PHASE I ARCHEOLOGICAL SURVEY FOR THE
STREAM RESTORATION PROJECT
WINKLER BOTANICAL PRESERVE
ALEXANDRIA, VIRGINIA

Prepared For:
Duke Realty Corporation
111 South Calvert Street, Suite 1805
Baltimore, Maryland 2102

Prepared By:
The Ottery Group
3420 Morningwood Drive
Olney, Maryland 20832

Karl Franz
Thomas Bodor, RPA (Principal Investigator)

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Executive Summary

This report presents the findings of a Phase I archeological survey conducted for the proposed restoration of a portion of an unnamed tributary of Holmes Run, where the stream crosses into the Winkler Botanical Preserve. The stream restoration project is necessitated by damages to the watershed resulting from the construction of the adjacent Mark Center property. The archeological survey was completed by The Ottery Group, Inc. under a subcontracting agreement with Duke Realty.

The stream restoration project involves clearing brush and minor stream course modifications intended to improve flow and drainage through the creek system. The project will result in ground disturbance to terraces immediately adjacent to the creek as well as upland areas in each of three project segments which will be used for ingress and egress. The Office of Historic Alexandria requested an archeological survey be conducted because of the presence of known archeological resources in and adjacent to the project area.

During 1979 and 1980, the Alexandria Regional Preservation Office (RPO) of the Virginia Department of Historic Resources (VDHR) conducted archeological surveys along undeveloped areas along Holmes Run. These pedestrian surveys of exposed ground surfaces identified 21 prehistoric sites, seven of which fall within the Winkler Botanical Preserve. Two sites, 44AX6 and 44AX16 fall within the immediate vicinity of proposed disturbance areas. Previous archeological testing at the sites was limited and boundaries of the sites were not sufficiently established.

Between June 6 and June 30, 2011, archeologists from The Ottery Group conducted a Phase I archeological survey of the area proposed for ground disturbance. The archeological survey involved limited background research, field survey including visual inspection, excavation of shovel test pits (STPs) and 3-foot by 3-foot test units (TUs), and report preparation.

Field investigations included the excavation of 120 STPs and two test units within the area that will be impacted by the stream restoration project as well as a visual inspection of stream banks for eroding archeological materials. A total of 54 STPs were excavated adjacent to the stream, while 57 STPs were excavated in the vicinity of site 44AX6 and 9 STPs were excavated at the mapped location of site 44AX16. Both test units were excavated within site 44AX6.

Prehistoric artifacts were recovered from the area immediately south of the mapped location of 44AX6, expanding the site boundary. A total of 15 artifacts were recovered from the STP survey and an additional 44 came from the two test units. One diagnostic artifact, a Bare Island projectile point dates the site at between 4,500 and 2,500 B.P. This is consistent with Accokeek pottery recovered from the site in 1979. One artifact was recovered from outside of site 44AX6. A quartz scraper was recovered from the surface on a steep hillside immediately south of the stream. It appears that this artifact was washed out of its location to the east of the project area and did not originate within the project area. No artifacts were recovered from 44AX16.

While the stream restoration project will have minor impacts to site 44AX6, the site is ephemeral with low artifact densities and is not eligible for inclusion on the National register of Historic Places. Efforts should however be made to minimize subsurface disturbances in the vicinity of this site. No artifacts were found at site 44AX16 or along the stream channel. No specific precautions are mandated for these areas. No additional archeological testing is recommended for the stream restoration project area.
# Table of Contents

Executive Summary ........................................................................................................I
1.0 Introduction................................................................................................................1
2.0 Project Location and Description .............................................................................3
3.0 Environmental and Historical Background ............................................................6
   3.1 Environmental Context .........................................................................................6
      3.1.1 Paleo-Climate ...............................................................................................6
      3.1.2 Modern Climate, Flora, and Fauna .................................................................7
3.2 Prehistoric Cultural Sequence ...............................................................................7
      3.2.1 Paleo-Indian Period .....................................................................................7
      3.2.2 Archaic Period ..............................................................................................8
      3.2.3 Woodland Period .........................................................................................9
3.3 Historic Background .............................................................................................10
      3.3.1 Project Area ................................................................................................11
3.4 Previously Identified Archeological Sites .............................................................18
3.5 Prehistoric Archeological Potential .......................................................................20
3.6 Historic Archeological Potential ..........................................................................20
4.0 Research Design and Methods .............................................................................22
   4.1 Research Design .................................................................................................22
   4.2 Archival Research ...............................................................................................22
   4.3 Field Methods ....................................................................................................22
   4.4 Laboratory Methods ..........................................................................................23
5.0 Results ......................................................................................................................25
   5.1 Field Investigation ...............................................................................................25
      5.1.1 Visual Inspection .........................................................................................25
      5.1.2 Shovel Test Pits ..........................................................................................27
      5.1.4 Surface Finds ...............................................................................................29
      5.1.5 Artifact Discussion .....................................................................................29
6.0 Summary and Recommendations ..........................................................................31
   6.1 Summary ..............................................................................................................31
   6.2 Recommendations ..............................................................................................31
7.0 References Cited ......................................................................................................34

# List of Figures

Figure 1.1: Location of Project Area on USGS Alexandria, VA-DC-MD Quadrangle (1983) ..........2
Figure 2.1: Aerial Photograph Showing Location of the Project Area ....................................4
Figure 2.2: Project Plans Showing Limits of Disturbance ...................................................5
Figure 3.1: Detail of 1608 Smith Map Showing the Approximate Vicinity of the Project Area ..........12
Figure 3.2: Detail of 1673 Herrman Map Showing the Approximate Location of the Project Area ..........13
Figure 3.3: Detail of the 1862 Corps of Topographical Engineers
   *Map of Northeastern Virginia and the Vicinity of Washington* ......................................14
Figure 3.4: Detail of 1864 Nathaniel Michler *Map of Fairfax and Alexandria Counties, Virginia* ..........15
Figure 3.5: Location of the Project Area on the 1885 USC&GS West Washington, D.C. Quadrangle ..........16
Figure 3.6: Detail of the 1894 G.M. Hopkins *Map of the Vicinity of Washington D.C.* .............16
Figure 5.1: Location of Archeological Testing ....................................................................26
Figure 6.1: Revisions to Site Boundaries ..........................................................................33
List of Tables
Table 3.1: Transfer of Property for the Project Area.................................................................18
Table 3.2: Previously Identified Archeological Resources.....................................................19
Table 5.1: Number of Artifacts by Material...........................................................................29

Appendices
Appendix A: Artifact Catalog
Appendix B: Photographs of the Project Area
Appendix C: Updated Site Form - 44AX6
Appendix D: Public Summary
1.0 Introduction

This report presents the findings of a Phase I archeological survey conducted for a proposed stream restoration project at the Winkler Botanical Preserve in Alexandria, Virginia (Figure 1.1). The stream restoration project will encompass approximately 1275 linear feet along an unnamed tributary of Holmes Run, a Potomac River tributary. Four construction access ingress routes totaling approximately 460 linear feet will connect the project area to an existing walking path. Two of the access routes are planned in areas that are mapped as known archeological sites 44AX6 and 44AX16. The Office of Historic Alexandria (OHA) requested an archeological survey prior to initiation of ground disturbing activities to determine the boundaries of the two sites in relation to project plans and to determine whether any undocumented cultural resources were present within the project area.

Between June 6 and June 30, 2011, The Ottery Group conducted a Phase I archeological survey of terraces adjacent to the current stream course in the eastern half of the Winkler Botanical Preserve. The primary goals of the survey are to determine whether any archeological deposits are present within areas that will be disturbed by the stream restoration project and to define horizontal boundaries of known sites adjacent to impact areas. The archeological survey involved limited background research, field survey, and report preparation. Thomas Bodor is the Principal Investigator of this study. Karl Franz conducted the field survey and prepared this report. Work was completed in accordance with City of Alexandria Archeological Standards (OHA 1996). In addition to city review, the project may be subject to review by the Virginia Department of Historic Resources (VDHR) pursuant to the anticipated application for a U.S. Army Corps of Engineers wetland permit, which is subject to Section 106 of the National Historic Preservation Act.
Figure 1.1:
Location of the Project Area on the 7.5 Minute USGS Alexandria, VA-DC-MD Quadrangle (1983)
2.0 Project Location and Description

The Winkler Botanical Preserve is located in western Alexandria, and is a 44-acre wooded area surrounded by urban development (Figure 2.1). The property is bounded by Interstate 395 on the east and south, by the Mark Center governmental complex on the north, and by apartment complexes on the west (Figure 2.2). In general, the Winkler Preserve consists of largely undeveloped land comprised of a meandering stream with narrow $T_0$ and $T_1$ terraces bordered by upland landscapes. The stream flows into a manmade pond to the southwest of the project area. The majority of the Preserve is forested with a variety of native hardwood species that are commonly 50 feet in height. Underbrush is relatively light and consists of low scrub bushes and brambles. Publicly accessible walking paths parallel the stream.

The unnamed tributary that crosses the project area is a first order waterway that joins Holmes Run approximately 3,400 feet west of the project area. The project area is situated close to the headwaters of the tributary, which begins approximately 500 feet north of the project area. Holmes Run joins Cameron Run, which flows into the Potomac River. The Potomac is one of the major rivers in the Chesapeake Bay watershed. Elevations across the project area vary between 195 feet above mean sea level (AMSL) at the northern end of the project area near Mark Center Drive to approximately 130 feet AMSL at the southern end of the project area. Broadly, the topography slopes down to the southeast.

Modern runoff has impacted the flow of the stream within the Winkler Preserve. In the northern portion of the project area, the stream bank is deeply incised due to increased flow from development of the watershed beyond the boundaries of the Winkler Preserve property. The amount of incision lessens as the stream flows southward across the Preserve.

The National Resources Conservation Service (NRCS 2007) indicates that soils within the project area consist of Lunt-Maramsco complex 2-7% slopes (74B) and Sassafras-Marumsco complex 15-25% slopes (91D). The Lunt-Maramsco soils are present along the stream channel. The soil is characterized as a deep and moderately well-drained soil found in coastal plain terraces. The Sassafras-Marumsco soils are found on the uplands, where previously recorded sites 44AX6 and 44AX16 were tested. As with the Lunt-Maramsco soils, these are characterized as moderately well-drained soil found in coastal plain terraces.
Figure 2.1:
Aerial Photograph Showing Location of the Project Area
Figure 2.2:
Project Plans Showing Limits of Disturbance
3.0 Environmental and Historical Background

3.1 Environmental Context

The natural environment has been an important determinant of settlement and subsistence patterns during prehistoric and historic occupations of the region. Specific environmental characteristics, such as soils and proximity to water, influenced the quantity and variety of resources available to prehistoric peoples (i.e., wild plants, animals, and raw lithic materials for the manufacture of stone tools). In a broader sense, climate influences the distribution of fauna, flora, and the nature and distribution of soils. Climate also determines, in part, where people travel or settle and how they exploit natural resources in their surroundings. Throughout the Middle Atlantic region, the locations and types of prehistoric sites are closely correlated with the modern biophysical environment (ca. 3,000 years before the present [BP]-Present) and with paleoenvironments (ca. 12,000-3,000 BP).

3.1.1 Paleo-Climate

The climate of the Middle Atlantic region underwent a series of changes following the retreat of the glaciers at the end of the Pleistocene. An understanding of climatic change is important in understanding the environmental conditions facing prehistoric peoples and how adaptation to these conditions shaped human settlement patterns and subsistence. Climatic episodes defined by Carbone (1976) for the Shenandoah Valley are broadly applicable to the project area. The vegetation history of the project area may be inferred from general vegetation histories of the Middle Atlantic region that have been developed from data provided by fossilized pollen. Plant communities also influence the faunal resources that were available in the past.

The last glacial episode reached its peak at approximately 18,000 BP. The glaciation occurring at the terminal Pleistocene had profound effects upon the climate of the Middle Atlantic region. The climate during this time was cool and wet; average temperatures were several degrees lower than present (Carbone 1976). Surface runoff from the retreating glaciers and heavy precipitation resulted in numerous upland bogs and poorly drained lowlands (Custer and Wallace 1982). A relatively open forest dominated by spruce and pine was the predominant vegetative cover.

Moist climatic conditions during this episode promoted the development of uplands and increased wetland areas associated with stream drainages. These vegetation communities would have provided unique sets of resources and unique resource distributions for Paleoindian and Early Archaic populations.

Between 10,000 and 8,500 BP, the effects of the ice sheet began to diminish. The primary change during this time was the rise in sea levels resulting in the slow inundation of many river valleys. The most pronounced embayment in the Middle Atlantic region occurred with the drowning of the Susquehanna River, which eventually resulted in the formation of what we now call the Chesapeake Bay. This rise in sea level would have affected all tributaries to the Bay, including locations far away from its shores. Possible results of this rise include a cessation of stream incision, a decrease in stream competency that results in an increase in deposition throughout the drainage basin, and an increase in headwater erosion. During this time, seasonality increased and deciduous forests spread. Many Pleistocene fauna became extinct or migrated out of the region altogether.

Between 8,500 and 5,000 BP, the climate was warmer and more humid (Custer 1984), becoming increasingly warmer and drier, with the warmest and driest period from 5,000 to 4,000 BP (Carbone 1976). With increasing deciduous constituents, the resources available to Middle Archaic occupations changed. An increase in nut-bearing trees also might have resulted in an increase in small foraging animals. Anadromous fish increased in number by the end of this climatic episode.
The warmer and drier climatic conditions resulted in the draining of bogs and pocosins, which decreased the number of water sources available across the landscape.

By 5,000 BP, colder and wetter climatic conditions resulted in the replacement of the oak-hemlock forest community by an oak-pine-hickory community (Custer and Wallace 1982). The period between 5,000 and 3,000 BP has been interpreted as a xerothermic climate regime (Carbone 1976), which resulted in fewer lower order streams and a concentration of resources in lowlands (Custer and Wallace 1982). By the end of this climatic episode, climax forests dominated by mixed oak-hickory-pine were established, composing a community similar to modern forest communities. The Late Holocene (3,000 to the present) represents essentially modern climatic conditions, although several climatic perturbations are suggested after the beginning of this period.

3.1.2 Modern Climate, Flora, and Fauna

Today, the Alexandria area has a humid, temperate, semi-continental climate with well-defined seasons. Weather conditions for the area are typical of its position in the middle latitudes, where air flow generally is from west to east across the continent. The last half of July is the hottest period with an average afternoon high temperature of 86 degrees Fahrenheit. The later part of January is the coldest month with an average afternoon high of 25 degrees Fahrenheit. The annual precipitation averages approximately 39 inches. Average annual snowfall is 18 inches. This number varies considerably from year to year (Smith 1976).

3.2 Prehistoric Cultural Sequence

Alexandria is located within the Middle Atlantic culture area, which is traditionally defined as extending from the Dismal Swamp of the North Carolina/Virginia border to the Hudson estuary in New York, and from the Appalachian mountains to the Atlantic Ocean.

There are three general prehistoric cultural traditions recognized in the Middle Atlantic region: Paleo-Indian, Archaic, and Woodland. Originally developed as cultural historical units primarily intended to treat temporal and spatial questions, these traditions are defined by diagnostic artifact forms and assemblages. In more recent years, this scheme has been modified to emphasize cultural adaptations to changing ecological conditions. While the various terms continue to be used, their use is now as much behavioral as classificatory.

3.2.1 Paleo-Indian Period

Although some current research questions the age of the earliest human presence in the Middle Atlantic region, the Paleo-Indian period (ca. 12,000-8,500 BP) represents the first undisputable occupation of the Americas. Paleo-Indian populations were mobile, frequently changing location throughout the year within a territory in order to utilize available resources. Gardner’s research at the Flint Run Complex in Virginia (Gardner 1974, 1977, 1979) has identified several types of sites organized around the base camp, which was the main focus of habitation by aggregate bands. Base camps tend to have heterogeneous artifact assemblages, in contrast to smaller special purpose sites that were occupied by smaller groups for shorter periods of time to make use of seasonally available resources. Base camps were tied to quarry sites where high-quality cryptocrystalline lithic materials were extracted for stone tool manufacture. Smaller camps and special use sites radiate from the base camps in varying distances.
Gardner (1974) notes that Paleo-Indians placed an emphasis on hunting, although it is most likely that exploitation of available floral resources were also a critical component of Paleo-Indian subsistence strategies. In many areas, Paleo-Indian sites are associated with large Pleistocene megafauna such as mammoth and mastodon; however, Gardner (1980) notes that the hunting economy probably focused on deer, elk, and possibly caribou. Diagnostic projectile point forms include (from earliest to latest) Clovis, Mid-Paleo, and Dalton-Hardaway. Throughout the Middle Atlantic, Paleo-Indian occupations are poorly documented, and are generally represented through isolated finds or in mixed assemblages.

3.2.2 Archaic Period

The Archaic period (8,500-3,000 BP) in the eastern United States generally refers to pre-ceramic sites associated with nomadic hunter-gatherer populations that occupied the emerging Holocene deciduous forests. This was considered distinct from the Paleo-Indian period that was characterized by highly mobile hunters reliant on big game for their livelihood. Warmer and drier climatic conditions at the onset of the Holocene resulted in a more varied floral and faunal resource base, and resulted in cultural adaptations during the Archaic period. Settlement patterns were seasonally oriented, and groups were still semi-nomadic, with a subsistence base focused on hunting and gathering. Research over the last two decades has revealed that the transition between the Paleo-Indian and Early Archaic was not as great as previously thought. The transition to the Archaic appears to have been more gradual and characterized by exploitation of an increasingly broad range of local resources and decreasing mobility (Egloff and McAvoy 1990:63; Gardner 1988).

The Early Archaic sub-period (8,500-7,500 BP) is viewed as a continuation of the earlier Paleo-Indian lifeways, with an emphasis on the use of cryptocrystalline lithic materials for tool making (Knepper et al 2006:11). Lithic technology, however, shifted to a variety of corner-notched types, including Palmer and Kirk, as well as bifurcate-base types such as Lecroy during the transition to the Middle Archaic period (Custer 1990:6). This shift in projectile point form may indicate diversification within the system of production, as economies shifted from a concentration on hunting deer and other large game to more diverse faunal exploitative patterns focused on smaller game. By the end of this sub-period, less emphasis is placed upon high-quality cryptocrystalline stone, suggesting that the settlement system based on quarry-related base camps became less important.

Mid-Atlantic archeologists view the Middle Archaic sub-period (7,500-5,000 BP) as a time when hunting and gathering groups began to develop a subsistence strategy that incorporated a diverse array of seasonally available resources. This is indicated by the addition of specialized plant processing tools in Middle Archaic assemblages (Knepper et al 2006:12). A wider variety of projectile point styles is evidenced during this time; however, the use of cryptocrystalline stone for tool production was nearly abandoned. Diagnostic artifacts include Stanley, Morrow Mountain, Guilford, and Halifax point types (Custer 1990:6). Tool kits are seen as becoming increasingly diversified during this period. The focus of settlement is at seasonally occupied base camps located on the floodplains of major drainages where seed plants could be exploited. Hunting and limited-use sites are located in the uplands, along lower-order streams and near lithic sources, and adjacent to interior swamps and swampy floodplains of low order drainages.

The Late Archaic sub-period (5,000-3,000 BP) is characterized by cultures that made efficient use of their local environments, and as a result, there is an increased degree of regional distinction that is visible in the archeological record. During this time semi-sedentary settlement systems expanded, possibly as a result of greater aridity that tethered groups to critical resources, or an increase in population that resulted in territorial circumscription.
Increased use of riverine and estuarine resources is evident. The development of estuaries throughout the Coastal Plain from the continued rise in sea levels resulted in the increased distribution of crabs and oysters and extensive seasonal runs of anadromous fish. Steatite bowls are introduced into the technology inventory. The majority of projectile points representative of this time period consist of side-notched and stemmed varieties, which are typically manufactured from quartz.

The Late Archaic sub-period represents the culmination of what Caldwell (1958) termed primary forest efficiency. Caldwell stressed the variety and availability of food sources in the eastern forests, and stressed that prehistoric groups could move seasonally to maximize resource acquisition. Thus, in the eastern United States in general, Middle and Late Archaic groups are seen as mobile hunting and gathering peoples who exploited seasonal resources and scheduled their movements accordingly. In parts of the Middle Atlantic region, the Late Archaic period also is associated with large bivalve middens. Scattered campsites focused on major rivers appear to form a major element within the settlement pattern; short-term campsites in upland zones along small streams have also been documented.

Culturally-diagnostic artifacts for this period include the Savannah River and Susquehanna Broadspear projectile point types, which appear to be represented in different frequencies above and below the Fall Line separating the Piedmont and Coastal Plain. The presence of steatite bowls in assemblages is also a diagnostic artifact of this period.

3.2.3. Woodland Period

The Woodland period is divided into three sub-periods: Early Woodland (1,000-300 B.C.), Middle Woodland (300 B.C.-A.D. 900), and Late Woodland (A.D. 900-A.D. 1600). The Woodland period was defined originally in the 1930s by the appearance of ceramics, maize agriculture, and sedentary villages. At the time, it was believed that ceramics, food production, and sedentary village life were mutually inclusive. Research over the last few decades, however, has revealed that the transition between the Archaic and Woodland were not as great as previously thought. Witthoft (1953) defined a Transitional Period, particular to the northeastern and Middle Atlantic regions of the United States that linked the Archaic and the Woodland periods. Custer (1989; Custer and Wallace 1982) considers the Late Archaic through Middle Woodland as a related continuum.

The Early Woodland sub-period represents a continuation of trends begun during the Middle and Late Archaic periods towards increased exploitation of local resources and decreased mobility. The increased productivity of coastal and estuarine resources resulted from the stabilization of sea levels; marshes developed and estuarine areas rapidly became places on the landscape in which fish, waterfowl, and shellfish could be easily exploited. Floodplains are increasingly the focus of plant harvesting.

Early Woodland technology included two sets of diagnostics. The first is a series of projectile points, typified by fishtail and by contracting stemmed varieties. The second set of diagnostics is ceramics. Characteristic ceramics of the period include steatite-tempered Marcey Creek and Selden Island types, and sand-tempered Accokeek ceramics.

During the Middle Woodland sub-period (300 B.C.-A.D. 900), villages grew in size and became more permanent. Handsman and McNett (1974:26) have suggested that there was a greater reliance on horticulture resulting from an increasing population. Similarly, the recovery of exotic lithic raw materials from Middle Woodland contexts indicates the establishment and maintenance of long distance trade networks. Collectively, the increase population, increase in village size, and maintenance of trade routes suggests increased social complexity from the Early Woodland (Knepper
et al. 2006:13) Diagnostic artifacts include Popes Creek ceramics that are more frequent in the Coastal Plain, and Albermarle wares which are more common in the Piedmont, as well as shell-tempered Mockley wares.

Sedentism and subsistence based on food production were solidly established by the Late Woodland sub-period (A.D. 900-1600). Large, permanent villages were located on the floodplains of major rivers. By A.D. 1350, there is evidence of stockaded villages, suggesting extensive warfare throughout the Middle Atlantic region. Shell-tempered Townsend series ceramics are predominant in Late Woodland assemblages, while crushed-rock-tempered Potomac Creek wares are prevalent in the Inner Coastal Plain to the Fall Line zone. Either ceramic type could occur on Late Woodland sites in Alexandria. Triangular projectile points are typical of this period.

After contact with European settlers, the traditional lifeways were disrupted. European settlement rapidly led to the nearly complete elimination of Native American groups in the Middle Atlantic region. Settlement and subsistence of historic Native Americans at the time of contact were most likely a continuation of patterns observed in the Late Woodland period.

At the time of European arrival into the Chesapeake region, the coastal area of northern Virginia and Maryland was inhabited by the Algonquian speaking groups, most notably the Piscataway, or Conoy. Algonquian speaking groups occupied much of the land on both sides of the Potomac River up to the Fall Line. Jennings (1978) claims that Iroquoian speaking Susquehannocks were primarily located north and west of Prince George’s County, Maryland but proved significant during the early colonial period. However, as European settlements began encroaching into former Indian lands, many of these original inhabitants left the area or were ravaged by diseases for which they had no resistance.

3.3 Historic Background

Located just to the south of the fall line of the Potomac River, Alexandria developed somewhat later than the coastal regions further down river. Nonetheless, the area possesses a long history. Based on his map of the Chesapeake, John Smith visited at least as far inland as the villages of Tauxenent on the Occoquan River and Nacochtanke on the Anacostia River (Figure 3.1). In 1623, Nacochtanke Indians captured Henry Fleet and held him hostage for five years. Nacochtanke was a palisaded village and the center of a local chiefdom that controlled trade in the area (Potter 1993). During the seventeenth century, what would become Alexandria was lightly settled (Figure 3.2). Frequent uprisings between colonists and the Dogue Indians kept English settlement limited to fortified areas for much of the period. As the native tribes declined due to war and disease, European populations increased. By 1720, the majority of the land in the vicinity of Alexandria had been patented by settlers, the majority of which were speculators who never occupied the land (Adams 1994:66).

The first documented construction within present day Alexandria occurred in 1732, when a tobacco warehouse was constructed, followed by a ferry and tavern. Local farmers petitioned the colonial assembly for the creation of a town at the site of the warehouse to enable the export of their crops. Alexandria was chartered in 1749. The site of the town was well situated, with navigable Potomac access as well as overland access to King’s Highway, a major north-south route that was adapted from a major Indian Path.

Alexandria continued to develop rapidly during the eighteenth century and was a major port center by the end of the century. During the Revolutionary War, troop movements were conducted through Alexandria but it was well removed from any military engagements. The construction of Washington, D.C. in 1789 attracted even more settlement to the area and increased regional trade.
During the nineteenth century, Alexandria remained a port city based on shipping trade. At the same time, the rest of Fairfax County was focused on agriculture. Alexandria was not affected by the canal boom of the 1820s. The later introduction of the railroads increased freight traffic into Alexandria, beginning in the 1830s when the Richmond, Fredericksburg, and Potomac Railroad reached Aquia, to the south. It was not until the 1850s that the Orange and Alexandria Railroad was completed, offering direct freight access to Alexandria from Leesburg and points west.

Alexandria was occupied by Federal troops immediately after Virginia seceded from the Union in 1861, and was held for the duration of the war. The southern extent of the Defenses of Washington, a ring of 165 forts and earthworks surrounding Washington D. C. came through Alexandria, including Fort Ward, Fort Worth, Fort Reynolds, and Fort Ellsworth, among others (Figure 3.3). Although no battles during the Civil War were fought in the vicinity of Alexandria, there was a major hospital at the former Robert E. Lee estate in Arlington Heights, which was later turned into Arlington National Cemetery. Troop staging and transportation was a common occurrence within Alexandria, as troops were routed southward by foot or railroad.

Following the Civil War, Alexandria underwent significant socio-economic change. The end of slavery and the plantation economy made large landholdings generally unsustainable (Figure 3.4). Properties were broken up and sold or leased to tenant farmers and property values fell substantially. Alexandria had lost its prominence as a port town.

During the tail end of the nineteenth and early twentieth century, Alexandria began to develop industry, much of it tied into military construction. The torpedo factory and the Virginia Shipbuilding Corporation provided naval production leading up to World War I.

Following World War II, Alexandria was absorbed into the growing Washington D.C. suburban area. Rural areas disappeared, being consumed by residential development. The construction of the Washington Beltway and Interstate 395 in the 1950s and 1960s furthered the pace of development.

In 2008, the U.S. Army’s Base Relocation and Closing Commission (BRAC) chose the Mark Center as a consolidation area for military contractors based in several offices around the suburban Washington, D.C. area. The new government campus is scheduled to open in 2012.

3.3.1 Project Area

The rapid ascent of Alexandria was not really seen in the vicinity of the project area. The precursors to major roadways of Little River Turnpike and Seminary Road were in place by 1760 (Mitchell 1987). The fact that the project area falls within what has historically been a large tract of land decreases the likelihood of early development there (Figure 3.5). A large tract would preclude the clustering of activity that would be the focus of early settlements.

The land in the vicinity of the project area was first granted to William Henry Terrett in 1741 (Table 3.1). The initial land grant included 982 acres of property. This was later increased by an additional 127 acres. All of the property appears to be contiguous and situated to the east of Holmes Run (Mitchell 1987). The property remained in the hands of the Terrett family for 129 years, until the death of William Henry Terrett, great grandson of the original grantee, in 1870 (see Figure 3.4). Prior to this, in 1853, the entire tract was broken into 12 parcels, the majority of which were sold outside of the Terrett family. The portion that includes the project area was the tract that remained in the hands of the Terretts until 1870. The project area, known as the Fleming Tract, was purchased in 1947 by Catherine Winkler from direct descendants of the Terrett family.
Figure 3.1: Detail of 1608 Smith Map Showing the Approximate Vicinity of the Project Area
Figure 3.2:
Detail of 1673 Herrmann Map Showing the Approximate Location of the Project Area
Figure 3.3:
Detail of 1862 Corps of Topographical Engineers Map of Northeastern Virginia and the Vicinity of Washington

Approximate Project Area Location

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Phase I Archeological Survey – Winkler Botanical Preserve Stream Restoration
Section 3 – Environmental and Historical Background
Figure 3.4:
Detail of 1864 Nathaniel Michler
Map of Fairfax and Alexandria Counties, Virginia
Section 3 – Environmental and Historical Background

The Ottery Group

Figure 3.5:
Location of the Project Area on the 1885 USC&GS West Washington, D.C. Quadrangle
Figure 3.6:
Detail of 1894 G.M. Hopkins
Map of the Vicinity of Washington D.C.
Table 3.1: Transfer of Property for the Project Area

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1741</td>
<td>William Henry Terrett</td>
<td>original land grant of 982 acres</td>
</tr>
<tr>
<td>May 14, 1746</td>
<td>William Henry Terrett</td>
<td>addition to original tract</td>
</tr>
<tr>
<td>July 1746</td>
<td>William Henry Terrett</td>
<td>412 acres purchased from Gabriel Adams</td>
</tr>
<tr>
<td>February 7, 1755</td>
<td>William Henry Terrett (son)</td>
<td>received 1094 acres of property by will</td>
</tr>
<tr>
<td>June 1773</td>
<td>William Henry Terrett (son)</td>
<td>sold 412 acres (Gabriel Adams property) to Nathaniel Terrett</td>
</tr>
<tr>
<td>1826</td>
<td>George Hunter Terrett</td>
<td>received 1172 acres of property by will</td>
</tr>
<tr>
<td>1853</td>
<td>William Henry Terrett (great-grandson)</td>
<td>received 235 acres of property by will</td>
</tr>
<tr>
<td>1870</td>
<td>Mary Terrett Dixon</td>
<td>received 235 acres by will</td>
</tr>
<tr>
<td>1927</td>
<td>Mary Lee Fleming</td>
<td>received 235 acres by will minus water easement</td>
</tr>
<tr>
<td>1941</td>
<td>Thomas and William Fleming</td>
<td>received 235 acres by court case</td>
</tr>
<tr>
<td>1947</td>
<td>Catherine Winkler</td>
<td>Purchased property 62 acres</td>
</tr>
</tbody>
</table>

Originally purchased for residential development, the Winkler family maintained the rural nature of the majority of the tract. In 1979, the Winkler Botanical Preserve was established by the Winkler family as a non-profit organization dedicated to providing environmental education.

3.4 Previously Identified Archeological Sites

A review of the vicinity of the Winkler Botanical Preserve stream restoration project indicates that four previous archeological surveys have been conducted within the immediate vicinity of the project area. Two of the surveys encompassed the current project area. A 1979 survey conducted by the Alexandria regional preservation office of the Virginia Department of Historic Resources identified several sites in and around the Winkler Preserve including the two within the limits of disturbance for the stream restoration project. Site record forms are present for the sites but no archeological report was prepared. A survey of upland terraces surrounding the watershed of the project area was conducted between 1991 and 1994 (Adams 1994). Adams conducted a previous survey of portions of the Winkler Preserve immediately to the south of the project area. One survey was conducted in 2009 for portions of the Mark Center campus immediately to the north of the project area (CRI 2009). The 1979 survey resulted in the recording of 21 prehistoric lithic scatters and 2 historic period mill sites. The majority of these were identified solely through surface reconnaissance but some subsurface testing was conducted, including at site 44AX6 within the project area. The 1991 Adams survey examined one of the sites identified by the 1979 survey but only one prehistoric artifact was recovered. The 1994 survey identified two sites 44AX162, a 19th century tenant house, and 44AX163, a nondiagnostic lithic scatter. Both sites had additional Phase II testing conducted. A total of 11 isolated artifact finds were also reported. The 2009 survey identified one site, 44AX205, a seasonal campsite dating to the Terminal Archaic period (2500-1000 B.C.). Fifteen isolated finds were also reported.

A total of 46 archeological sites have been recorded within one mile of the project area (Table 3.1). All of the sites have been identified since 1961. Half of the sites were identified by the 1979 survey of undeveloped tracts. In total, 28 of the sites have prehistoric components, while 21 have historic components. Only three of the 28 sites with prehistoric components could be attributed to a specific time period, including 2 Late Archaic components (44AX166 and 44AX205) and 1 Woodland component (44AX177). A total of 26 of the 28 prehistoric sites are categorized as lithic scatters, with the others categorized as a quarry and a lithic workshop.

Of the historic period components, four are classified as unknown period, three date as early as the 18th century, 14 date to the 19th century, and 8 date to the 20th century. Some components extend across more than one century. The historic sites are categorized as cemetery (5), domestic (5), mill
(3), Civil War Military (3), unidentified artifact scatter (3), time capsule (1), and seminary (1). Only one site, 44AX155, the Fort Ward mess hall, barracks, and trash dump, has been evaluated for National Register eligibility. It is currently listed on the NRHP.

### Table 3.2 Previously Identified Archeological Resources.

<table>
<thead>
<tr>
<th>Site #</th>
<th>Site Type</th>
<th>Temporal Affiliation</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>44AX6</td>
<td>Lithic Scatter</td>
<td>Unknown Prehistoric</td>
<td>VDHR RPO 1979</td>
</tr>
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<td>44AX9</td>
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</tr>
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<td>Lithic Scatter</td>
<td>Unknown Prehistoric</td>
<td>VDHR RPO 1979</td>
</tr>
<tr>
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<td>VDHR RPO 1979</td>
</tr>
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<td>Lithic Scatter</td>
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</tr>
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<td>44AX16</td>
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</tr>
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<td>44AX20</td>
<td>Lithic Scatter</td>
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<td>VDHR RPO 1979</td>
</tr>
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<td>44AX21</td>
<td>Quarry</td>
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<td>VDHR RPO 1979</td>
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<td>44AX22</td>
<td>Lithic Workshop</td>
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<td>VDHR RPO 1979</td>
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<td>Lithic Scatter</td>
<td>Unknown Prehistoric</td>
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<td>Lithic Scatter</td>
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</tr>
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<td>44AX25</td>
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<td>19th Century</td>
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</tr>
<tr>
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<td>19th Century</td>
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<td>44AX36</td>
<td>Lithic Scatter; Historic Artif</td>
<td>Unknown Prehistoric;</td>
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<td></td>
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<td>Unknown Historic</td>
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<td>Mid 19th century</td>
<td>Larrabee 1961</td>
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<td>44AX121</td>
<td>Cemetery</td>
<td>Late 20th century</td>
<td>Alexandria Archeology 1982</td>
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<td>44AX124</td>
<td>Lithic Scatter</td>
<td>Unknown Prehistoric</td>
<td>Crowell 1988</td>
</tr>
<tr>
<td>44AX135</td>
<td>Cemetery</td>
<td>Unknown Historic</td>
<td>Alexandria Archeology 1989</td>
</tr>
<tr>
<td>44AX151</td>
<td>Cemetery</td>
<td>Late 19th-20th century</td>
<td>Alexandria Archeology 1990</td>
</tr>
<tr>
<td>44AX152</td>
<td>Domestic Site</td>
<td>Late 19th-20th century</td>
<td>Dent 1991</td>
</tr>
<tr>
<td>44AX153</td>
<td>Cemetery</td>
<td>Late 19th century</td>
<td>Alexandria Archeology 1990</td>
</tr>
<tr>
<td>44AX155</td>
<td>Civil War Fort; barracks; midden</td>
<td>Mid 19th century</td>
<td>Larrabee 1991</td>
</tr>
<tr>
<td>44AX162</td>
<td>Domestic Site</td>
<td>Late 18th-19th century</td>
<td>Adams 1994</td>
</tr>
<tr>
<td>44AX163</td>
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<td>Unknown Prehistoric</td>
<td>Adams 1994</td>
</tr>
<tr>
<td>44AX166</td>
<td>Lithic Scatter</td>
<td>Late Archaic</td>
<td>Adams 1992</td>
</tr>
<tr>
<td>44AX167</td>
<td>Domestic Site</td>
<td>19th century</td>
<td>Adams 1992</td>
</tr>
<tr>
<td>44AX173</td>
<td>Seminary</td>
<td>19th century</td>
<td>Westover 1991</td>
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<tr>
<td>44AX174</td>
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<td>Unknown Prehistoric;</td>
<td>Archeology Society of Virginia 1993</td>
</tr>
<tr>
<td></td>
<td>Scatter</td>
<td>Late 19th-20th century</td>
<td></td>
</tr>
<tr>
<td>44AX176</td>
<td>Lithic Scatter</td>
<td>Unknown Prehistoric</td>
<td>Adams 1995</td>
</tr>
<tr>
<td>44AX177</td>
<td>Lithic Scatter; Historic Artif</td>
<td>Woodland; Early 19th</td>
<td>Adams 1995</td>
</tr>
<tr>
<td></td>
<td>Scatter</td>
<td>century</td>
<td></td>
</tr>
<tr>
<td>44AX184</td>
<td>Time Capsule</td>
<td>20th century</td>
<td>n.a.</td>
</tr>
<tr>
<td>44AX198</td>
<td>Domestic Site</td>
<td>18th-19th century</td>
<td>Balicki 2006</td>
</tr>
</tbody>
</table>
Two sites are present within the project area. Both were identified during the 1979 survey by the VDHR. Both are situated on terraces overlooking the unnamed tributary. The site form for site 44AX6 reports that four projectile points and one groundstone fragment were collected and that quartz and quartzite flakes were present but not collected. A bag of artifacts from the site that Fran Bromberg from the OHA brought to an onsite meeting contained points ranging from Early Archaic bifurcates to Late Woodland triangles, and a single sherd of a coarse sand/pebble tempered ceramic preliminarily identified as Early Woodland Accokeek. There is a discrepancy between the site form and mapped location. The stated dimensions on the site form indicate a size of 144 meters (472 feet) by 18 meters (59 feet). This does not match the map associated with the site form that shows the site dimensions closer to 330 feet by 40 feet.

Site 44AX16 is a much smaller site. It is recorded as 2.8 meter (9 feet) by 8 meters (25 feet). No artifacts were collected from the site, although the site form identifies the presence of quartz flakes, some possibly retouched.

3.5 Prehistoric Archeological Potential

Following broad predictive models for the area, it is generally accepted that prehistoric habitation sites in the Middle Atlantic region tend to be located on terraces or flat ridges located along permanent water sources. Additional, prehistoric activities focused on the extraction of floral, faunal, and lithic resources. The Winkler Botanical Preserve is situated in an area of moderately sloping uplands bisected by the headwaters of an unnamed tributary of Holmes Run. The floodplain terrace adjacent to the stream is rather narrow and is met by the upland slopes. The northern end of the project area is approximately 65 feet higher in elevation than the southern end, with a drop of slightly more than 3 feet per 100 linear feet.

All of the recorded archeological sites in the immediate vicinity of the project area are situated on knolls and terraces overlooking the stream. There have been no identified sites situated along the floodplain of the unnamed tributary.

Given the fact that the current project area falls within the areas surveyed in 1979 by the Alexandria Regional Preservation Office of the VDHR, it is unlikely that any large sites are present within the stream corridor. Given the lack of subsurface testing by much of that survey, it is likely that the boundaries of the previously identified sites could expand with additional systematic subsurface survey. It should be noted that the 1979 survey was conducted along areas that were later disturbed by the placement of a storm sewer in 1980. Since the installation of the storm sewer, the onetime dirt walking path has been widened and improved and some underground lighting has been run, any of which could have had an adverse impact on cultural resources.

3.6 Historic Archeological Potential

Historic period archeological sites are usually found in association with different landscape features than prehistoric sites. Typically, domestic and industrial sites are found within proximity of historic roadways or navigable rivers. While there are no navigable waterways present near the project area, there are roads. One major roadway, Seminary Road, would have passed through the Terrett family.
lands. It is reasonable to expect that the primary dwellings associated with the property would have accessed that road. The project area, while within the historic Terrett tract, is not situated to access Seminary Road.

A review of historic maps indicates relatively little historic development has occurred within the project area. For the majority of the historic period, the project area has fallen within a large tract of land belonging to the Terrett family. Property records indicate that the Terrett tract was farmed in the 19th century, and after the holdings were divided into 12 tracts in 1853, the number of farms likely increased.

Several historic maps show the location of the project area. However, none indicate the presence of any structures. The channel of the unnamed tributary is an unlikely place to find domestic structures relating to historic occupation. It is likely that any such structures would be situated on high terraces overlooking the creek and are far more likely to be situated with access to one of the main roadways such as Seminary Road. It is in these locations that the historic maps indicate structures.
4.0 Research Design and Methods

4.1 Research Design

The Ottery Group, Inc. conducted a Phase I archeological survey of the areas of proposed ground disturbance associated with the Winkler Botanical Preserve stream restoration. The project area consists of the stream channel for an unnamed tributary of Holmes Run and the adjacent stream terraces. Two previously identified sites situated on upland terraces overlooking the stream that will potentially be impacted by construction equipment were also examined.

The Phase I archeological survey concentrated in areas scheduled for ground disturbance according to project plans. The purpose of the archeological survey was to identify the presence or absence of historic and/or prehistoric cultural resources within areas of proposed ground disturbance associated with the planned interceptor relocation and to assess the potential significance of any identified resources based on the criteria for inclusion in the NRHP (36 CFR 60). In areas of known archeological sites, the goal of the survey was to determine the horizontal boundaries of the site.

This project included archival research and field investigations. Archival research was conducted in order to locate previously identified cultural resources in the surrounding area and to guide an assessment of the potential for locating undiscovered archeological sites within the project area. Field investigations consisted of a pedestrian survey of the project area in order to identify visible surface features, such as depressions or mounds indicative of subsurface archeological features. Systematic subsurface testing was then conducted in areas of ground disturbance, including shovel test pits (STPs) and 3-foot by 3-foot square test units (TU). Thomas W. Bodor, RPA, served as Principal Investigator for the project. Karl Franz conducted the background research, field investigation, artifact analysis, and authored this report.

4.2 Archival Research

Archival investigation focused primarily on cartographic analysis conducted using maps available from the Library of Congress, American Memory website (www.loc.gov) and on previous archeological investigations conducted on and adjacent to the Winkler Botanical Preserve. Research provided by Alexandria Archeology indicated the locations of previously identified archeological resources.

4.3 Field Methods

The fieldwork phase of the archeological survey was conducted during the period of June 6 through June 30, 2011. Fieldwork consisted of the excavation of judgmentally placed shovel test pits (STPs). Testing was conducted on level T1 stream terraces at approximately 30-foot intervals. Lower T0 terraces were not tested as they were within the active stream channel and did not contain soils old enough to contain intact archeological deposits. In the vicinity of site 44AX6, a systematic grid of STPs was excavated at 30-foot intervals. The grid encompassed the recorded boundaries of the site and extended to the stream. Systematic testing was also conducted at site 44AX16 in order to relocate the site.

Strata present on the site were broken down using standard geomorphological terminology. An Ao horizon is the modern organic topsoil layer typically found in wooded environments. The seasonal death and decay of organic matter tends to give the Ao horizon a darker color. An A horizon is the
topsoil layer. This soil horizon is the area that organic activity occurs. The roots of most small plants and most insect activity are present in this layer providing organic coloring, but to a lesser extent than is found in a Ao. A plowed agricultural level is identified as an Ap horizon. A B horizon is the undisturbed substrate. At the interface with the B horizon, cultural features can be clearly identified, as they contain materials or soils that would not otherwise be present at that depth.

Once an STP was completed observations regarding the surrounding vegetation, artifacts recovered, and stratigraphy were recorded. Measurements were recorded in metric units. Stratigraphy was recorded with notations concerning color, texture, and consistency. STPs were backfilled subsequent to excavation, screening, and recording.

The results of the STP survey were used to determine the need for additional excavation. This consisted of 3-foot by 3-foot square test units (TU). Two units were excavated where the proposed access routes intersect with site 44AX6. The test units were excavated in natural strata, to a depth at which no artifacts had been present for at least 10 centimeters. Soil from the test units was wet screened through 1/8 inch mesh woven wire screen.

The locations of all tests were plotted on a proposed site plan provided by the engineer. All maps, field notes, shovel test record forms, photographs, and other project-related information are on file with The Ottery Group in Olney, Maryland.

4.4 Laboratory Methods

The general methodology for the processing of archeological material recovered from Phase I survey includes the cleaning, stabilization and cataloging of the artifact assemblage and associated records. In general, stable artifacts, such as ceramic and glass, were mechanically cleaned with water and dried. More friable artifacts such as bone and shell, were mechanically cleaned with a dry brush, unless additional conservation is necessary. Heavily corroded metals were cleaned with a stiff brush to remove adhering soils and to expose diagnostic attributes. Artifact processing procedures conform to the City of Alexandria Archeological Standards (OHA 2007).

Artifacts were initially sorted into general categories based on material type and inventoried in a Microsoft Excel database based on relevant diagnostic attributes. Prehistoric artifacts were analyzed based on general morphology modeled after Andrefsky's (1998) typology. Debitage was categorized as either shatter, unintentional fractures resulting from lithic reduction, flakes and intentionally removed materials with morphological characteristics such as platforms and bulbs of percussion. Flakes were further sorted by their overall size, determined in 10-millimeter (mm) increments.

Historic artifacts were cataloged according to a functional analysis system modified from South’s original functional groups (South 1977). In most cases, the original Group categories have been simplified and smaller groups have been merged into larger groups. Historic artifacts were classified using the following group designations: Domestic, Architectural, Clothing, Personal, Faunal, Floral, Fuel, Weaponry, Transportation, Hardware, and Utilities. Further, the artifacts were classified according to material, type, decoration, function, portion, and color.

Following analysis, artifacts were bagged in perforated, 4-mil polypropylene bags labeled with provenience and project information and boxed in acid-free containers for long-term storage at an appropriate facility.
5.0 Results

A Phase I archeological survey was conducted on areas of proposed ground disturbance associated with the stream restoration project at the Winkler Botanical Preserve. This investigation included limited archival research and field survey. Fieldwork consisted of a visual inspection of the project area and the excavation of 120 STPs and two 3-foot by 3-foot square test units (Figure 5.1). Testing was conducted on T1 stream terraces immediately adjacent to the unnamed tributary of Holmes Run that flows through the Preserve. Upland settings at the mapped locations of two previously recorded sites, 44AX6 and 44AX16, were also tested. A visual reconnaissance was conducted along the stream course.

5.1 Field Investigation

Archeological survey was conducted along portions of the unnamed tributary of Holmes Run that crossed through the Winkler Botanical Preserve. Approximately 1,275 linear feet of creek fall within the proposed stream improvement area. An additional 460 linear feet of access route connects the stream to an existing gravel walking path that parallels the stream. The access consists of four pairs of access points, for ingress and egress. Areas of steep slopes were not tested. A total of 54 STPs were excavated at approximately 30-foot intervals throughout the stream improvement and access road areas.

Additional testing was conducted in the vicinity of previously recorded sites 44AX6 and 44AX16. Testing encompassed the previously mapped site boundaries and expanded outward as needed to delineate the spatial boundaries of the sites. A total of 57 STPs were excavated at site 44AX6 and 9 STPs were excavated at site 44AX16.

Two 3-foot by 3-foot test units were also excavated adjacent to the access roads where they intersected with site 44AX6.

5.1.1 Visual Inspection

A visual inspection of the project area identified heavy erosion within the active stream channel, particularly along the northern end of the stream restoration corridor. Excess water runoff has caused stream incision, carving the stream channel up to six feet lower than the stream bank. The erosion has removed the natural gravel and cobble stream bed and revealed a clay substrate. The incision lessens as the stream extends southward, and stream bed is present toward the southern end of the project area.

Other than erosion, there is little evidence of disturbances within the immediate vicinity of the stream channel. Disturbances are present along the graveled walking path that will provide access to the project area. A storm sewer runs along a path that parallels and intersects with the path and water lines run parallel to the path, with recessed spigot boxes at regular intervals. Likewise, lighting and landscaping immediately adjacent to the path have provided minor disturbances. A concrete culvert has also been added to a drainage flowing into the stream. To the south of the project area larger scale disturbances are present, including a man-made lake, artificial waterfall, lodge building, and paved cart paths.

The natural topography within the project area remains intact. The area is wooded with a variety of native hardwoods. The upland topography abuts the stream channel, leaving little in the way of
Phase I Archeological Survey – Winkler Botanical Preserve Stream Restoration

Section 5 – Results

Figure 5.1:
Location of Archeological Testing
floodplain. It does not appear that overbank deposits from flooding of the stream would have the capacity to create buried archeological deposits.

5.1.2 Shovel Test Pits

Shovel testing was conducted across the project area to determine if archeological deposits were present in areas that would be disturbed by the stream restoration project. A total of 120 STP were excavated; 54 within the stream corridor, 57 in the area extending from the mapped location of site 44AX6 southeast towards the stream, and 9 around the mapped location of site 44AX16. The STPs that were excavated along the stream corridor were placed judgmentally, with an approximate interval of 30 feet within a terrace string. Portions of the stream corridor contained excessive slopes. These areas were considered unlikely to contain unlikely to contain intact cultural deposits and were not tested.

A grid of STPs was excavated in association with the previously recorded sites. For the vicinity of 44AX6, the grid was set at 30-foot intervals. The grid was placed to cover an area larger than the mapped location for the site and was further expanded when cultural material was recovered. The site was not considered identified until it was surrounded by tests that did not contain artifacts.

The original dimensions of site 44AX16 were reported as 9 feet by 25 feet. The grid that was excavated surrounding the site was placed at a tighter interval than excavated elsewhere. Nine STPs were excavated on a grid that measured 30 feet north-south by 15 feet east-west in order that the site would not be missed by the interval.

A variety of soils were encountered within the shovel test survey of the main portion of the stream restoration project area. Tests ranged in overall depth from 29 to 70 centimeters in depth. The majority of the tests contained loose, extremely cobbly soils. Specific horizons in several tests contained no soil, and consisted entirely of streambed gravels. As the STPs along the stream corridor were placed within 10 feet of the stream bank in most cases, high variability in the soil profiles is to be expected. The typical profile, present in approximately half of the STPs, consisted of two strata: a 10YR 4/4 dark yellowish brown cobbly sandy loam above an equally cobbly 10YR 5/6 coarse sand. No artifacts were recovered from any of the STPs. The variation in soil color and thickness from test to test and the overall composition of the soils across the stream corridor suggests that the present stream channel is highly mobile, and that the stream meanders back and forth across the limited floodplain terrace. If this is the case, then it is likely that the soils adjacent to the stream channel are not sufficiently stable to show stratified archeological deposits. If, as suspected, the stream channel is volatile, then the soils of the stream banks could be entirely replaced over a span of hundreds, not thousands, or years.

Soils encountered in the upland portions of the test area were much more stable than those which appeared along the stream channel. Soils and overall depths were more consist across the landscape than was seen in the lower areas. Soils consisted of a shallow A, horizon above a variably gravelly 10YR 4/3 to 10YR 5/3 sand loam A horizon and a 10YR 5/6 cobbly sand loam substrate. Depths were variable but followed a general trend. The westernmost STPs, those that were farther uphill and tended to have the steepest slope, contained an A horizon that trended shallower than those that were closer to the stream, where the slope lessened. The eroded soils had an A horizon that was typically 20cm thick, while the same horizon averaged 30cm thick at the base of the slope. This was seen in the STPs that were excavated in the vicinity of both sites 44AX6 and 44AX16.

Cultural material was recovered from only one area within the project area: the vicinity of site 44AX6. A total of 57 STPs were excavated within the vicinity of 44AX6. Of these, eight contained
prehistoric artifacts. A total of 15 artifacts were recovered from the eight positive tests. One diagnostic artifact was found, the basal portion of a roughly shaped quartz tool, identified as a Bare Island point. The remaining 14 artifacts were debitage. This consisted of five pieces of shatter, one primary flake, two secondary flakes, and six thinning flakes. With the exception of one piece of quartzite shatter, all of the cultural material was made of quartz. The artifacts were most likely formed from local cobbles retrieved from the stream bed.

Although the density of artifacts recovered from the STPs was low, the majority of the positive tests were clustered together. Transect D ran parallel to the gravel path that formed the original site boundary. In a string of six STPs in that transect, five contained artifacts. A total of seven of the eight positive tests were identified within 30 feet of the gravel path. The only positive STP that fell outside of that range was 60 feet from the path. No positive STP was located less than 90 feet from the stream.

As the project plans showed a pair of access routes cutting through the expanded boundaries of site 44AX6, it was considered necessary to excavate a limited number of test units to determine the extent of archeological deposits and to get an idea of how much disturbance to the site would result from the use of the access roads. The test units were placed along the D transect, where the majority of the positive STPs were found, at the intersection with the access routes. At the request of the OHA, the test units were water screened. As this method uses 1/8 inch mesh rather than the ¼ inch mesh used for dry screening, micro-debitage, if present, should appear. The primary concern of the OHA was that small fragments of prehistoric ceramic could be present. One sherd of prehistoric ceramic that was preliminarily identified by the OHA as the Early Woodland Accokeek Ware had been recovered from the 1979 work on the site.

Test Unit 1 was situated at the edge of the upland terrace, adjacent to STP D6, which yielded one piece of quartz shatter. The unit contained three strata, which was interpreted as Aa, A, and B horizons. A total of 34 artifacts were recovered from TU 1. The Aa horizon was recorded as a 10YR 3/3 sand loam. A large amount of roots were present within the level. Cobbles were present but did not form a significant percentage of the soil. The Aa horizon extended to a depth of 5cm before transitioning into the A horizon. A total of 13 artifacts were recovered from the Aa horizon including 5 FCR, 1 primary flake, 4 secondary flakes, and 3 cores.

The A horizon of TU 1 was lighter in color and was more silty than the Aa horizon. This layer had a substantially greater cobbles content than the Aa horizon. A total of 18 artifacts were present, including 3 FCR, 8 secondary flakes, 1 thinning flake, and 6 pieces of shatter. The A horizon extended an additional 11cm before transitioning to the B horizon. No features were identified at the interface between the A and B horizons. A decrease in cobbles content was noticeable at the A/B interface.

The B horizon consisted of a 10YR 5/6 loamy silt. Although there was a decrease in cobbles at the beginning of the stratum, the number increased after the transition to the B horizon. Two 10cm levels were excavated into the B horizon. Three artifacts were recovered from the first level, including 2 secondary flakes and one chip. The presence of the artifacts in the B horizon is attributed to bioturbation from roots and not cultural disturbances. The unit was terminated after 20 centimeters of excavation into the B horizon.

Test Unit 2 was placed at the edge of a knoll immediately above the floodplain terrace of the unnamed tributary. Soils within TU 2 proved to be largely disturbed. Four strata were present within the unit: Aa, Fill 1, Fill 2, and B horizons. A total of 10 artifacts were recovered from TU 2. The Aa horizon was measured at 6cm thick, ending on a mottled soil layer. A total of three artifacts were recovered including one FCR, one secondary flake, and one chip. Clear, brown, and green
bottle glass fragments as well as plastic drinking straws were present within the layer. The modern debris was noted but not collected.

The mottled soils present within the Fill 1 stratum likely were soils that were displaced from earlier disturbances at the site, probably the construction of the storm sewer in 1980. The primary soil in the matrix was a 10YR 4/6 sand loam. The soils were extremely compact and friable. In addition to the two secondary flakes that were recovered, modern debris was also noted. Clear and brown bottle glass, PVC conduit, and asphalt were noted and discarded. The layer extended to a depth of 7cm before a soil change was reached.

The third stratum was also a fill episode, Fill 2, consisting of a compact 10YR 5/4 silt loam. Two artifacts were present within the layer: one secondary flake and one piece of shatter. A thin lens of dark loose soil at the base of the level marks the base of the fill layer at a depth of 35cm below surface. No modern debris was present within the level.

The fourth stratum was the B horizon. No features were observed at the start of the A/B interface. It is not known whether any B horizon was removed during the cut and filling of the soils above the unit. Two 10cm level were excavated into the stratum. A total of 3 artifacts were recovered from the first of the 10cm levels, 1 FCR and 2 primary flakes. A with TU 1, the presence of the artifacts in the upper portion of the B horizon is not considered to be archeologically significant.

5.1.4 Surface Finds

One quartz scraper was recovered from the ground surface on the east side of the stream (see Figure 5.1). The artifact was recovered from an area that was too steep to have been an occupation site. An STP that was excavated at the location of the find (STP X45) contained eroded soils with no A horizon present. An area of stream wash was present extending up the hill to the east. The area along the wash was examined for additional artifacts but none were identified. It is believed that the scraper may have washed out of soils on the Mark Center property. The 2009 survey of that property (Ferland 2009) shows that one site was identified, although site 44AX205 appears to be situated too far north to have washed down to the location where it was found. The same survey also reported one prehistoric isolated find. It is possible that the artifact eroded from the same landform that this was noted, although there is no certainty. The artifact is considered to be an isolated find and is not considered to be culturally significant.

5.1.5 Artifact Discussion

A total of 60 artifacts were recovered from the Winkler Botanical Preserve stream restoration project area (Table 5.1). Of these, 59 came from site 44AX6 and one was an isolated find, and cannot be attributed to any particular site. Three material types are present within the artifact assemblage: quartz, quartzite, and rhyolite. The quartz artifacts comprise 61.6% of the assemblage, including the two tools that were recovered. Quartzite comprises 36.6% of the assemblage. There is one rhyolite artifact present, comprising 1.6% of the assemblage.

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The low density of artifacts makes an attribution of site function difficult. The presence of debitage suggests that there is some tool preparation activity occurring, but the densities suggest that there was very little going on, particularly when the multiple projectile points from the 1979 survey are added to the assemblage. With the five projectile points reported on the site form added to the Bare Island point recovered from the current survey, there are nearly as many projectile points present as thinning flakes, and more than twice as many as primary flakes. The low proportion of flakes to tools indicates that the site function is unlikely to have been the collection of material from the stream for tool manufacture. This did occur, but it appears to have been an expedient occurrence rather than a pattern of use.

It is interesting that the artifact assemblage from the STP results leads to a different interpretation of site function than the STP results added to the test units. When the STPs only are interpreted, thinning flakes form the largest category, with six of 15 artifacts. This would lead to the belief that the end stage of tool manufacture was taking place. However, only one of 44 artifacts recovered from the test units was a thinning flake, lowering the category from 40% to 11.6% of the total assemblage.
6.0 Summary and Recommendations

This report presents the results of a Phase I archeological survey of the Winkler Botanical Preserve stream restoration project in Alexandria, Virginia. Ground disturbance associated with the project includes clearing brush and minor stream course modifications intended to improve flow and drainage through the creek system. Stream terraces throughout the project area were tested at 30-foot intervals through a combination of judgmental and systematic STP testing. Testing was also conducted at two previously identified sites, 44AX6 and 44AX16.

6.1 Summary

During the course of this investigation, a total of 120 STPs and two test units were excavated. Testing in the stream corridor was limited to T1 terraces, stable landforms outside of the active channel of the unnamed tributary of Holmes Run. STPs were excavated judgmentally across the corridor, on both sides of the stream. No cultural material was encountered in any of the tests in the stream corridor portion of the project area. One quartz scraper was found on the ground surface but it was determined that it was washed into the project area from the neighboring Mark Center property. Testing of the two previously recorded sites was conducted on upland terraces overlooking the stream corridor. Systematic grids were set at 30-foot intervals in areas covering the mapped dimensions of the sites. One site, 44AX16 could not be relocated. It is presumed that installation of a storm sewer, electric and water lines, and landscaping have destroyed the site. It is possible, though unlikely that the site Artifacts relating to site 44AX6 were recovered from immediately east of the mapped site location, expanding the site boundaries (Figure 6.1). Two test units were excavated at site 44AX6.

Site 44AX6 appears to be a seasonal use camp that has seen repeated use for several thousand years. Projectile points recovered from the site by the 1979 survey include an Early Archaic bifurcate point (8500-7500 B.P) and a Woodland period triangle point (900-1600 A.D.). The one projectile point recovered during the current survey was a Holmes point dating to the Terminal Archaic period (4500-2500 B.P.). The limited quantity of artifacts indicates that the site function was not tool production, although some flaking did occur. A portion of the site has been destroyed by the same negative impacts that likely destroyed site 44AX16. This was evident in TU 2, situated 30 feet east of the storm sewer and improved walking path, where the natural soils had been stripped to the B horizon and graded.

6.2 Recommendations

The purpose of this Phase I archeological investigation was to determine the presence or absence of archeological deposits in areas of ground disturbance for the Winkler Botanical Preserve stream restoration project. No cultural materials were recovered from the stream corridor portion of the project area and there is no reason to suspect that there are archeological sites present there. Site 44AX16 has likely been destroyed by previous improvements at the Winkler Preserve. No evidence of the site was identified during the current survey.

Site 44AX6 extended across a larger area than its originally mapped dimension indicated. Although the site is present, questions remain regarding its integrity. An unknown percentage of the site has been impacted by improvements to the Winkler Preserve. Efforts should be made to preserve the portion of the site that remains intact. If tree removal is scheduled to occur for the southernmost two access routes, the trees should be cut at ground level using chainsaws. Heavy machinery should not be used for the purposes of stump removal, which would further damage the site. No additional
The Ottery Group

archeological testing is recommended for the Winkler Botanical Preserve stream restoration project area.
Figure 6.1:
Revisions to Site Boundaries
7.0 References Cited

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Witthoft, J.
APPENDIX A:
Artifact Catalog
## Artifact Catalog

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Photographs of the Project Area
Appendix B:
Photographs of the Project Area
Modern Disturbance, Stream Culvert (N)

Modern Disturbance, Improved Walking Path (S)

Appendix B:
Photographs of the Project Area
Appendix B: Photographs of the Project Area
Appendix B:
Photographs of the Project Area
Appendix B:
Photographs of the Project Area
APPENDIX C:
Revised Site Form
44AX6
DEPARTMENT OF HISTORIC RESOURCES
ARCHAEOLOGICAL REPORT

DHR ID#: 44AX0006

DHR Site Number: 44AX0006  Other DHR Number:
Resource Name:  
Temporary Designation:  
Site Class: Terrestrial, open air

CULTURAL/temporAL AFFILIATION

Cultural Designation Native American
Temporal Designation Prehistoric/Archaic

THEMATIC CONtexts/SITE FUNCTIONS

Thematic Context: Domestic  Example: Camp, temporary
Comments/Remarks: Lithic scatter

LOCATION INFORMATION

USGS Quadrangle(s): ALEXANDRIA
Restrict UTM Data? No

Center UTM Coordinates (for less than 10 acres): NAD 18/4300011/0315861

NAD ZONE EAST NORTH
18 4300011 0315861

Physiographic Province: Piedmont
Aspect: Facing southeast
Elevation (in feet): 166.00
Slope: 2.6%
Landform: terrace, first

Drainage: Potomac/Shenandoah River
Nearest Water Source: unnamed tributary of Holmes Run
Distance to Water (in feet): 90
Site Soils: Sassafras-Marumsco complex (91D)
Adjacent Soils: Lunt-Marumsco complex (74B)
SITE CONDITION/SURVEY DESCRIPTION

Site Dimensions: 300 feet by 90 feet  Acreage: 0.61

Survey Strategy: 1979-1980- Surface Testing some undocumented subsurface testing conducted prior to construction of storm sewer in 1980. 2011- Phase I survey, 57 STPs at 30ft intervals to reestablish site limits. Also 2 3x3 ft test units dug within impact area.

Site Condition: 26-50% of Site Destroyed

Threats to Resource: Erosion, Public Utility Expansion

Survey Description:
1979-1980- No subsurface testing done. Dirt road cuts through length of site, exposing subsurface portions of site; open areas eroding from rain run-off. Materials present include numerous quartz and quartzite flakes, quartz biface.

2011- Phase I survey for stream restoration project. Site 44AX0006 fell within the project access road location. 30m STP grid excavated in vicinity of site to reestablish boundaries. 57 STP dug. Low density of lithic material recovered immediately east of mapped location. One diagnostic found, quartz Bare Island point base section. 2 3x3 ft test units excavated.

CURRENT LAND USE

Land Use: Park  Example: Education

Dates of Use: 1979-2011

Comments/Remarks: Since 1979 the property that encompasses 44AX0006 has been the Winkler Botanical Preserve. The Preserve is a park and environmental education center.

SPECIMENS, FIELDNOTES, DEPOSITORIES

Specimens Obtained? Yes  Specimens Depository: The Ottery Group 3420 Morningwood Dr Olney, MD 20832

Assemblage Description:
59 quartz and quartzite artifacts from site. 15 artifacts from STP survey and 44 artifacts from 2 3x3 ft test units.

STPs- 1 Bare Island point, 1 primary flake, 2 secondary flakes, 6 thinning flakes, 5 shatter
Units- 3 primary flakes, 18 secondary flakes, 1 thinning flake, 7 shatter, 2 chips, 3 cores, 10 FCR

Specimens Reported? Yes

Assemblage Description--Reported:
1979-1980- 4 quartz projectile points, 1 ground stone collected from surface. Quartz biface and flakes not collected. Collection at Alexandria Archeology contains additional points as well as one Accokeek sherd. Points include a Early-Middle Archaic bifurcate and a Late Woodland triangle as well as Archaic stemmed and Early Woodland Orient Fishtail points.
Field Notes Reported? Yes  Depository: Alexandria Archeology

REPORTS, DEPOSITORY AND REFERENCES

Report (s)? Yes  Depository: VDHR
DHR Library Reference Number: 
Reference for reports and publications:
Alexandria RPO Quarterly Report- Dec., '79; Middle/Late Archaic occupation -tool manufacturing function + 1980 report

Franz, Karl and Thomas Bodor

PHOTOGRAPHIC DOCUMENTATION AND DEPOSITORY

Photographic Documentation? Yes  Depository: The Ottery Group
Type of Photos  Digital Site Photos  Photo Date  2011/07/29

CULTURAL RESOURCE MANAGEMENT EVENTS

Cultural Resource Management Event: Survey: Phase I/Reconnaissance  Date: 1979/04/26
Organization and Person:
Organization: First: Alexandria Arch.-Terry Klein
Sponsor Organization: 
DHR Project Review File No: 
CRM Event Notes or Comments: 

Cultural Resource Management Event: Other  Date: 1997/03/20
Organization and Person:
Organization: First: WMCAR
Sponsor Organization: 
DHR Project Review File No: 
CRM Event Notes or Comments: Woodland removed as temporal- no diagnostics listed

Organization and Person:
Organization: First: The Ottery Group
Sponsor Organization: 
DHR Project Review File No: 
CRM Event Notes or Comments: Site area established by 30ft STP grid. Site boundaries expanded on E-W axis.
## INDIVIDUAL/ORGANIZATION/AGENCY INFORMATION

**Individual Category Codes:**

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Notes:

**Ownership Type:** Private

**Government Agency:**
APPENDIX D:
Public Summary
THE PRESERVE

The Winkler Botanical Preserve is a 44½ acre park and environmental education center in western Alexandria. The preserve contains walking trails winding through a wooded landscape. A central feature of the landscape is the stream that runs through the northern half of the park, ending at a manmade pond in the center of the Preserve.

The Preserve property is a fragment of the 982-acre William Henry Terrett land grant issued in 1741. The property remained in the hands of direct descendants of William Henry Terrett until 1947, when it was acquired by the Winklers.

For the past 40 years, urban development has been encroaching on the property surrounding the Winkler Botanical Preserve. Increased paving of the stream watershed has meant that rainwater cannot absorb into the ground as it naturally would. Instead, the water drains to the lowest point, which is the stream running through the Preserve. The recent construction of the Mark Center campus immediately north of the preserve has made this problem worse. Now, when it rains, a large flow of water enters the stream. The fast-moving waters have begun to scour out the stream bed, cutting channels into the hard clay below it, creating a miniature canyon.

This damage can be slowed by a process called stream restoration, which involves taking steps to lower the velocity of water as it flows downstream, like adding stone and plants to stabilize stream banks or pools or ladders to remove the energy from stream flow.

THE PROJECT

In 1979, archeologists from the Regional Preservation Office in Alexandria were searching the terraces along Holmes Run and its tributaries for archeological sites. One of the streams that they looked along was the one that flows through the Preserve. The archeologists identified eight sites within the Preserve. Most of these were small hunting campsites but one site was larger than the rest, and four projectile points were found.

Today, in order to revitalize the stream that crosses the Winkler Botanical Preserve, heavy machinery requires access to the stream banks. Plans for the project would have included the use of the heavy equipment to bring in stone and other equipment, in areas that cross two of the sites that were recorded in 1979 (44AX6 and 44AX16). One of these was the larger site that yielded 4 projectile points that cover a long span of time (5500 to 1100 years ago). Because, this has a chance to damage the sites, the Office of Historic Alexandria requested that an
The Ottery Group

archaeological survey take place. This survey was conducted by archeologists from The Ottery Group in June, 2011.

THE METHODS

The survey involved the excavation of Shovel Test Pits (STPs), holes about 1 foot across that are excavated to the natural subsoil, usually 1 ½ to 2 feet deep. The soil from the STPs is screened so that any artifacts that are present can be recovered. There were two goals of the survey.

- The first was to determine whether there were any archeological sites present along the edge of the stream. The stream restoration project would involve digging into the banks, which would destroy any sites in these areas. The STP survey would allow archeologists to know if there was anything significant there before it was too late. The STPs were dug at roughly 30 foot intervals along areas that were level enough to have been used as an archeological site. A total of 54 STPs were dug in this part of the survey.

- The second goal of the survey was to reestablish the boundaries of the two known sites that fell within the project area. A grid of STPs was dug to determine where the site was, and to attempt to determine the site function. The grid consisted of STPs excavated at 30 foot intervals around the mapped location of each site, expanding outwards in 30 foot increments until the edges were located. A total of 57 STPs were placed around site 44AX6 and 9 STPs were placed around the much smaller 44AX16.

THE FINDINGS

The only artifact that was found along the stream came from the ground surface on the side of a steep hill. A quartz scraper, a tool used to remove bark from sticks or meat from hides, had washed down the hill during a rainstorm. The artifact probably came from a hill on the neighboring Mark Center property. Tools like this don’t change over time and can’t be used to determine the age of a site. This is called a non-diagnostic tool.

No artifacts were found in the area around site 44AX16. The site was really small when originally recorded; only 10 x 25 feet and it was located entirely on the surface of a hiking trail. A lot of disturbance has occurred along that trail since the site was identified. A storm sewer was built across the trail in 1980. Later, the trail was improved, widened, and graveled. Landscaping was done on either side of the path. Any one or a combination of these could have destroyed the site. Or maybe it still remains intact beneath the walking trail. What the testing was able to determine was that the site did not extend beyond the boundaries that were originally set for the site.

The only place that anything was found was at site 44AX6. Artifacts were found in eight STPs out of the 57 that were dug. Seven of those were found within 30 feet of the existing walking path. Only one artifact was found outside of that range. The 15 artifacts that were found included remnants from the making of stone tools, and the base end of a chunky, thick bladed knife/spear known as a Bare Island point. That tool allows archeologists
to date activity at the site to the tail end of the Late Archaic period (4500 B.C. to 1500 years ago). Two 3 x 3 foot test units were dug based on the locations of artifacts recovered during the STP phase of the project. These units found a total of 44 additional artifacts, none of which could be pinned to a particular date range. The artifacts are the leftover fragments from stone tool making and stones that were broken from use in campfires.

WHAT IT ALL TELLS US

The 2011 excavations at site 44AX6 did not yield a large amount of artifacts, only 59 in total. That was enough to tell us some basic things about the site, though. Of the 59 artifacts, all but one are likely local material pulled directly out of the stream bed 60 feet away from the site. The size and thickness of the flakes of stone from the site tell us that the stone pulled from the creek wasn’t being used to mass produce stone tools, nor was it a site where the main focus was on making tools out of stone brought from somewhere else. The low number of artifacts suggests that the site was used temporarily and that it was not occupied for large portions of the year. The Bare Island point provides a point in time to anchor the site to, but the other datable artifacts from the 1979 survey show that the site was used over a long period of time.

Sites with a short period of use over a long duration where tool making is not a focus of activity are usually regarded to be seasonal hunting camps. In the period predating the discovery of agriculture, Native American groups are generally thought to have traveled in extended family groups, following game migrations in a particular region. These seasonal migrations would lead the groups back to the same areas at certain stages of the year, where fish or deer were concentrated, or particular wild plants or herbs were in bloom. The main body of the group would stay in an area known as a base camp, while small bands would radiate out to collect resources or to hunt game for the entire group. It is likely that site 44AX6 was one of the sites that the small hunting bands would visit, bringing their kills back to the main group. The tool debris present at the site can be explained as the use of local stream cobbles to make tools for immediate use, such as skinning knives.