic Names or Locations
- 5 Time
- 6 Project Name/Project Area
- 7 Other keywords

Enter as many keywords (with the appropriate keyword category number) as you think will help a person (1) who is trying to understand what the report contains or (2) who is searching the database for specific information. Whenever appropriate, record the number of acres studied in a document.

John F. Kennedy Center for the Performing Arts	[ 6 ]		[ ]
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Washington, DC	[ 6 ]		[ ]
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Continuation, see 14.

13. FEDERAL AGENCY None

14. CONTINUATION/COMMENTS (include item no.) \_\_\_\_\_  
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