ARCHAEOLOGICAL AND HISTORICAL EVALUATIONS FOR THE ARLINGTON NATIONAL CEMETERY SOUTHERN EXPANSION PROJECT,

Arlington County, Virginia.

December 2016

DHR file #2016 -

John H. Haynes, MA, RPA

Archaeologist

U.S. Army Corps of Engineers
Norfolk District

Abstract

The past and current land use, geological, and historic contexts of the project area for the Arlington National Cemetery Southern Expansion (ANCSE) project, along with geotechnical data from site investigations are examined to assess the archaeological potential of the area. Past archaeological investigations near the area are also reviewed. There are no archaeological sites recorded in the project Area of Potential Effect (APE) for ground disturbance. This study concludes that due to heavy ground disturbance beginning in the 1940's it is highly unlikely that any archaeological sites eligible for listing in the National Register of Historic Places (NRHP) could exist in the ground disturbance APE of any of the action alternatives for the ANCSE project. Therefore, there would be ***no adverse effects*** to NRHP eligible or listed archaeological sites.

Cover illustration: Portion of a Civil War military map showing Arlington House and vicinity (US Army Corps of Engineers 1864)

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1 Project Description

The Arlington National Cemetery Southern Expansion (ANCSE) project is being developed to increase burial space at Arlington National Cemetery (ANC). Per the Center of Army Analysis (CAA) Report (May 27, 2015), without the Southern Expansion, ANC is projected to run out of in-ground interment space by 2043 and columbarium space by 2038. The CAA Report accounts for the interments made available by the Millennium Project currently under construction.

The Project would develop the land previously identified as the Navy Annex site to increase burial space at ANC and realign a portion of Columbia Pike. It would also demolish Patton Drive, Southgate Road, and construct an access road from Columbia Pike to Henderson Hall. This land is contiguous to the Cemetery on the south side of the grounds. Construction would be for approximately 20,000 caskets and 50,000 niches arranged around a courtyard to allow ceremonies for burials with full honors. The total project area (Figure 1) encompasses 68 acres, but minus the three acres of the Air Force Memorial site includes about 65 acres. About 40 acres would be converted for cemetery use, with much of the other 25 acres for road realignments, and areas for development by Arlington County and the Pentagon Memorial Foundation. No figures are available for the maximum depth of ground disturbance, but with the rolling terrain of the area this is likely to be quite deep, perhaps on the order of 20 feet or more. Although there may be no ground disturbance from this project in land going to Arlington County, the transfer from federal ownership would be a Section 106 undertaking given the potential for secondary or cumulative effects. Thus the APE includes all of the project area except the Air Force Memorial.

The improvements associated with this construction include a committal service area, circulation space (both vehicular and pedestrian), and limited parking for cemetery vehicles or family members. The buildings include climate control, interior lighting, toilet facilities, elevators suitable for personnel and for casket burial services, and security systems. Building constructions shall be suitable for the environment and compliment the architectural theme and considerations of the National Cemetery at Arlington. Exterior site improvements may include approximately 12,000 pre-sets for in-ground burials, an ornamental security and boundary fence, an access bridge across Columbia Pike, covered ceremonial courtyard, visitor and family gathering and reflection areas, landscaping, plantings and all supporting utilities to include water, sanitary sewer, storm sewer, natural gas, underground electrical service, paving, pedestrian walks, curbs and gutters, communications/information systems, and security considerations and systems. Demolish the existing Southgate Road and all other paved areas for parking or travel on the site and prepare the site for cemetery usage. Provide special foundations to address the varying soil conditions on the site. Anti-terrorism/force protection measures shall be included to the extent required by regulation and all constructions shall comply with ADA requirements and considerations. Comprehensive building, furnishings, and interior design services are required to allow a complete coordinated structure when completed, ready for almost immediate use by the cemetery.

Initial designs for this project did not include the demolition of Patton Drive, an area that is part of the existing cemetery. It is for this reason that many of the maps with the APE boundary shown do not include the Patton Drive area.

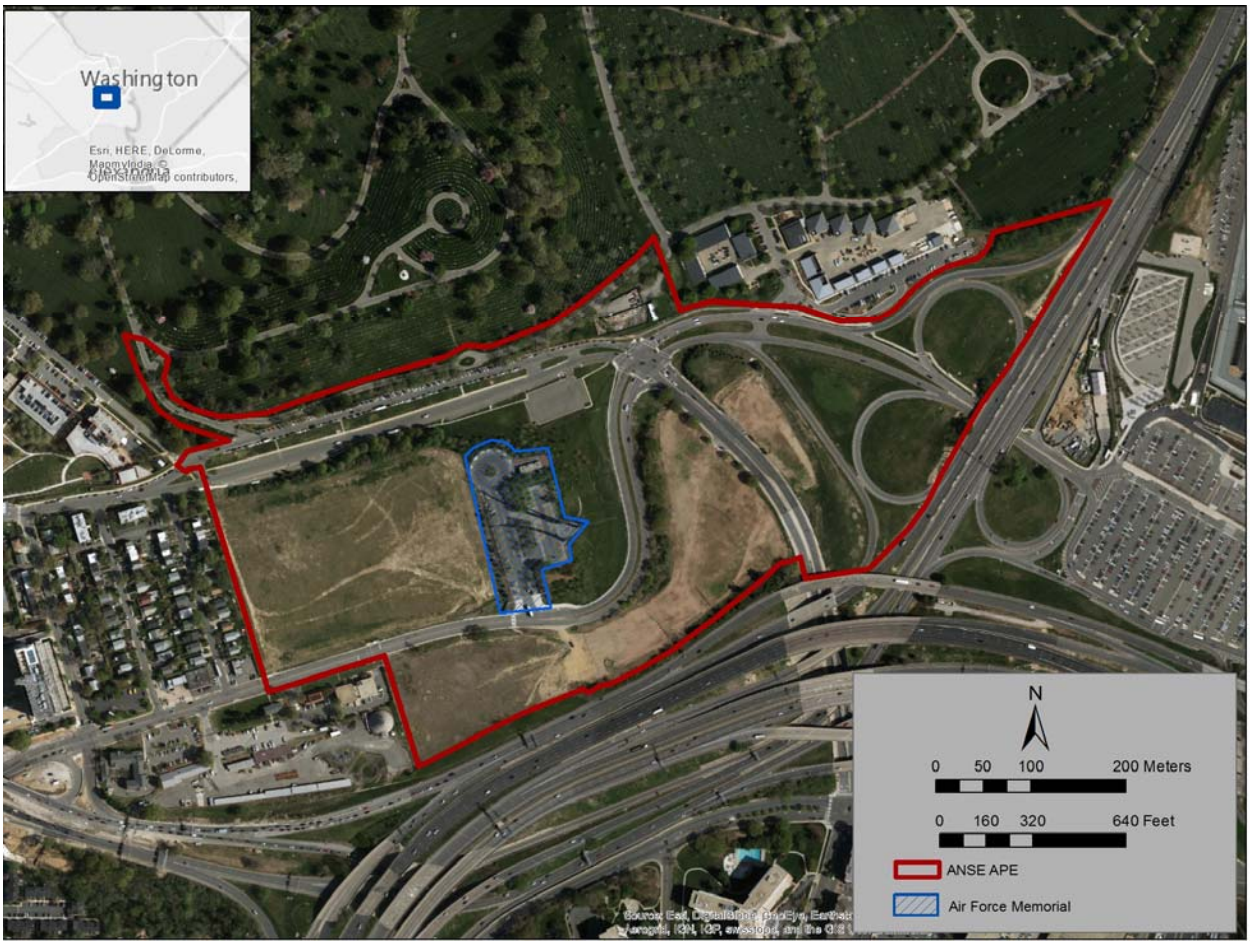

Figure 1 - Arlington National Cemetery Southern Expansion (ANCSE) Area of Potential Effect (APE)

2 Geological Context

Three areas of unconsolidated sedimentary deposits cover the project area. The Potomac Formation of Early Cretaceous marine and riverine deposits, mainly comprised of pebbly sand, covers most of the project area. The Bacons Castle Formation lies along the northwest corner of the project area and is part of the upper member of the Tertiary Bacons Castle Formation described as "massive too thick-bedded pebble and cobble gravel grading upward into cross-bedded, pebbly sand and sandy and clayey silt." (Department of Mines, Minerals, and Energy 1993) The eastern end of the project area, currently the site of the Columbia Pike – Washington Blvd. interchange, is comprised of more recent Quaternary fluvial deposits of sand and gravel. Bedrock, comprised of older crystalline rock, lies below these formations at depths of 30 meters or more. The soil series mapped for the project area is Urban Land - Udorthents Complex, too heavily modified and variable for detailed description, or typical profile (USDA 2014).

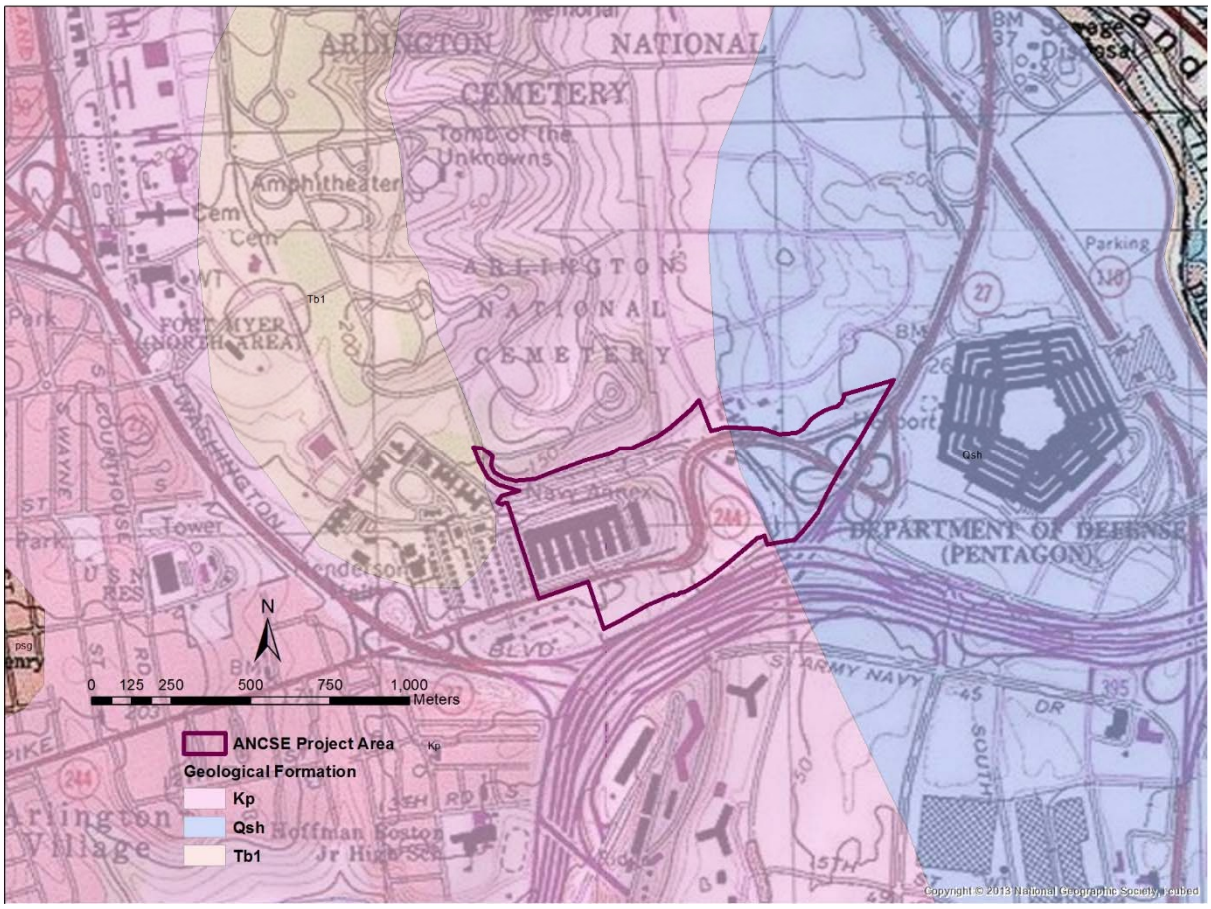

Figure 2 Surface Geology of Arlington: Qsh - Quaternary Sand and Gravel; Kp - Potomac Formation, Cretaceous sand, gravel, clay; Tb1 - Bacons Castle Formation, Tertiary sand, gravel, silt, and clay

2.1 Historic Land Use

The Southern Expansion area was a part of 2713 acres inherited by Gerard Alexaner in 1735. The northern most 900 acres was purchased by John Parke Custis in 1778 and later became the Arlington Estate held by the Custis family until the Civil War. The Southern Expansion area lies to the south of what was the Arlington Estate where the eastern third near the river was developed for cultivation, while the remainder was partially of fully wooded. By the time of the

Figure 3 -A Section of a map by the Corps of Topographic Engineers, Army of the Potomac, ca. 1864, the Southern Expansion APE is overlaid in brown.

Civil War, period maps show the project area as an open ridge, bordered by wooded areas to the north and south. Columbia Pike ran close to its present course near the southern boundary of the project area, and intersected with the Georgetown-Alexandria Pike in the eastern side of the project area where Columbia Pike and Washington Boulevard intersect. A period map (Figure 4) shows a toll gate and some small buildings at this intersection. Just south of the project area, under the present course of I-95, was Fort Albany.

USGS maps from the late 19th and early 20th centuries show little detail of this area, other than topography and the course of roads. Columbia Pike and the Georgetown-Alexandria Pike, the latter becoming known as Arlington Ridge Road, are consistent features.

Figure 4 - The Project Area is on the margin of this 1861 Topographic Map of Washington giving some details of land use.

Figure 5 - An overlay of an 1885 topographic map over a recent satellite image, the project APE shown in brown.

Figure 6 - Land Ownership in 1900, the brown border is the project area (Virginia Title Co. 1900)

In contrast to these larger scale maps are the Sanborn Insurance Maps. These go into great detail about the size, location, and construction of individual structures. Sanborn Maps were first made of this area in 1936.

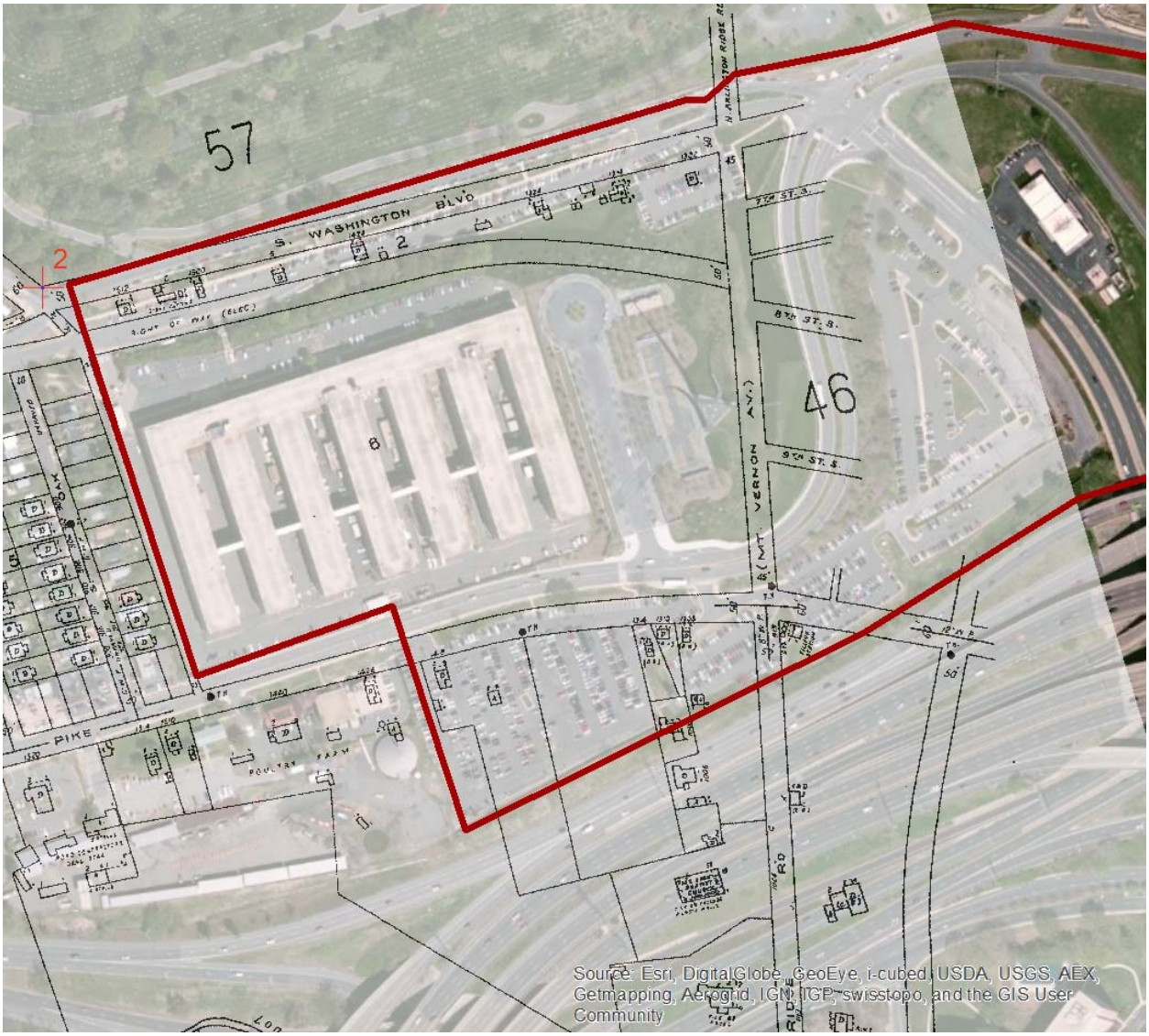

Figure 7 - 1936 Sanborn Insurance Map Overlay, west half of project area

Figure 8 - 1936 Sanborn Insurance Map, east half of project area

3 Previous Research

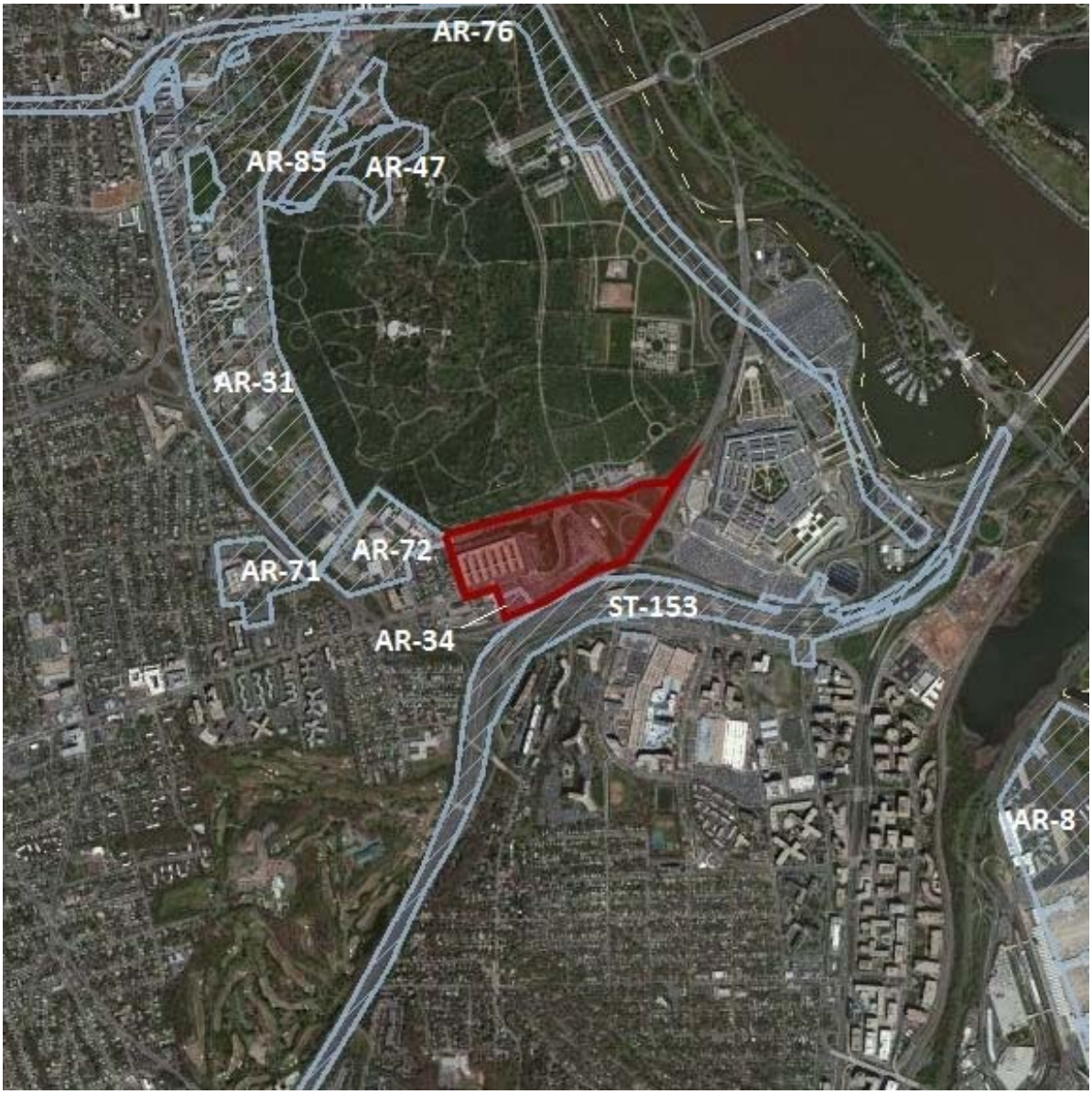

Figure 9 - Previous Archaeological Surveys near the Project Area

Archaeological surveys in the DHR database V-CRIS are shown along with their catalog numbers in Figure 9. Titles, brief summaries and other information about the reports are given in Table 1, below. One survey (Figure 9, AR-34) was within the project boundary. This was a Phase I survey for a proposed traffic management building that was never built at this site (Higgins et al. 1993). No archaeological sites or locations were found by the survey, which covered only .45 acre.

Table 1.

Report #	Title	DHRR File #	Author	Year	Pages	Annotation	Org.*	Acres
AR-008	Historic and Archaeological Survey Report, Washington National Airport, Arlington County, Virginia			1989	298pp	Comprehensive survey of airport conducted in order to make evaluation of effect and develop procedures to protect, preserve or conserve significant resources.	PES	0.41
AR-031	Phase I Archaeological Survey, BRAC Project Areas, Fort Myer, Arlington County, Virginia (Revised Draft)			1992	26pp	Survey of six areas revealed no cultural resources. No further work recommended.	KFS	51.5
AR-034	Phase I Cultural Resource Survey of Proposed Traffic Management System Building Associated with Interstate 395 Project, Arlington County, Virginia		Thomas F. Higgins III et al	1993	41pp	No archaeological sites or locations were found. No further study is required.	WMCAR	0.45
AR-047	Cultural Resource Investigations at Section 29 at Arlington House, The Robert E. Lee Memorial, Arlington County, Virginia	1995-1353	Heather Mills, Jeff Holland, Todd Cleveland, Bill Nethery	1998	220pp	Investigation of Section 29 prior to transfer from the Army to Arlington National Cemetery discovered Arlington House Ravine site (44AR0032). Former Custis-Lee era icehouse and trash midden located on this site - contirbutes to Arlington House's NRHP sta	TRC	24.44
AR-055	National Park Service Cultural Landscapes Inventory 2002, Revised 2003, Arlington Ridge Park, George Washington Memorial Parkway	2004-0216		2002	110pp	Archaeological investigations carried out in 2001 and 2002 uncovered artifacts believed to be associated with the small farms that occupied the property in the 19th century. Lack of integrity precluded NRHP listing and no further investigation was recomme	NPS	0
AR-071	Archaeological Assessment, Arlington Service Center, Arlington, Virginia	2009-1622		2005	20pp	Digital file available. Archaeological assessment of the Arlington Service Center concluded that there was low potential for prehistoric archaeological resources. Field survey identified extensive disturbance to the landscape, so there are no areas of a	LBG	30
AR-072	Phase I Archeological Reconnaissance of Selected Portions of the Henderson Hall Marine Corps Facility, Arlington County, Virginia	2009-1912	William Gardner, Gwen Hurst, Kimberly Snyder	1999	77pp	Digital file available. Survey of two areas on the Henderson Hall property which appeared to be undisturbed. Testing revealed little if any of the acreage on which Henderson Hall is located is undisturbed, and no further work is recommended.	TAA	0
AR-076	Archaeological Investigations Radnor Heights Substation and Transmission Line Joint Base Myer-Henderson Hall (Fort Myer), Arlington, Virginia	2009-1740	Kerri Holland, Sarah Traum, Lynn Jones, Donna Seifert	2011	130pp	Ten areas within the project area were subjected to subsurface testing. Due to thick fill deposits or disturbed strata, no sites were identified.	JMA	0

AR-078	Archaeological Survey of Three Areas of Fort Myer, Fort Myer, Virginia	2011-1029	Mackenzie Caldwell Rohm, Brian Crane, Christopher Bowen, G. William Monaghan, Daniel Hayes	2011	110pp	Digital file available. Phase I archaeological survey and geophysical survey of three portions of the 256-acre Fort Myer. 4.5 acres of Fort Myer were investigated. Area A, including the location of three demolished late-19th-century houses and located n	VERSAR	4.5
AR-085	Additional Archaeological Survey and Evaluations for the Arlington National Cemetery Millenium Project, Arlington County, Virginia	2008-1022	John Haynes	2012	103pp	Digital file available. The Millennium Project is an expansion of burial areas of Arlington National Cemetery taking in approximately 29 acres. Land for the project includes a 12 acre area ceded by Joint Base Myer-Henderson Hall (Fort Myer Annex), and ano	COE	29.38
PW-321	Addendum to the Phase I Archeological Investigations of the I-95/395 HOV/Bus/HOT Lanes Project, Arlington, Fairfax, Prince William and Stafford Counties and the City of Alexandria	2007-0006	Jarod Hutson	2008	69pp	A second addendum to original archaeological survey for this project, due to expansion of APE in six areas in Arlington, Fairfax and Prince William counties. No subsurface testing was conducted due to high disturbance or sloping; no further work is recom	TAA	0
ST-153	Phase I Archeological Investigations of the I-95/395 HOV/Bus/HOT Lanes Project, Arlington, Fairfax, Prince William and Stafford Counties and the City of Alexandria, Virginia	2007-0006	Brian Buchanan, Christopher Shephard, David Carroll, Curt Breckenridge, Johnna Flahive, Christine Jirkowic, Tammy Bryant, William Barse	2007	686pp	Digital file available. APE of 1104 acres extends along I-95 for 36 miles, with most of the project area subjected only to visual reconnaissance due to previous construction work. 21 previously recorded archaeological sites, as well as three historic prop	TAA	1104

*Organization Abbreviations

PES - Parsons Engineering Science
KFS - Kise Franks & Straw Inc.
WMCAR - William and Mary Center for Archaeological Research
TRC - Garrow and Associates, Inc.
NPS - National Park Service
LBG - Louis Berger Group
TAA - Thunderbird Archaeological Associates
JMA - John Milner Associates
VERSAR - VERSAR Inc.
COE - US Army Corps of Engineers

Three archaeological surveys have been conducted within the APE for the Millennium Project. In 1991 Custer conducted a Phase I survey at several locations within Fort Myer where undertakings were being considered in association with BRAC actions (Custer 1991 and 1992). That survey identified a prehistoric site (44AR0043) in the Picnic Area just south of the Motor Pool, and recommended further work. No further work was undertaken by Fort Myer, and the site which consists of debitage and lacked any diagnostic artifacts was not recorded until nearly 20 years later.

In 1998 Garrow and Associates, under contract with the US Army Corps of Engineers, Baltimore District reported on archaeological survey and historic landscape evaluation of Section 29 in Arlington National Cemetery (Millis et al. 1998). At that time all of Section 29 with the exception of the maintenance yard area was under National Park Service ownership. The archaeological survey identified six areas of artifact concentration in Section 29, but rather than record five or six sites, all of the undisturbed portions Section 29 were recorded as one site, 44AR0032.

Redacted

Site 44AR0019 was recorded in 1992 by Kemron Environmental Services. It is situated in the small county park, immediately northwest of the project area. Twenty-two shovel test pits were excavated, presumably as an identification survey for park development, although there is no report in the DHR database. It may be that the park development involved no federal funding or permitting, and was therefore not subject to Section 106 review. The site form summarizes finds as "3 Civil War-era bullets, 1 pearlware fragment, 1 8/64th" Pipe stem, some whiteware, cut nails, glass, large amounts of unidentified iron fragments." They categorize the site as a "Trash Scatter" with a chronology of 3rd quarter of the 19th Century, and Prehistoric – unknown. No prehistoric artifacts are noted on the site form, but they would be non-diagnostic lithics, probably debitage. The site evaluation status is marked as not evaluated. As there is no indication of further work having been performed, it would seem that the investigators and the county deemed the site to lack significance.

4 Historic Context

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4.1 Prehistory

Earliest human inhabitation of the Americas remains one of the most debated issues in archaeology, but clearly Native Americans began to inhabit the Chesapeake Bay region over 12,000 years ago. Many of the sites left by the 'Paleo-Indians' of this period may now be submerged on the bottom of the bay and the Atlantic continental shelf, for sea-levels during the Wisconsin Glaciation of the Pleistocene epoch, or Ice

Age were some 400 feet below contemporary levels. Populations were evidently low, but grew considerably during the Archaic Period, which is divided into Early (8000-6500 BC), Middle (6500 to 3000 BC) and Late (3000 to 1200 BC) Archaic Periods. Along with increasing population there is evidence of an increased diversity in resources hunted and gathered for food, with an expansion in fishing and shellfish gathering particularly notable.

Around 1200 BC people in the region began making and using pottery. This marks the beginning of the Woodland Period, also divided into Early (1200-500 BC), Middle (500 BC to AD 900), and Late (AD 900-1600) Woodland Periods. There seems to have been little change in settlement between the Late Archaic and Early Woodland Periods, apart from the use of pottery, but during the Middle Woodland people seem to have dispersed into smaller, though perhaps more sedentary settlements. It was during this period that the maize-beans-squash crop combination of American Indians was adopted in the region. During the Late Woodland Period populations increased with an expansion of agriculture, as did political hierarchy. Village districts consisting of a series of hamlets, or in the native language "hattos" were strung along the shores of the major estuaries, with a nucleated, often palisaded chief's residence central to them. This was the state of native culture in the Chesapeake Bay region during early exploration and settlement, and the direct historical accounts of that period give the name Protohistoric Period to 1600-1650. The larger Native American sites along the lower Potomac River are most often located on points and near the mouths of major tributaries, and often include artifacts from several, sometimes all of the periods of prehistory.

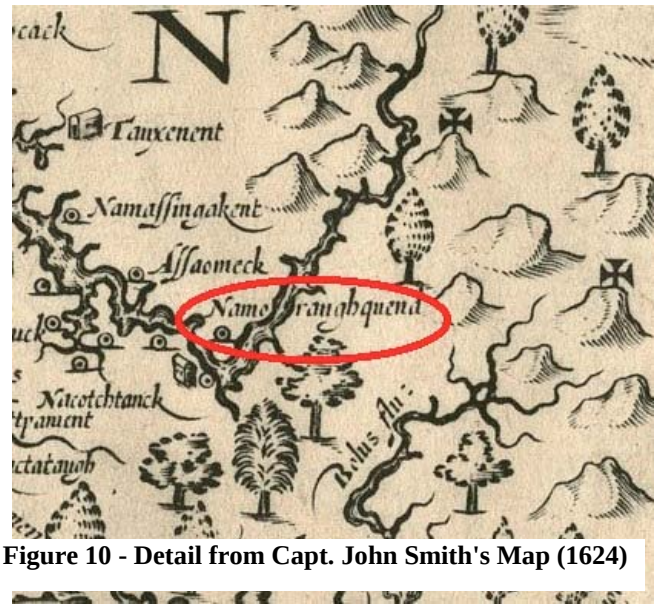


Figure 10 - Detail from Capt. John Smith's Map (1624)

In 1608 John Smith and a crew of just over a dozen men sailed their small open boat up the Potomac as far as the falls. This was the earliest know European contact in the Arlington County vicinity. On the western shore of the river, Smith observed and mapped an Indian village called Namoraughquend (Figure 10) in 1608 (Smith 1624). Nineteenth century anthropologists S.V. Proudfit (1889) and James Mooney (1889) both cite the foot of Long Bridge on the Virginia side of the Potomac as the site of the village. Proudfit's mapped sites were based on observations of archaeological deposits. Long Bridge was at the approximate location of the 14th Street Bridge today.

Within and near the boundaries of the APE for the Millennium Project, prehistoric artifacts have been reported from two sites: 44AR0032 and 44AR0043 (1998) reported 303 lithic artifacts, including four bifaces, and a steatite bowl fragment from Site 44AR0032. These were distributed among five loci, which are actually individual sites. Of these, Loci 1, 2, 3, and 5 have been evaluated as not NRHP eligible, while Loci 6 is eligible (Loci 4 is a Historic Period component, which contributes to Arlington House). The steatite fragment, found in Loci 5, identifies use of that site during the Late Archaic and Early Woodland Periods from 3000 to 500 B.C., (Truncer 2004), though not limiting it to those ages. The Picnic Area Site (44AR0043) was investigated by Custer (1991) and Katz (2010). Quartz cobbles, debitage, and fire-cracked

rock were reported, but no temporally diagnostic artifacts. Site 44AR0043 was determined ineligible for the NRHP.

4.2 Historic Period

4.2.1 SETTLEMENT TO NATION (1607 TO 1789) [1]

While Jamestown was founded in 1607 and its colonists first explored the ANC area, it was not until the 1650s that patents were claimed by English settlers for land lying north of present-day Alexandria. Fitting the pattern of large-acreage, absentee-ownership land grants; the land on which ANC is located was first granted by Virginia Governor William Berkley to Robert Howson (also noted as Howsing or Howsen) on October 21, 1669. Howson was a ship's captain and received a tract of an estimated 6,000 acres as payment for transporting 120 emigrants to the Virginia colony. The captain assigned his patent to John Alexander of Stafford County for 6,000 pounds of tobacco. Later surveys would reveal that the property bounds encompassed nearly 8,000 acres (Greenhorne and O'Mara, Inc. 1999:6).

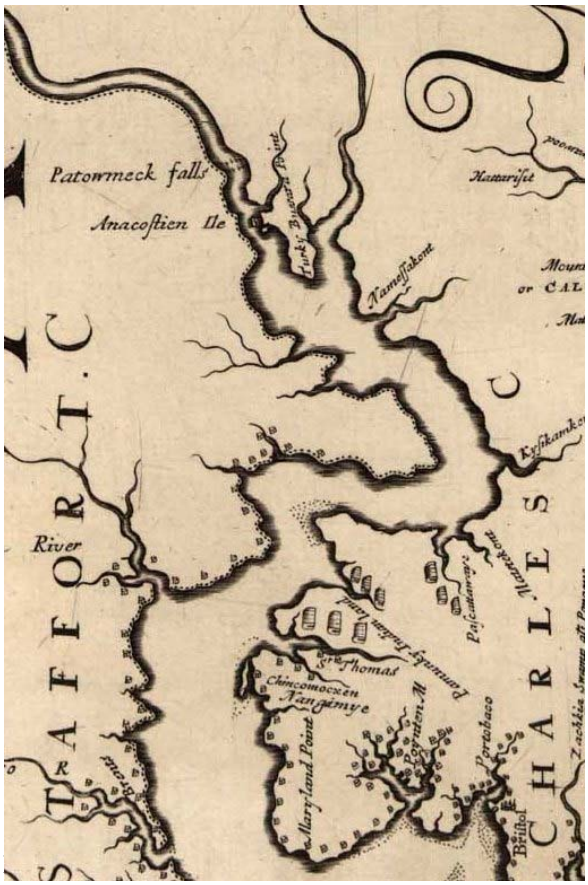


Figure 11 - Map (1670)

The land that Alexander obtained was uninhabited, and few roads had been established in the area. One notable exception was the corridor known as the Potomac Path, which ran north-south and extended from the Occoquan to Great Hunting Creek. The latter was the southern boundary of Alexander's land grant and where the city of Alexandria, named for the Alexander family, was established in 1749 (Hanna 2001:9). It is unlikely that the area was settled until the end of the 17th century. Prior to that European settlement had stayed close to navigable rivers, and northernmost Virginia was still Indian territory. The Augustine Herrman (1673) illustrates this (Figure 11). On the Virginia shore settlement had extended only as far as Pohick Bay, while across the river in Maryland it extended only as far as Chicamuxen Creek beyond which were the villages of the Pamunky and Piscataway Indians. It would be the 1690's before the Indians would mostly leave the area and settlement expanded.

In 1735 brothers Gerard and John Alexander inherited the property, with Gerard given 2,713 acres lying north of Four Mile Run, including the land that would become part of ANC (Hanna 2001a:10-11; Stetson 1935:10-15). Gerard Alexander, in addition to being a prosperous landowner, also served in the Virginia

[1] Portions of this context are derived from the ANC history found in Draft, Integrated Cultural Resource Management Plan: September. 2011, and August 2012 (Baltimore, MD: U.S. Army Corps of Engineers, Baltimore District, 2011, Norfolk, VA, U.S. Army Corps of Engineers, Norfolk District, 2012).

House of Burgesses (1751-1755) and served as a colonel in the Virginia militia. Upon his death in 1761, he left his son Gerard 900 acres of the upper part of the tract which included the lands that are now in ANC.

The Howson patent left the possession of the Alexander family in the late eighteenth century, when it began its historical association as a Custis family landholding. In 1750 Daniel Custis of Williamsburg and Northampton County married Martha Dandridge of New Kent County. The couple had two children—John Parke and Martha ("Patsey"). In 1757 Daniel died, leaving his vast estate to Martha, who became one of the wealthiest women in Virginia. In 1759 Martha married George Washington, who was living on his Mount Vernon estate along the Potomac, and he adopted Martha's two young children, although they retained their father's surname. In 1774 John Custis married Eleanor Calvert.

In 1778 John Parke Custis purchased 1,000 acres from both Gerard and Robert Alexander, and by 1779 he had moved his wife and two children to the home that Gerard Alexander had built along the Potomac River (Stetson 1935:26-28). Four more children were born to the Custis family, including George Washington Parke Custis, who was born in 1781 and who would inherit his father's estate along the Potomac. John Parke Custis died of typhoid in 1781, and George Washington adopted the two youngest of Custis' children—Eleanor ("Nelly"), who was two years old, and George Washington Parke, who was only six months old. The children were reared at Mount Vernon by their grandparents (Stetson 1935:29)

4.2.2 EARLY NATIONAL PERIOD (1789 TO 1830)

In 1789 land was ceded from Virginia and Maryland to the federal government for the formation of a new district, 10 miles square, lying on both sides of the Potomac River. Custis' estate was located within these boundaries in the newly designated Alexandria County, District of Columbia (Netherton and Netherton 1987:46-47).[2] Frenchman Pierre Charles L'Enfant, a military engineer, was selected by President Washington in 1791 to lay out the plan for the new city. L'Enfant established locations for important federal buildings set in axial relationships to one another that were connected by a system of radiating avenues with straight sight lines between them. In 1800 the federal government moved from Philadelphia to the new capital (Newton 1971:400-403).

After the end of his second term as President of the United States in 1797, George Washington returned to Mount Vernon and assumed direct and personal management of his farms. His adopted son, George Washington Parke Custis, would be close by to assist. The lessons he learned at Mount Vernon and directly from Washington would inspire and direct his development of his inherited Arlington estate. Washington died on December 14, 1799, at the age of 67. In his will, he left portions of the estate to his adopted grandchildren, which they would inherit after Martha's death in 1802.

4.2.3 ARLINGTON HOUSE (1802 TO 1830)

George Washington Parke Custis inherited property in 1802 from both his father's and from Washington's estates, a total of about 18,000 acres of land and about 200 slaves. Custis turned to his 1,100-acre property on the Potomac and decided to construct a home there that would honor his grandfather's memory and overlook the city that was named after him. By 1804 Custis referred to his home as "Arlington House" and

[2] In 1846, Congress approved returning 31 square miles to Virginia, including the land now ANC.

to his estate as “Arlington” (Nelligan 2001:79). As he planned out his estate, he turned to one of the architects who had been involved in designing the Capitol, English-trained George Hadfield (Kimball 1950:266; Nelligan 1951:11). All of Arlington National Cemetery and Fort Myer are within the bounds of the old Arlington estate.

The design for Arlington House is often referenced as the first pedimented front, temple form, Greek Revival-style residence in America. Although already popular in England, the Greek Revival style would not dominate the American architectural scene until the late 1820s and 1830s. Arlington is cited as the earliest example of Greek Revival architecture in America, as well as the most impressive (Kennedy 1989:3; Moeller 2006:337). Clearly, the site was selected by Custis for its commanding vista over the Potomac River and into the federal city, with an unencumbered view of the U.S. Likewise, Custis knew that setting the house upon the brow of the most prominent hill on his estate afforded any visitor to the region a grand view of the house. The gigantic scale of the portico, with its massive Doric columns, was also intended to impress even from a distance (Nelligan 2001:73).

Siting of the house on a promontory backed by dense woods with a sloped “park” landscape to the front reflects an ideal English landscape design. This romantic approach to landscape design rejected the more axial and symmetrical layouts of Colonial-era gardens. Curvilinear pathways and roadways, water elements, open lawns and “pleasure gardens,” as well as areas of forest and ornamental trees, were significant elements of the design. Classical allusions were often introduced into the garden by way of buildings designed in temple forms. In addition, views and vistas from different vantages on the property were intentionally framed by use of vegetation and building placement. While still a highly manipulated landscape, these elements were to be executed in a manner that would not appear manmade but rather as though nature had highlighted a property’s natural advantages while minimizing or concealing the disadvantages. This picturesque concept of landscape development would remain as a defining feature of ANC.

4.2.4 ANTEBELLUM PERIOD AND CIVIL WAR (1830 TO 1865)

In 1831 Custis' daughter, Mary Randolph Custis, married Robert E. Lee, a childhood friend and a young Army engineer who had graduated from West Point. Lee assisted Custis in the management of his properties and travelled to the New Kent and King William landholdings for his father-in-law (Thomas 1995:164-165). Robert E. Lee had followed in the footsteps of his father, Maj. Gen. Henry "Light Horse Harry" Lee, and embarked upon a military career, graduating from West Point in 1829 as a military engineer and focusing his life on building coastal defenses. In 1834 Lee was transferred to Washington as the first lieutenant assisting the Chief Engineer Department (Corps) of the Army, and between 1834 and 1837 the

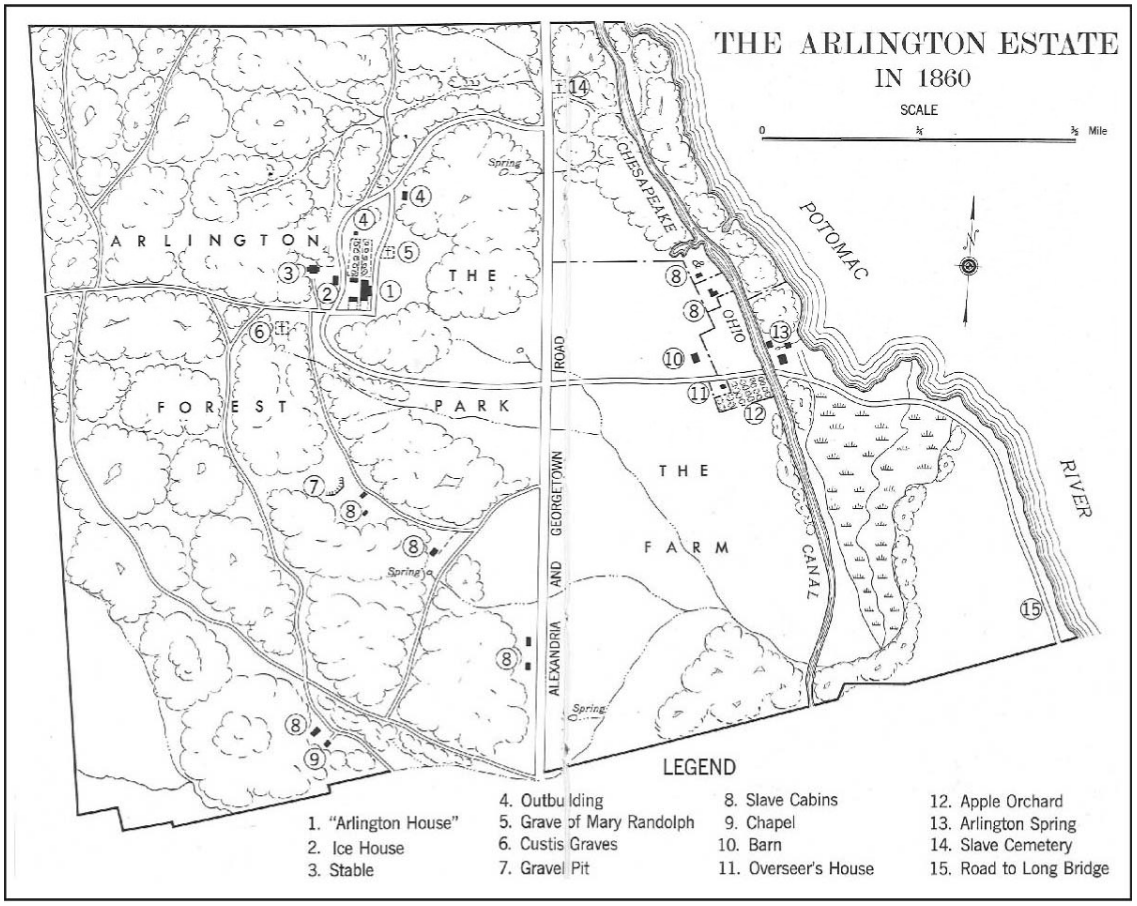


Figure 12 Composite Map of Antebellum Arlington Estate (Nelligan 1962)

Lees were able to live at Arlington House. In 1857, Custis died and the role of executor fell to Robert E. Lee. In his will, Custis left the Arlington estate to his daughter, Mary Lee, for her lifetime, and at her death the property was to pass to her son, George Washington Custis Lee. Lee found that Custis had died heavily in debt and that all of the estate's properties, including Arlington, were in poor condition and needed work before they could be sold or become profitable. Lee, not a farmer by trade or reputation, endeavored to improve the Custis landholdings. Lee's efforts at Arlington, however, came to an abrupt halt in April 1861 with the onset of the Civil War.

4.2.5 THE CIVIL WAR (1861 TO 1865)

In

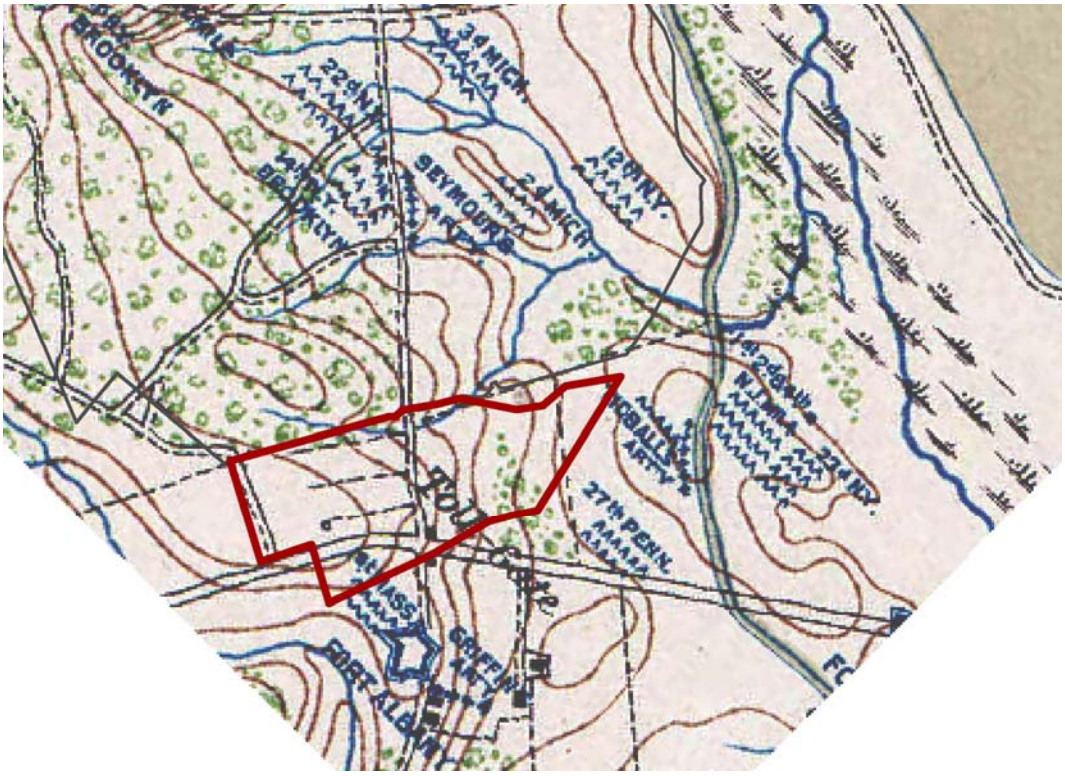


Figure 13 - Union Forts and Camps in the Vicinity of Arlington, 1861, Millennium APE Shown in Brown (ArcView Georeference of Atlas to Accompany Official Records)

February 1860 Lee received orders to command the military Department of Texas in San Antonio, which meant that once again he would be leaving his family at Arlington (Thomas 1995:181-183). One year later, in early 1861 Lee received orders to return to Washington. By April, secession of Virginia seemed certain and Lee, again at Arlington, was faced with the decision to accept the offer to lead the Union Army against the South or to resign from his 32-year career with the U.S. Army and join Virginia and the Confederacy. He made his decision at Arlington House (Thomas 1995:188).

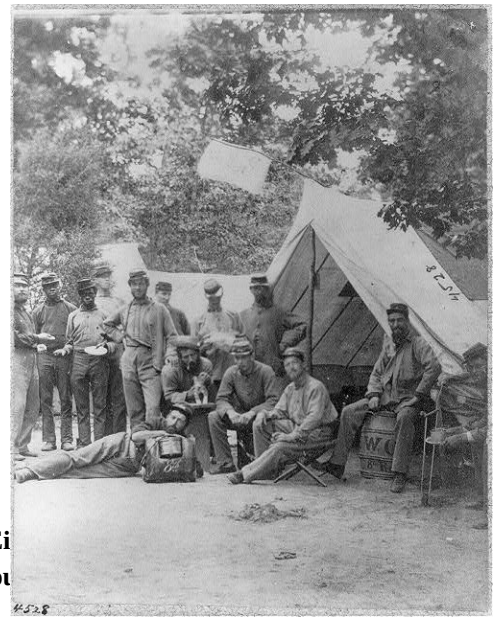


Figure 14 - Ei
Arlington Hou

On April 20, 1861, Robert E. Lee resigned from the U.S. Army in a one-sentence letter to the U.S. Secretary of War Simon Cameron: "I have the honor to tender the resignation of my commission as Colonel of the 1st Regt. Of Cavalry" (Thomas 1995:188). On April 22 Lee accepted Virginia Governor John Lechter's offer to command all military forces of Virginia at the rank of major general. Lee was immediately branded a traitor by the United States, and since Arlington House was prominently close to the capital, it was evident to Lee that the family had no option but to abandon the property immediately.

On May 23, 1861 immediately following the plebiscite ratifying Virginia's secession, the Union Army crossed the Potomac and occupied Alexandria and Arlington Heights. Rosslyn and Arlington Heights were of particular importance, commanding approaches to Washington over the Aqueduct Bridge and Long Bridge, as well as major avenues of approach from the west. Arlington House and grounds were commandeered by the Union Army under General Irwin McDowell. Union troop immediately began work on forts to hold the Aqueduct bridge and Long Bridge; these were Forts Corcoran, Bennett, Haggerty, Jackson, and Albany. McDowell ordered that the house and the grounds of Arlington House were to be left alone (*New York Times*, 23 September 1861).

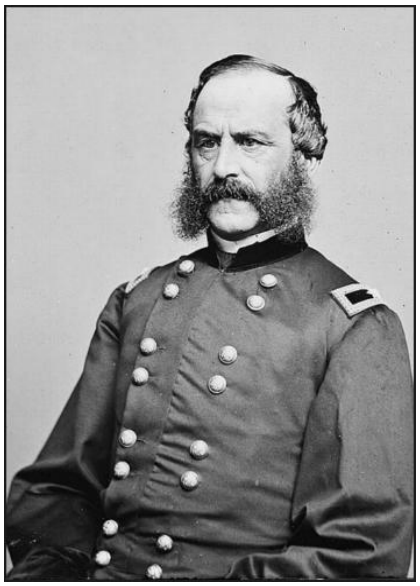


Figure 15 - Major General Augustus DeRussy, Commander of the Southern Defenses of Washington from 1863

Defeat at Manassas put urgency into the construction of already-ordered fortifications to fill in between the initial forts defending the approaches to Washington. A series of rifle pits and lunettes were erected, the lunettes closest to Arlington House were named Forts Woodbury, Cass, and Tillinghast. Still, with an ambition to mount a campaign against Richmond, Washington would have to be defended by fewer troops, and in December of 1861 the Chief of Engineer of the Army of the Potomac reported giving an overview of the progress on fortifications and a grand plan for the defenses of the capital (U.S. War Department 1881: 678-685). This plan called for redundant fortifications in lines, communications systems, roads, and clearing any cover from areas before the defenses, referred to as "Lines of Torres Vedras" after the exemplary defenses erected by the Duke of Wellington for Lisbon in the Napoleonic Wars.

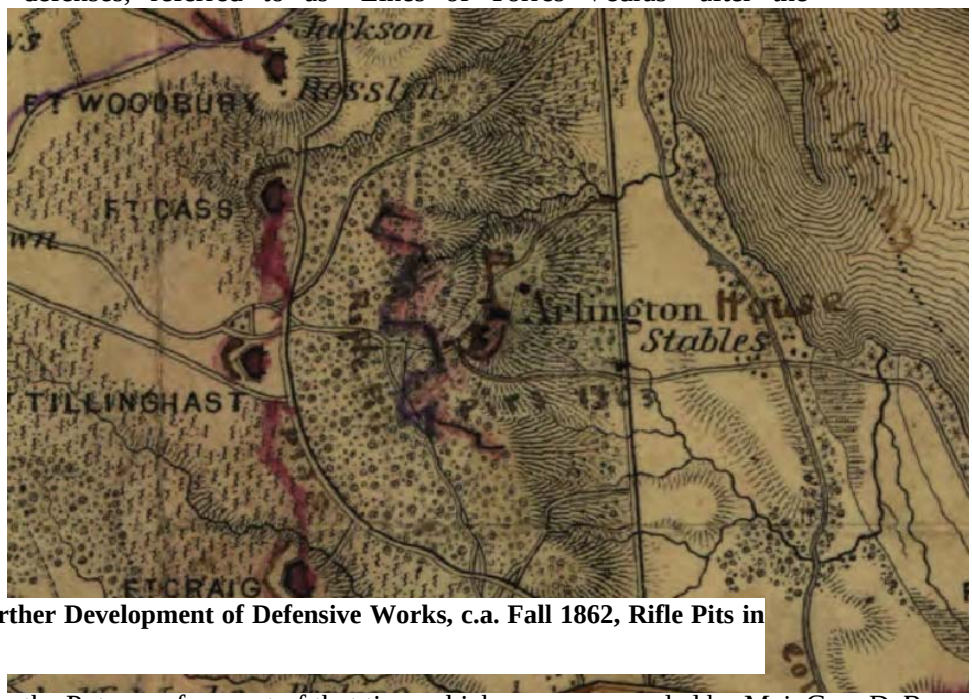


Figure 16 - Further Development of Defensive Works, c.a. Fall 1862, Rifle Pits in Two Lines

Initially, tents were set up near the house rather than having the headquarters inside the mansion, but by 1862 the mansion was occupied by officers. It continued to be used by the Union Army throughout the war, serving as headquarters, Defenses (of Washington) South of the Potomac for most of that time which was commanded by Maj. Gen. DeRussey.

The Arlington estate became one of the greatest concentrations of troops in the Washington area during the first months of the war. The 8th New York Infantry set up camp just south of Arlington House in June1861. By July 1861 there were nine other units camped on the Arlington estate: 29th New York Artillery, 14th New York (Brooklyn, in 2 camps) 22nd New York, Seymour's Artillery, 2nd Michigan, 12th New York, 3rd Michigan, Griffin's Artillery, and last but not least, the 3rd Infantry Regiment of US Army regulars.

Camps were set up in the grove behind the house (where the Custis tombs were located), trees were cut to construct tents and for use as firewood; and Custis' orchard was reportedly cut down because it obstructed a clear view from the house. Arlington Heights was fortified soon after the onset of hostilities, initiating a network of forts encircling Washington. Among these were Forts Cass, Tillinghast, and Craig just west of ANC on what is now Fort Myer. Confederate offensives spurred additions to the defenses of Washington until nearly the end of the war. Fort Whipple, just east of Fort Cass and one of the largest in the defense network was completed in 1863. Fort McPherson was planned after Confederate General Jubal Early's July 1864 raid on Washington, but not completed before the end of the war. The earthworks of Fort McPherson remained visible in Section 11 of ANC, until the 1940's. Fort Whipple continued to be manned after the war, and though physically demolished is active to this day under the name of Joint Base Myer- Henderson Hall.

4.2.6 FREEDMAN'S VILLAGE (1863 to 1900)

Throughout the Civil War large numbers of slaves escaped from the South and came to the District of Columbia seeking their freedom. In the Washington area the government hired black laborers as carpenters, masons, blacksmiths, and construction workers. The laborers were paid between $20 and $30 a month plus a daily ration and were accommodated in a contraband camp (Reidy 1987:409). By the summer of 1863, following the Emancipation Proclamation, it was becoming increasingly difficult to provide for the thousands of contrabands in the area.

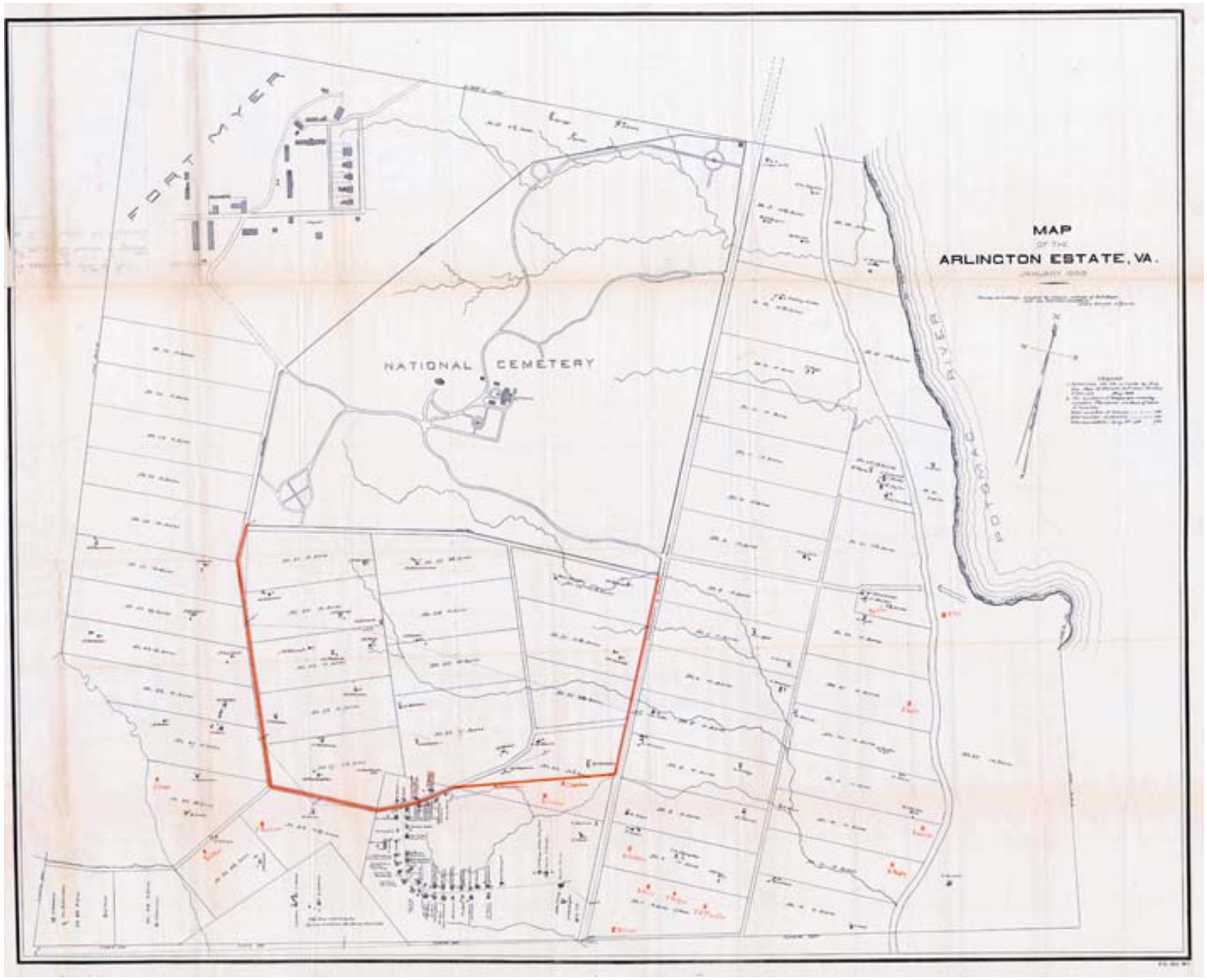


Figure 19 - Map of Arlington Estate, 1888

In an effort to ameliorate the problem, military authorities established a Freedman's Village on the Arlington estate in June 1863, which was officially dedicated on December 4, 1863 (James 1970:91; Schildt 1984:11). Located on the southern section of the Arlington property west of the Alexandria and Georgetown Turnpike (Section 8), and referred to as "Arlington Heights" and "Greene Heights," the camp was placed under the supervision of Danforth B. Nichols of the American Missionary Association and Lt. Col. Elias M. Greene, chief quartermaster of the Department of Washington (Reidy 1987:409). The village consisted of 50 one-and-a-half-story duplex dwellings, the 50-bed Abbott Hospital, a two-story home for the indigent, a school and chapel, and trade school shops (New York Times, 12 December 1863). The buildings were

arranged along a central roadway, Bancroft Drive (now Jessup Drive and a portion of Grant Drive, Figure 20).

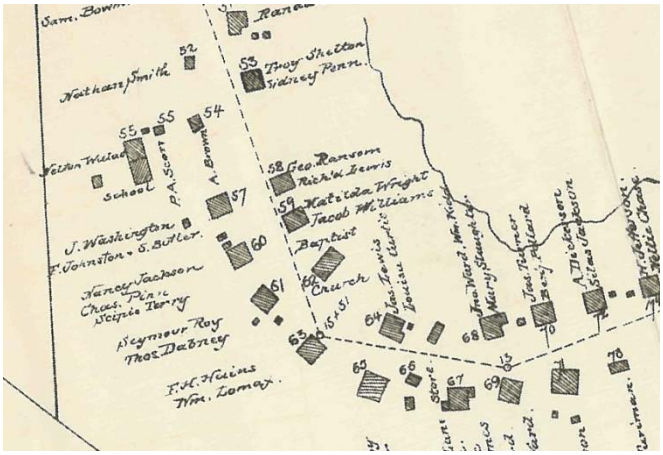


Figure 20 - Detail of 1888 Map of Arlington Estate Showing the Center of the Freedman's Village

Because of its location on the former Custis-Lee estate, the village received national attention and became a showcase for those who sought ways in which to make the former slaves self-sufficient (Reidy 1987:411-413). During the war, village residents were successful in returning Custis' fields to productivity and grew buckwheat, corn, potatoes, and other vegetables (Schildt 1984:14). In May 1865, the village came under the supervision of Maj. Gen. O.O. Howard of the Bureau of Refugees, Freedmen, and Abandoned Lands (commonly called the Freedmen's Bureau), an agency established to help supervise the transition for former slaves from postwar to freedom. By 1866, however, tensions had risen between the government and the village residents, and many who did not pay rents or could not produce a certificate of employment were evicted from the property (Reidy 1987:417-420). From 1870 to 1872, the village was administered under the post commander at Fort Whipple (later Fort Myer). The government retained ownership of the land and also employed many of the residents as laborers at the cemetery and at Fort Whipple.

As conflicts arose between the village residents and the new cemetery officials, efforts were made by the government to remove the civilians from the military reservation of the cemetery (Reidy 1987:425; Schildt 1984:18-19). In 1887 War Department officials gave residents 60 days to move from the property, but this was not actually accomplished until 1900 when the villagers were given compensation for leaving their homes (Reidy 1987:426-427). When the village was disbanded, it was the oldest Freedman's Village in the country (Reidy 1987:426; Schildt 1984:19). Subsequent development of the area for burial use removed the buildings, and with the exception of the basic course of Jessup Drive and Grant Drive, there is now no trace of the Freedman's Village on ANC grounds.

4.2.7 ESTABLISHMENT OF ANC (1864 TO 1867)

Through its Act of July 17, 1862, Congress had granted authority to the President to purchase land "whenever in his opinion it shall be expedient, to purchase cemetery grounds and cause them to be securely enclosed, to be used as a national cemetery for the soldiers who shall die in the service of the country" as public concern arose about the improper burial that some Union soldiers were receiving in the field (U.S. Department of Veterans Affairs 2010). The establishment of a national cemetery near a large area of military encampment was not unusual; however, the selection of a private estate for this use was unusual. In this way Arlington's development is unique in the history of the National Cemetery System. Some national cemeteries were created near battlefields out of necessity, such as Gettysburg National Cemetery, but these were generally established in open fields or areas that were undeveloped (reflecting the fact that Civil War battles often took place in such areas). By designating an established estate as a cemetery, the military was able to take advantage of the existing roadways and other infrastructure already in place and formerly used as part of Custis' farm, parkland, and waterfront.

A major impetus for the development of Arlington was the Wilderness Campaign, fought in central Virginia between May 4 and June 12, 1864, during which approximately 60,000 Union soldiers were killed. Existing space at the Soldiers' Home National Cemetery in Washington, D.C., and the Alexandria National Cemetery, which had been established in 1862, was filling quickly and new burial locations were needed immediately. By May 1864 there was a critical need for military burial space (Holt 1992:19, 419).

Secretary of War Edwin Stanton requested that Quartermaster Brig. Gen. Montgomery C. Meigs, who was charged with the federal administration of military cemeteries, locate a suitable property for the establishment of a new cemetery near Washington, D.C. On June 15, 1864, Meigs wrote to Stanton and suggested that the Arlington mansion and the grounds immediately encircling it be designated as a military cemetery.

Soldiers who died in hospitals in Washington, D.C., and Alexandria would be buried at Arlington, as well as the war dead. Stanton approved Meigs' request on the day it was received, and about 200 acres surrounding Arlington House were designated as the Arlington National Cemetery. Meigs assigned his assistant, Edward Clark, as "architect and engineer of the cemetery" (Meigs 1864). Clark would later become the Architect of the U.S. Capitol.

Although officially created in June, burials had commenced at the estate a month earlier when Pvt. William Henry Christman, and William H. McKinney, both of Pennsylvania were buried on May 13, 1864. This was in the vicinity of the Custis slave cemetery, now Section 27 of ANC, where these initial burials remain.

4.2.8 EXPANSION OF ANC (1867-PRESENT)

By 1888 increased demands for burial space prompted the Army to expand beyond the original 200 acres designated for the cemetery. The plan was to expand southward, taking land that had been leased to Freedmen for small farms, but at that time leaving the Freedmen's Village in place. The land was designated for cemetery use, but it was later decided to expand further south, eliminating the Freedmen's Village. This came to pass, and in 1897 the cemetery expanded southward to its present southern boundary, and as far east as Georgetown-Alexandria Pike, about where Eisenhower Drive is now. The red sandstone boundary wall was dismantled along the old southern boundary, and rebuilt along the western boundary, extending from the old southern boundary, where Farragut Drive is now, to where the Argonne Cross was later erected, when the material ran out. Past that point, and along the new southern boundary, the new wall was built of a blue-grey igneous or metamorphic stone, ending at Georgetown-Alexandria Pike. The newly extended eastern boundary was also walled, according to maps dating to 1897, but it is not known what material was used there.

This new section of the cemetery was developed through the first half of the twentieth century, receiving the remains of both Union and Confederate veterans, those from the Spanish American War, and a tragically large number from World War I. Many of ANC's most notable monuments were erected there. The Confederate memorial, the Mast of the Maine, the Argonne Cross, and most notably the Memorial Amphitheatre and the Tomb of the Unknown Soldier. The circulation system developed slowly, for example Patton Drive and Dewey Circle were added in the late 1940's and early 1950's respectively. The former may have resulted in a partial burial of the south boundary wall, which at present is about half the height of other portions, perhaps prompting the addition of the iron pike fence and supporting concrete cap.

The eastern side of the Arlington Estate, east of the Georgetown-Arlington Pike, was also held by the Army. Following the eviction of the Freedmen who had leased small farmsteads there, the US Department of Agriculture was allowed to establish an experimental farm there in 1905, with the stipulation that the land would be returned to the Army if ANC needed more space. It took up the area south of where Memorial Avenue would later be built. The northeast corner of the former Arlington Estate was used by Fort Myer for rifle ranges and gardens. The experimental farm lasted until 1941 when the Army need the area for housing clerical workers for the Pentagon. This housing area was known as "South Post" of Fort Myer for military personnel and "Arlington Farms" for civilian workers, mostly female. Although a plan was made in 1966 to demolish South Post and finally expand ANC eastward. Just as this came to pass, the Vietnam War was escalated and the need for the South Post housing continued. Although Arlington Farms housing was demolished by 1968, South Post remained until after 1971. It was probably sometime after 1971 that the boundary wall was extended to the east of its 1897 terminus at the former location of the Georgetown-Alexandria Pike.

This project marks the first expansion of ANC outside the bounds of the Arlington Estate. This area seems to have been little developed, save for a few small buildings shown on Civil War era maps at the intersection of Georgetown-Alexandria Pike and Columbia Pike, probably a toll house and associated out buildings. Just east of the project area was the Alexandria Canal, which ran through the current site of the Pentagon. Fort Albany, one of the earthwork forts forming a defensive chain around Washington during the Civil War was south of the project area where Shirley Highway/I-395 is now.

The area was a patchwork of small homes and fields in the early 20th century, including a poultry farm on the south side of the project area. These gave way to the Pentagon, Navy Annex, Henderson Hall, the WAVES (women's naval reserve - Women Accepted for Volunteer Emergency Service) barracks, and the network of highways to serve this wartime beehive of activity in the early 1940's. The Navy Annex was built in 1941, and although it was intended to be a warehouse, office space was needed by the Marine Corps and it became 'Federal Office Building #2' although always known as the Navy Annex. It continued to provide office space for Headquarters Marine Corps until shortly before its demolition in 2012. The WAVES barracks, known as "Quarters K" were built soon after the Navy Annex. They occupied all of the APE south of Columbia Pike, including what is now a traffic island between Joyce Street and the on ramp for Washington Boulevard. There were 18 two story barracks buildings, a large one story subsistence building, and a one/two story administration building with an attached clinic (Sanborn 1959). The complex was demolished in 1971 and the area converted to parking, and a Navy Exchange run Citgo Mini Mart named Quarters K after the former barracks on the site.

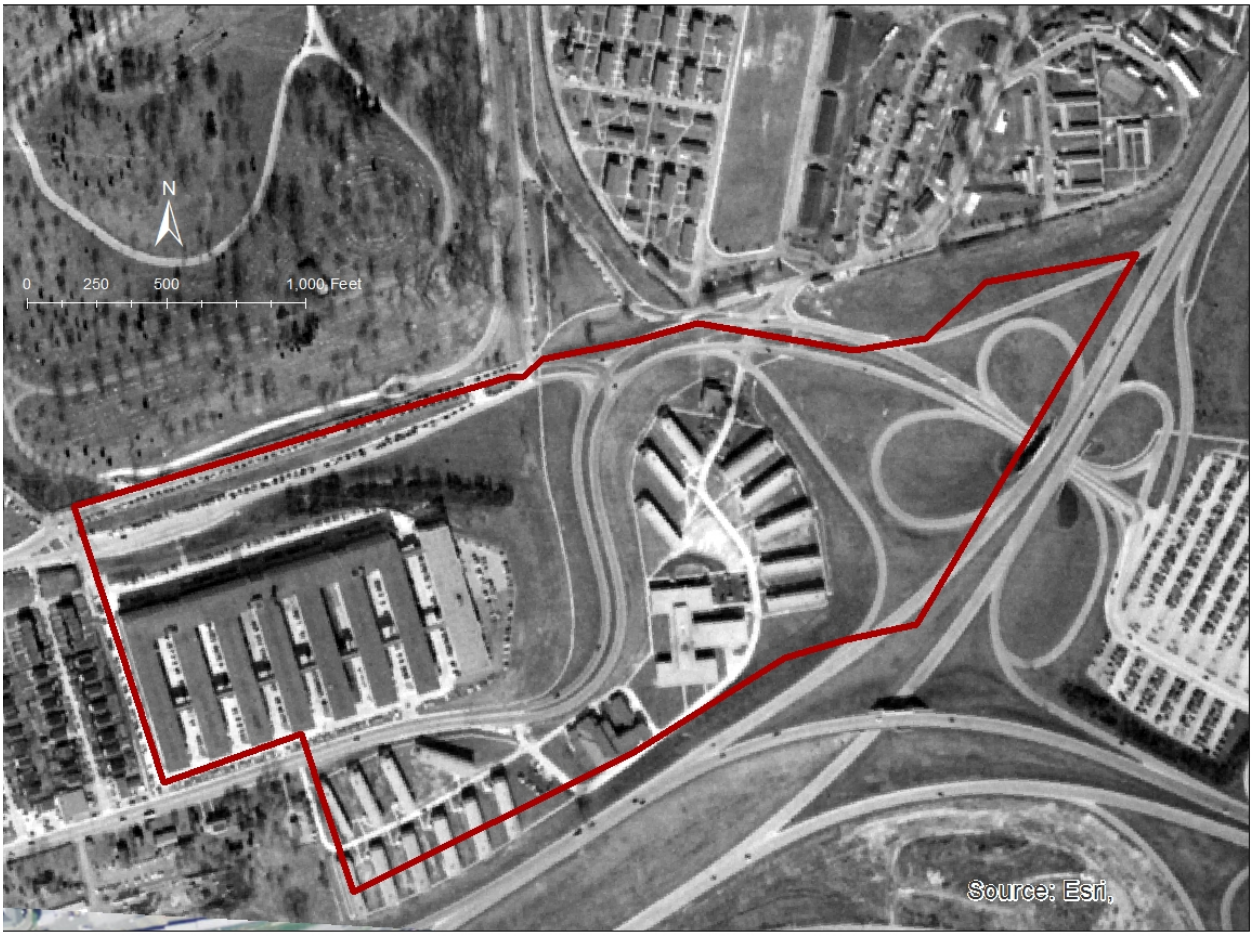


Figure 21 - Project Site Boundary on 1949 Aerial Photo, Navy Annex in the Northwest Corner, Quarters K to its South and East

5 Field Methods

Based on the review of past land use and site visits the project APE outside of the existing ANC boundary was viewed as too disturbed for shovel testing survey to discover any intact archaeological contexts. Shovel testing survey has not been conducted, however there was considerable evidence on stratigraphy and remnants of modern building foundations produced by a soil testing and remote sensing survey conducted by the Washington Headquarters Service (WHS) prior to the transfer of land to ANC. Information on stratigraphy was also available from soil borings from the Air Force Memorial construction project. The results of these surveys are summarized in the next section.

Conventional shovel test pit survey was conducted in select areas along Patton Drive. Areas not previously disturbed by road construction, underground utilities, and burials were limited and tests were placed in those areas most likely to have had the least prior ground disturbance. Shovel tests, cylindrical in form, averaging 40cm in diameter, and excavated to what were judged to be either culturally sterile levels unless prior ground disturbance was in evidence. The soil matrix was sieved through ¼" hardware cloth. Soil texture was determined through the 'feel method' and colors matched to the Munsell® color chart. Non-

soil inclusions and other observations noted, along with brief descriptions and counts of any artifacts identified.

6 Remote Sensing Survey and Geotechnical Survey Results

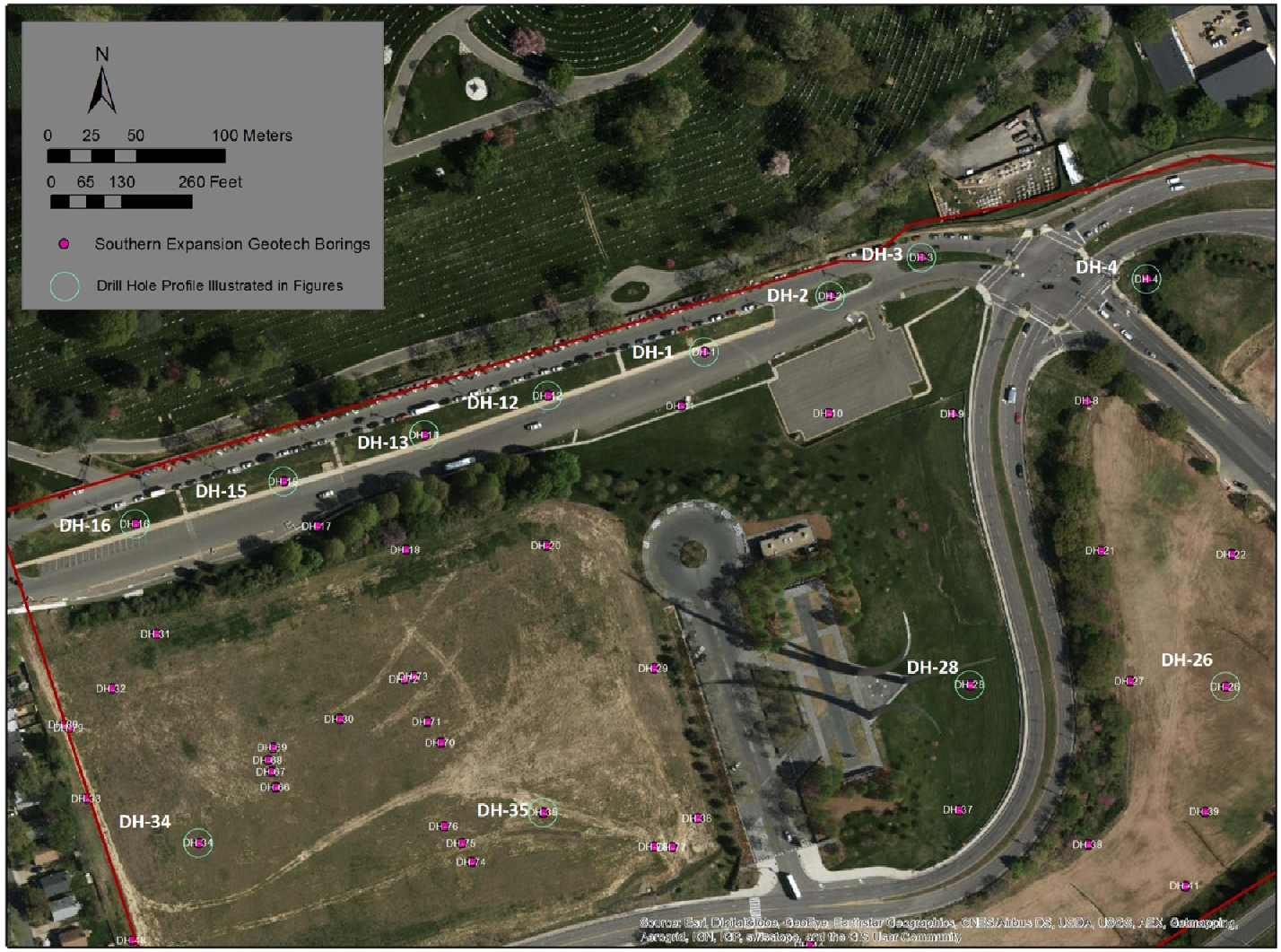
6.1 Borings for the Air Force Memorial

Soil boring logs from the Air Force Memorial (AFM) project in 2005 showed that the subsurface soil stratum consisted of the following three layers in descending order from the surface: 1) existing fill layer, 2) marine clay layer, and 3) sand layer. Similar layers are likely to be present in the Southern Expansion site. There is an approximately 30-feet elevation difference between the Navy Annex main parcel and the adjacent landscaped area immediately east of the AFM. The fill layer was not encountered in the borings on the landscaped area. The existing fill layer was approximately 28-feet thick and consisted of a mix of sand and clay with roots and asphalt fragments. Naturally occurring marine clay underlies the existing fill layer. Based on the boring logs, the marine clay layer is approximately 30-feet deep and is expected to be immediately below the existing grade at the landscaped area. The sand layer was found below the marine clay layer; the thickness of the sand is 15 unknown.

6.2 Borings, Remote Sensing, and Excavations by the Washington Headquarters Service and Corps of Engineers

The Army Corps of Engineers drilled 80 geotechnical borings were drilled (Figure 22) in the project area to evaluate the site's characteristics (Trainor 2011). The results showed a very high degree of variability in the stratigraphy across the site (Figures 23, 24 25). Although the materials are consistent with the Potomac Formation mapped for this area (Figure 2), consisting of unconsolidated sediments of sand, clay, and pea gravel, the sequences and thicknesses of the strata vary widely, even for tests near each other. This does not reflect natural processes, and reveals profound ground disturbance across the site outside of the ANC boundary.

Under a Memorandum of Agreement with the Army covering the land transfer of the former Navy Annex site, Washington Headquarters Service conducted studies to identify potential hazardous materials. A remote sensing survey was undertaken using magnetometer, conductivity, and ground penetrating radar to identify remnants of structures that might contain or be associated with hazardous materials. Two main concentrations were identified (Stuby 2014). One was in the footprint of the former Navy Annex, the other was in part of the former Pentagon South Parking Lot, where Quarters K had been before that (Figures 26 and 27). These locations were excavated, and a large concrete slab was found in the Navy Annex location (Figure 28), identified as the foundation for a bridge between the east and west wings (Schneider 2013). The remains of concrete foundations were found in the former parking lot, identified as remains of the Quarters K dinning hall (Figure 29).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0 25 50 100 Meters
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Southern Expansion Geotech Borings
Drill Hole Profile Illustrated in Figures
DH-1
DH-2
DH-3
DH-4
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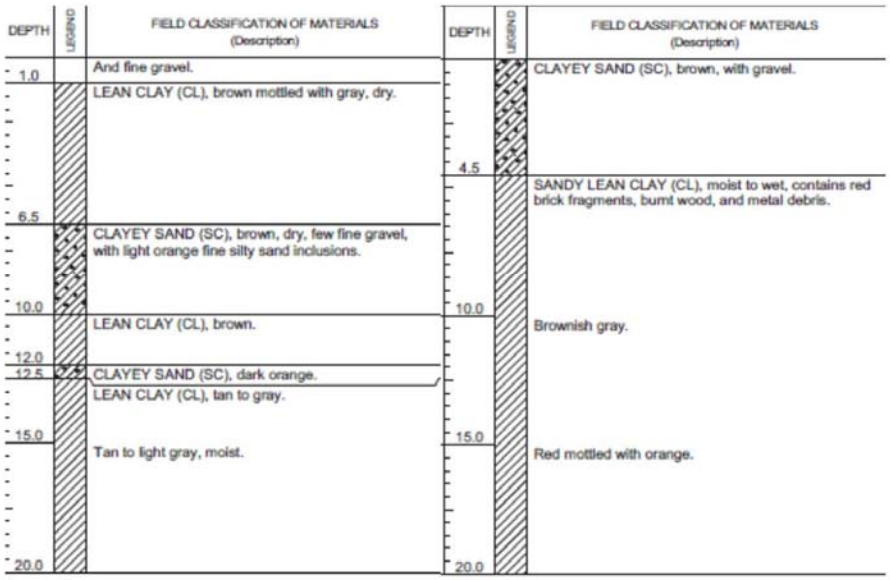
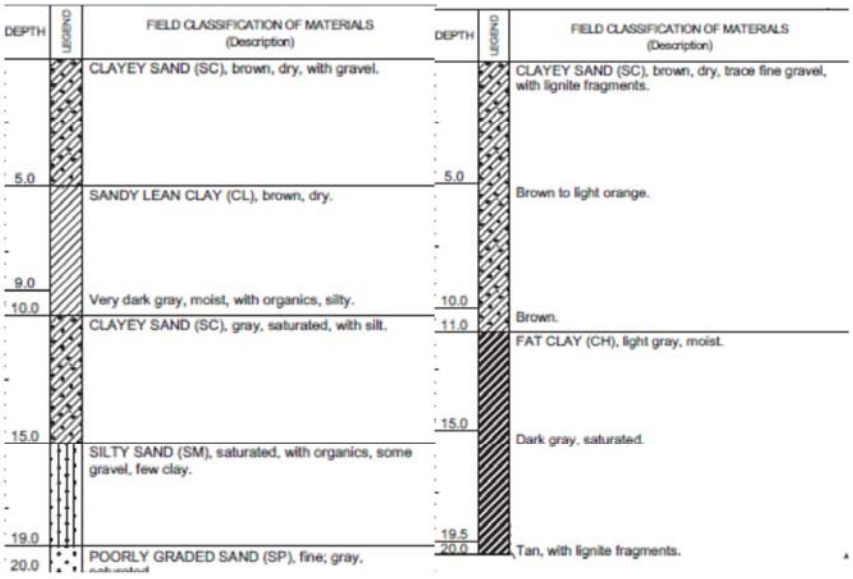
DH-15
DH-16
DH-26
DH-28
DH-34
DH-35
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 22 - Boring Locations (those depicted below with second bold label)

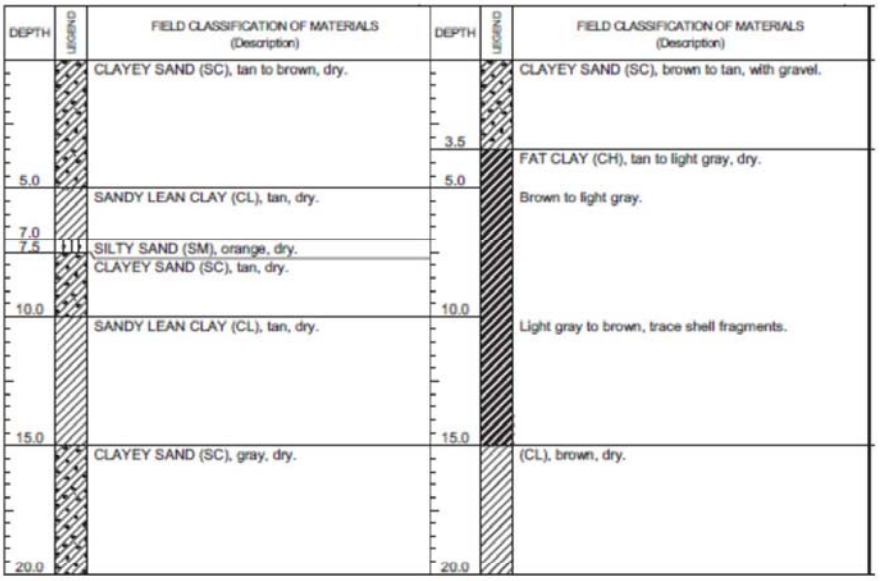


DH-1 DH-2



DH-3 DH-4

Figure 23 – Profiles of DH 1-4 (Trainor 2011)



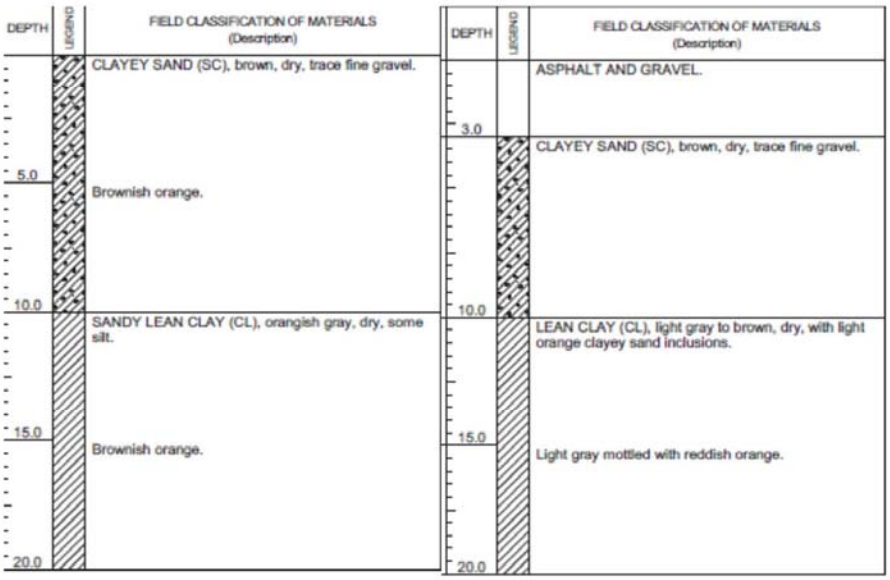
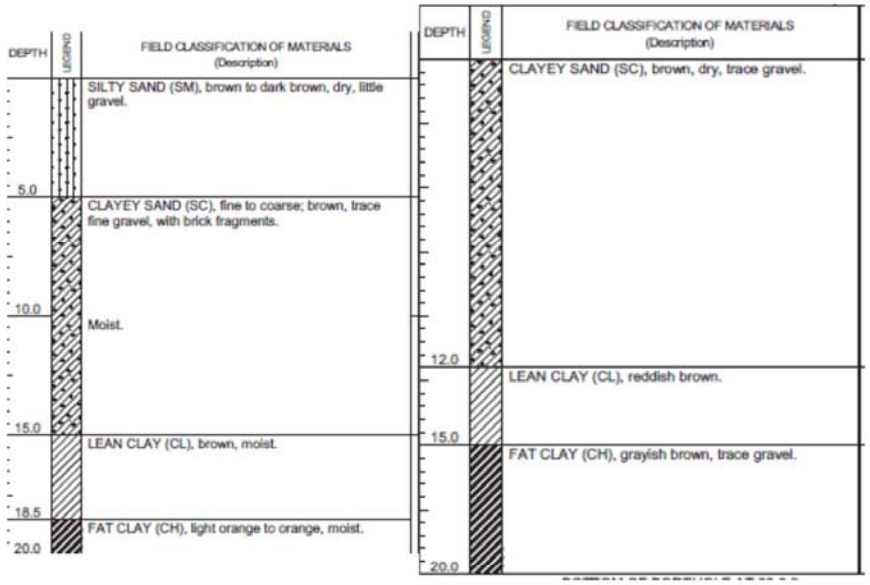


Figure 24 - Profiles of DH 12, 13, 15, 16 (Trainor 2011)



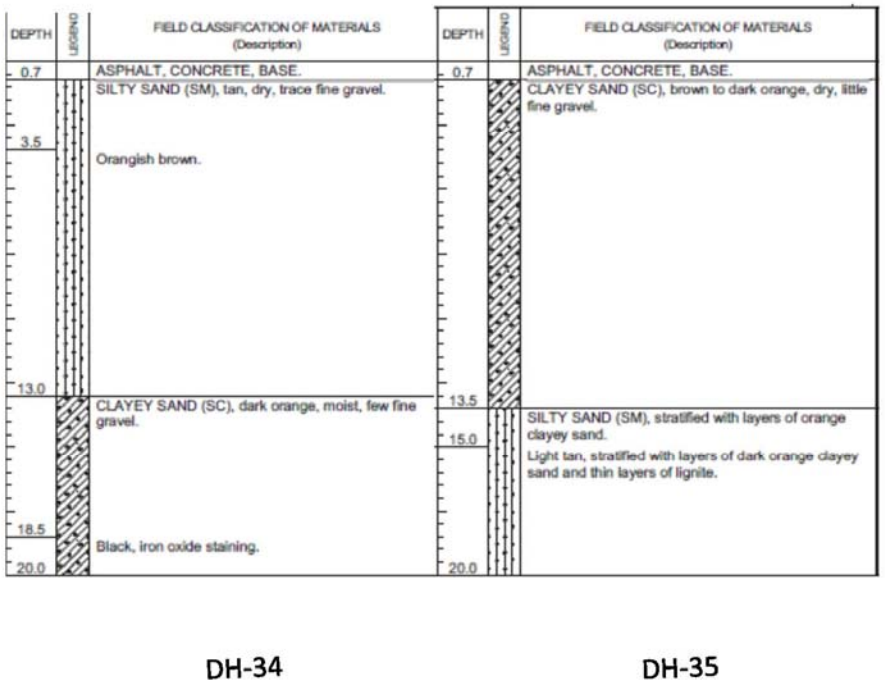


Figure 25 - Profiles of DH 26, 28, 34, 35 (Trainor 2011)

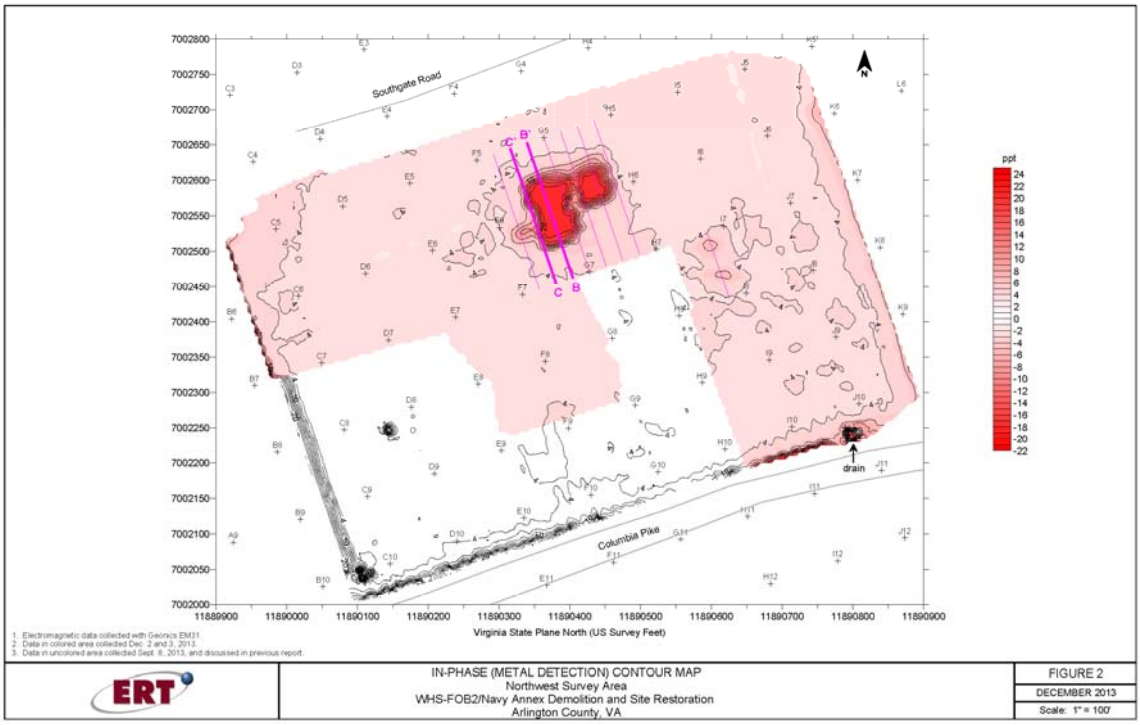


Figure 26 - Magnetometer Survey of the Former Navy Annex Site (Stuby 2014)

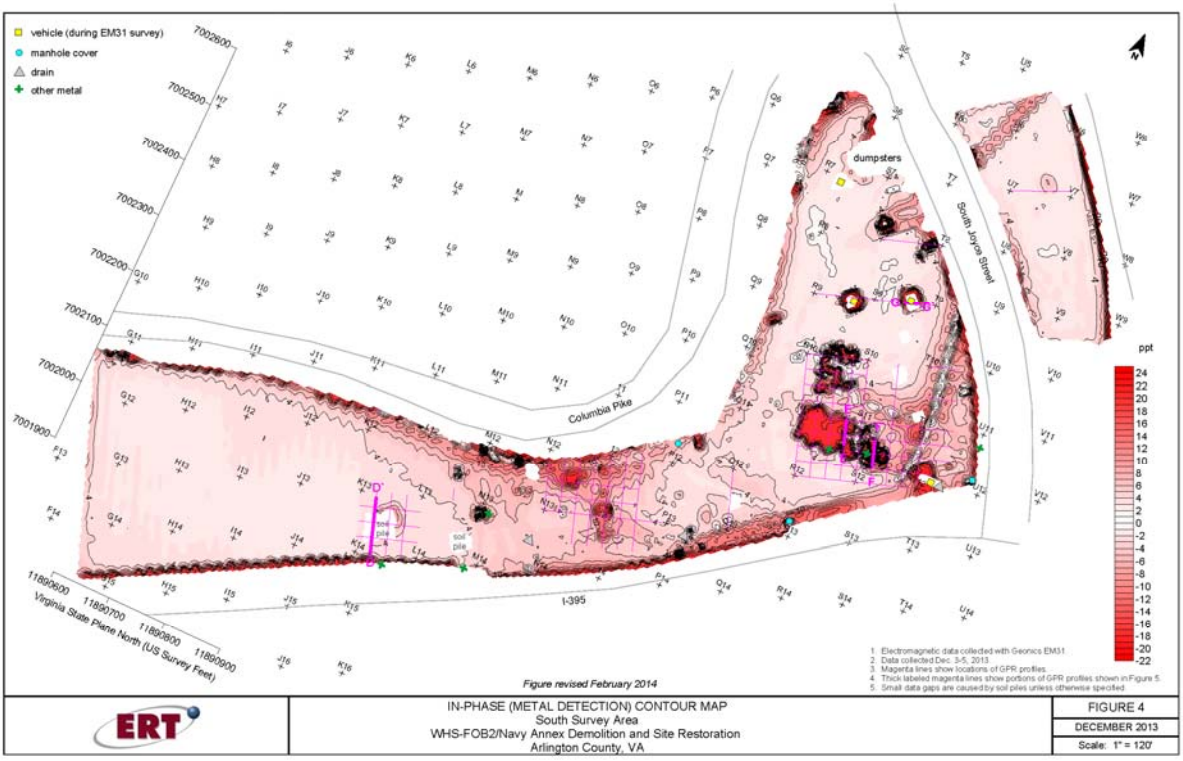


Figure 27 - Magnetometer Survey ol the Former Quarters K Site (Stuby 2014)

Figure 28 - Concrete Slab Causing Anomaly, Part of Navy Annex Foundations (Schneider 2013)

Figure 29 - Remains of Concrete Foundations of Quarters K Dining Hall Cause of Anomalies (Schneider 2013)

6.3 Survey of Patton Drive Area

Utility and grave site maps were obtained from the USACE field office at ANC, and a site visit made on November 10, 2016. This information and field observations lead to the conclusion that the Patton Drive area that would be affected by the ANCSE project has a history very heavy ground disturbance.

The exact date of the construction of Patton Drive is not known. It does not appear on a 1935 map, but is present in a 1949 aerial photograph. Although it may have been renamed after construction, it seems unlikely that is would have been named for General Patton until after his death in late 1945. The boundary wall through this area is partly buried. This may have been the result of heavy earth moving to install storm drains and grade the road base. An 1897 map shows a spring and a "running stream" where Patton Drive is and a spring just north of the west end. The stream was at the approximate location of Patton Drive from a short distance from its west end to just east of the traffic circle where the stream made a turn to the southeast and exited the cemetery boundary (Figure 30). The southern boundary wall west of Patton Drive is about four feet above the ground and slightly wider base stones are visible in some places. Eastward from the beginning of Patton Drive the height of the wall above ground varies, and can be as little as a foot and a half above ground. In these sections there is a concrete cap, rather than bluestone, and on that an iron 'pike' fence which appear to have been added at a much later date (Figures 32, 33, 34). It is likely that this was added to compensate for the reduced height of the wall that resulted from soil on both sides of the wall being added, most likely from construction of Patton Drive, Southgate Road, and installation of underground utilities.

Maps of utilities(Figure 31) and burial plots show very little area for subsurface testing that would not be in an area previously disturbed by these, and of course a very strong desire not to interfere with them. Because of this and the previously discussed degree of ground disturbance attributed to the Patton Drive construction, subsurface testing did not seem warranted.

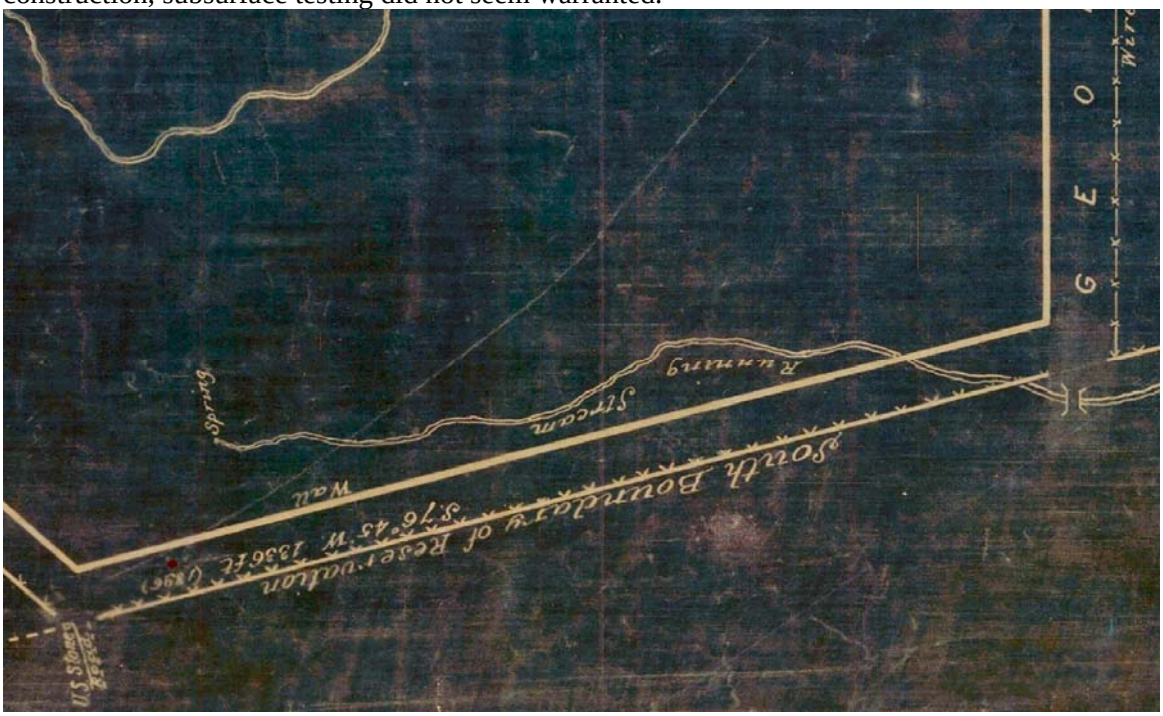


Figure 30 - Section of 1897 Map Showing Stream Where Patton Drive is Now

Figure 31 - Map of Underground Utilities in the Patton Drive Area

Figure 32 - West End of Patton Drive Facing East

Figure 33 - Middle Section of Patton Drive Facing East

Figure 34 - East End of Patton Drive, Facing West

7 Conclusions and Recommendations

The ANC Southern Expansion area of potential ground disturbance effects has a history of land use that has greatly altered the land during the mid-20th century. It is highly unlikely that archaeological sites

meeting National Register of Historic Places criteria have survived these processes if they were ever present. The proposed action would therefore have ***no adverse effects*** to archaeological sites eligible or listed in the National Register of Historic Places.

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