Loudoun Water Tanks, Rouse Property

Loudoun County, Virginia

WSSI #22309.03

Phase I Archeological Investigation

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Prepared for:
Urban, Ltd.
4200D Technology Court
Chantilly, Virginia 20151

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ABSTRACT

A Phase I archeological investigation was conducted of the ± 5 acre Loudoun Water Tanks site on the Rouse property, located south of the intersection of Red Hill Road (Rt. 617) and Stone School Lane in Loudoun County, Virginia. The work was carried out in October of 2013 by Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc., of Gainesville, Virginia, for Urban, Ltd. of Chantilly, Virginia. No archeological resources were recorded within the project area.

TABLE OF CONTENTS

LIST OF EXHIBITS

LIST OF PLATES

LIST OF TABLES

INTRODUCTION

This report presents the results of a Phase I cultural resource investigation of the ± 5 acre Loudoun Water Tanks, Rouse property, located south of the intersection of Red Hill Road (Route 617) and Stone School Lane in Loudoun County, Virginia (Exhibit 1). Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc., of Gainesville, Virginia, conducted the study described in this report for Urban, Ltd. of Chantilly, Virginia. The fieldwork was carried out in October of 2013.

Boyd Sipe, M.A., RPA served as Principal Investigator on this project. The fieldwork was conducted by Associate Archeologist Jeremy Smith, MSc, RPA, with the assistance Edward Johnson, Andrés E. Garzón-Oechsle, Daniel Osborne, Susan Grealy, and Benjamin Pollack. Tammy Bryant, M.A., RPA served as Laboratory Supervisor, and Beth Waters Johnson, M.A. conducted the artifact analysis.

Fieldwork and report contents conformed to the guidelines set forth by the Virginia Department of Historic Resources (DHR) for a Phase I identification level survey as outlined in their 2011 *Guidelines for Conducting Historic Resources Survey in Virginia* (DHR 2011) as well as the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*.

The purpose of the survey was to locate any cultural resources within the impact area and to provide a preliminary assessment of their potential significance in terms of eligibility for inclusion on the National Register of Historic Places. If a particular resource was felt to possess the potential to contribute to the knowledge of local, regional, or national prehistory or history, then Phase II work would be recommended.

All artifacts, research data, and field data resulting from this project are currently on repository at the Thunderbird offices in Gainesville, Virginia.

ENVIRONMENTAL SETTING

Loudoun County encompasses portions of the Piedmont Triassic Lowland and the Inner Piedmont Plateau sub-provinces and a portion of the Blue Ridge Province (Fenneman 1938; Bailey 1999). The Piedmont Physiographic Province is underlain by igneous and metamorphic rocks of various origins that were folded during the Paleozoic as the North American and African plates converged. Later, in the Mesozoic, rifting occurred as Pangea broke apart and the Atlantic Ocean formed. The Piedmont ranges from 200 feet above mean sea level (a.m.s.l.) at the Fall Line to circa 1000 feet a.m.s.l. in the western portion at the Blue Ridge. Because of the intensive weathering of the underlying rocks in the Piedmont's humid climate, bedrock is generally buried under a thick, 6 to 60 foot blanket of saprolite.

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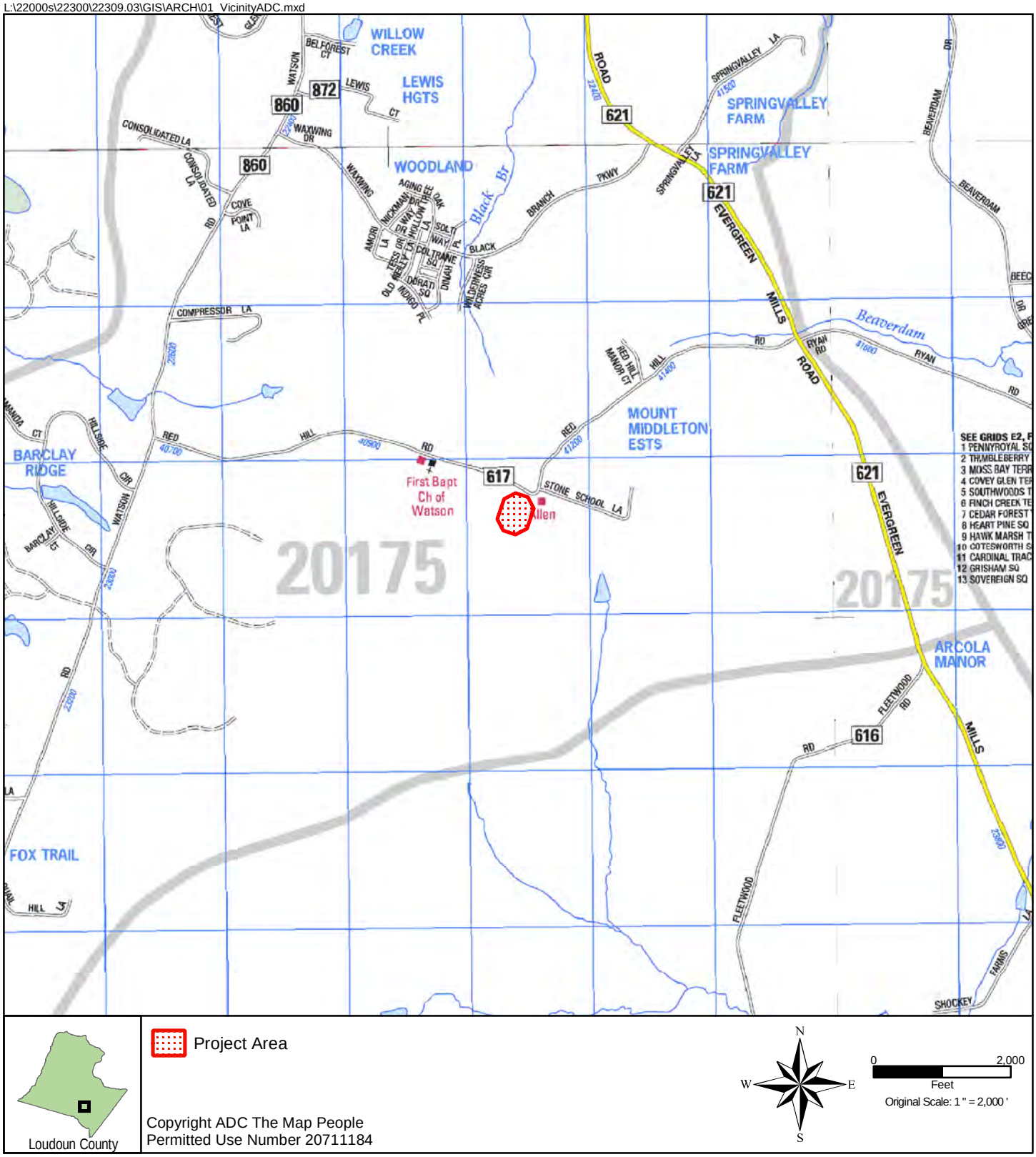

Exhibit 1
Vicinity Map

The Piedmont Province has been sub-divided into three sub-provinces: the Outer Piedmont Plateau, the Triassic Lowlands, and the Inner Piedmont Plateau. The project area lies in the Triassic Basin, or Triassic Lowlands. These are long, narrow rift valleys, or basins, formed during the Triassic period. These valleys, underlain by Mesozoic sedimentary and igneous rocks, have filled with sandstones and basalts.

The project area is situated at and around the crest of an upland knob landform, with elevations ranging from 420 to 438 feet a.m.s.l. (Exhibit 2). Drainage is to the west and southwest into an unnamed tributary of Broad Run, which is located approximately 2000 feet south of the property.

The project area is located within an agricultural field (Exhibit 3), and vegetation at the time of the field survey consisted of harvested corn stubble. The vicinity has been used as active agricultural land for at least the majority of the 20th century based on historic aerial photographs (Exhibit 4), and likely for considerably longer due to the presence of an 18th century farm complex (053-0735) a short distance to the southeast.

PALEOENVIRONMENTAL BACKGROUND

The basic environmental history of the area has been provided by Carbone (1976; see also Gardner 1985, 1987; Johnson 1986). The following will present highlights from this history, focusing on those aspects pertinent to the project area.

At the time of the arrival of humans into the region, about 11,000 years ago, the area was beginning to recover rapidly from the effects of the last Wisconsin glacial maximum of circa 18,000 years ago. Vegetation was in transition from northern dominated species and included a mixture of conifers and hardwoods. The primary trend was toward a reduction in the openness which was characteristic of the parkland of 14-12,000 years ago. Animals were undergoing a rapid increase in numbers as deer, elk and possibly moose expanded into the niches and habitats made available as the result of wholesale extinctions of the various kinds of fauna that had occupied the area during the previous millennia. The current cycle of ponding and stream drowning began 18-16,000 years ago at the beginning of the final retreat of the last Wisconsin glaciation (Gardner 1985); sea level rise has been steady since then.

These trends continued to accelerate over the subsequent millennia of the Holocene. One important highlight was the appearance of marked seasonality circa 7000 BC. This was accompanied by the spread of deciduous forests dominated by oaks and hickories. The modern forest characteristic of the area, the mixed oak-hickory-pine climax forest, prevailed after 3000-2500 BC. Continued forest closure led to the reduction and greater territorial dispersal of the larger mammalian forms such as deer. Sea level continued to

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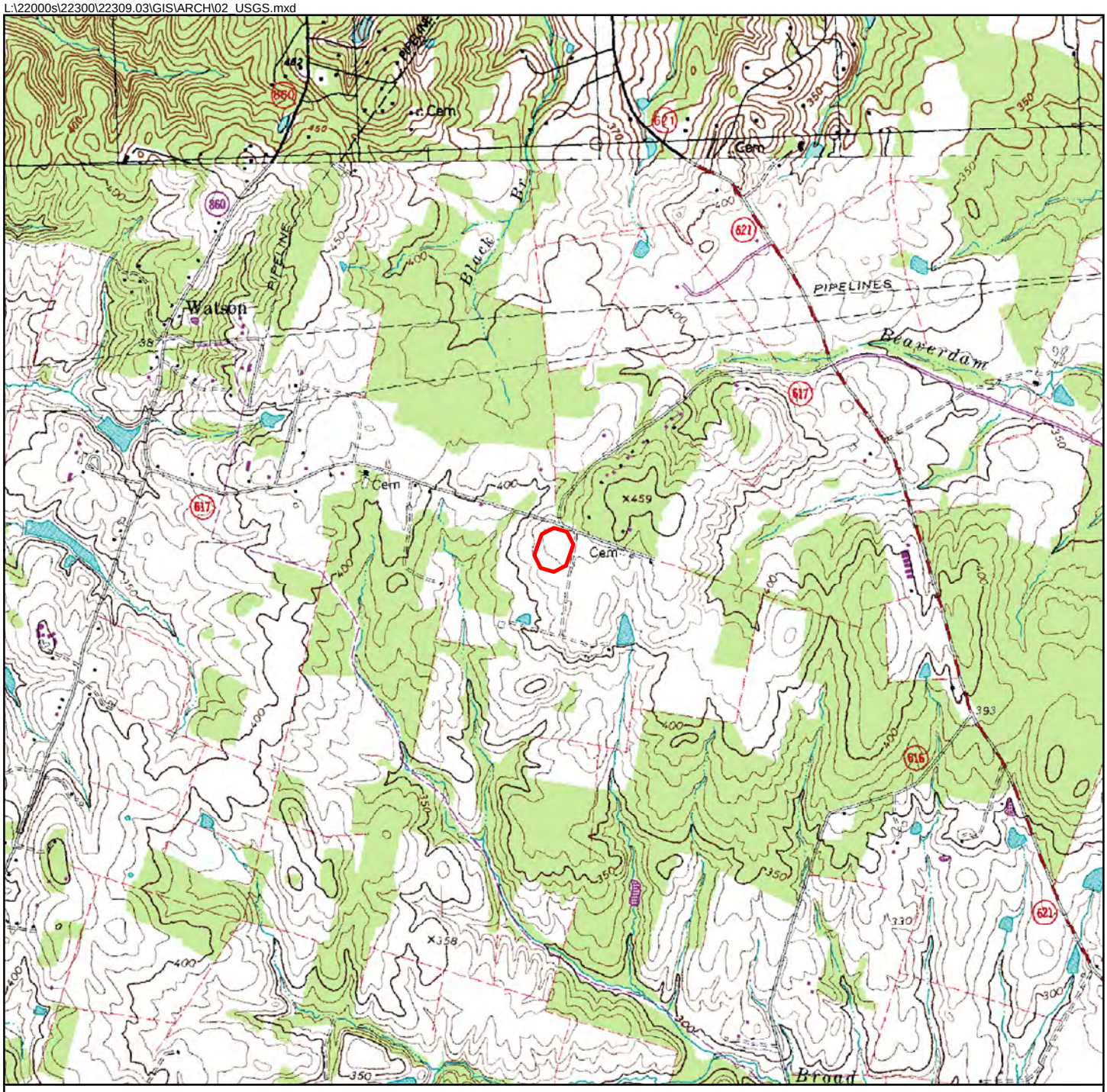

Project Area

Latitude: 38°59'07" N
Longitude: 77°34'38" W

N
W
E
S

0 2,000
Feet
Original Scale: 1 " = 2,000 '

Exhibit 2
USGS Quad Map
Arcola, VA 1981

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Exhibit 3
February 2012 Natural Color Imagery

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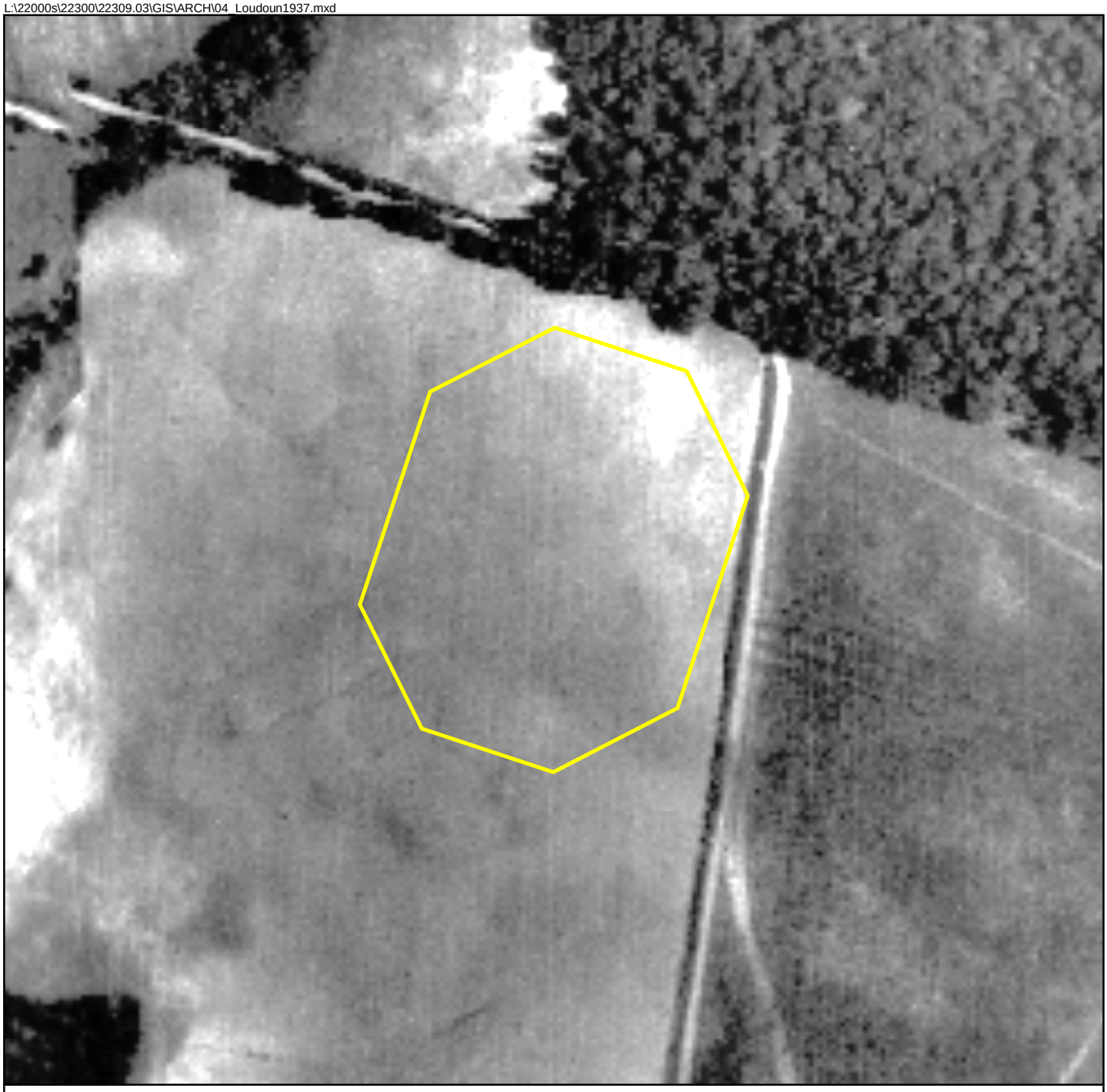

Photo Source: Loudoun County GIS & Mapping Dept.

Exhibit 4
Spring 1937 Black and White Imagery

rise, resulting in the inundation of interior streams. This was quite rapid until circa 3000-2500 BC, at which time the rise slowed, continuing at a rate estimated to be 10 inches per century (Darmody and Foss 1978). This rate of rise continues to the present. Based on the archeology (c.f. Gardner and Rappleye 1979), it would appear that the mid-Atlantic migratory bird flyway was established circa 6500 BC. Oysters had migrated to at least the Northern Neck by 1200 BC (Potter 1982) and to their maximum upriver limits along the Potomac near Popes Creek, Maryland, by circa 750 BC (Gardner and McNett 1971), with anadromous fish arriving in the Inner Coastal Plain in considerable numbers circa 1800 BC (Gardner 1982).

During the historic period, circa AD 1700, cultural landscape alteration becomes a new environmental factor (Walker and Gardner 1989). Around this time, Euro-American settlement extended into the Piedmont/Coastal Plain interface. With these settlers came land clearing and deforestation for cultivation, as well as the harvesting of wood for use in a number of different products. At this time the stream tributaries to the Potomac were broad expanses of open waters from their mouths well up their valleys to, at, or near their "falls" where they leave the Piedmont and enter the Coastal Plain. These streams were conducive to the establishment of ports and harbors, elements necessary to commerce and contact with the outside world and the seats of colonial power. Most of these early ports were eventually abandoned or reduced in importance, for the erosional cycle set up by the land clearing resulted in tons of silt being washed into the streams, ultimately impeding navigation.

The historic vegetation would have consisted of a mixed oak-hickory-pine forest. Associated with this forest were deer and smaller mammals and turkey. The nearby open water environments would have provided habitats for waterfowl year round as well as seasonally for migratory species.

CULTURAL HISTORICAL BACKGROUND

Prehistoric Overview

A number of summaries of the archeology of the general area have been written (c.f. Gardner 1987; Johnson 1986; Walker 1981); a brief overview will be presented here. Gardner, Walker and Johnson present essentially the same picture; the major differences lie in the terminology utilized for the prehistoric time periods.

Paleoindian Period (9500-8000 BC)

The Late Pleistocene/Early Holocene of the Late Glacial period was characterized by cooler and drier conditions with less marked seasonal variation than is evident today. The cooler conditions resulted in decreased evaporation and, in areas where drainage was topographically or edaphically poor, could have resulted in the development of wetlands in the Triassic Lowlands (Walker 1981; Johnson 1986:1-8). The overall cast of the vegetation was one of open forests with mixed coniferous and deciduous elements. The

character of local floral communities would have depended on drainage, soils, and elevation, among other factors. The structure of the open environment would have been favorable for deer and, to a lesser degree, elk, which would have expanded rapidly into the environmental niches left available by the extinction and extirpation of the herd animals and megafauna characteristic of the Late Pleistocene. As the evidence suggests now, the last of these creatures, e.g. mastodons, would have been gone from the area circa 11,000-11,500 years ago, or just before humans first entered what is now Virginia.

Diagnostic artifacts of the earliest groups include Clovis spearpoints (Early Paleoindian), Mid-Paleo points, and Dalton points (Late Paleoindian). Although hard evidence is lacking, the subsistence settlement base of these groups appears to have focused on general foraging with an emphasis on hunting (Gardner 1989 and various). A strong component of the settlement and exploitative system was the preference for a restricted range of microcrystalline lithics, e.g. jasper and chert, a formal tool kit, and the curation of this tool kit. Sporadic Paleoindian finds are reported on the Potomac, but, overall, these spearpoints are uncommon in the local area (c.f. Gardner 1985; Brown 1979). Fluted points have been found as isolated finds in the county, though the others have not (Johnson 1986).

Early Archaic Period (8500-6500 BC)

The warming trend, which began during the terminal Late Pleistocene, continued during the Early Archaic. Precipitation increased and seasonality became more marked, at least by 7000 BC. The open woodlands of the previous era gave way to increased closure, thereby reducing the edge habitats and decreasing the range and numbers of edge adapted species such as deer. The arboreal vegetation was initially dominated by conifers, but soon gave way to a deciduous domination.

Archeologically, temporally diagnostic artifacts shift from the lanceolate spearpoints of the Paleoindians to notched forms (Johnson 1986:2-4). Diagnostic projectile points include Palmer Corner Notched, Amos Corner Notched, Kirk Corner Notched, Kirk Side Notched, Warren Side Notched and Kirk Stemmed. Although the populations still exhibited a preference for the cryptocrystalline raw materials, they began to utilize more locally available materials such as quartz (Walker 1981:32; Johnson 1986:2-1). The tool kit remained essentially the same as the Paleoindian, but with the addition of such implements as axes.

At the beginning of the Early Archaic the settlement pattern was similar to that of the Paleoindians. Changes in settlement become evident from 7,500 B.C. on, accelerating after 7200 BC. Among the major shifts were a movement away from a reliance on a restricted range of lithics and a shift toward expedience, as opposed to curation, in tool manufacture. Johnson feels that this shift is particularly marked during the change from Palmer/Kirk Corner Notched to Kirk Side Notched/Stemmed (Johnson 1983; 1986:2-6). The changes are believed to be the result of an increase in deciduous trees and the

subsequent closure of the forested areas. These changes are reflected in the fact that sites show up in a number of areas not previously exploited. A population increase also seems to be a factor in the increased number of sites.

Middle Archaic (6500-3000/2500 BC)

The Middle Archaic period, which corresponds to the Atlantic environmental episode, exhibited an acceleration of the warming trend (Walker 1981). Two major sub-episodes were present: an earlier, moister period that lasted until approximately 4500 BC and a later, warmer and drier period, the mid-Holocene Xerothermic, which ended at approximately 3000 BC. A gradual reduction in rainfall and increased evaporation characterized the period, which was marked by an increase in deciduous vegetation, a more marked seasonality of plant resources, a decrease in the deer population (because of the disappearance of edge habitats), and an increase in the numbers of other game animals such as turkey. Importantly for the local area, more of a mosaic of forests and grasslands might have been present because of edaphic factors. The dominance of deciduous species offered a high seasonal mast (acorns, nuts) that provided a nutritious and storable food base (Walker 1981).

Diagnostic projectile points include Lecroy, Stanly, Morrow Mountain, Guilford, Halifax and other bifurcate/notched base, contracting stem and side notched variants. The tool kit is definitively more expedient (Walker 1981) and includes grinding and milling stones, chipped and ground stone axes, drills and other wood working tools.

With the increasing diversity in natural resources came a subsistence pattern of seasonal harvests. Base camps were located in high biomass habitats or areas with the greatest variety of food resources nearby (Walker 1981). These base camp locations varied according to the season; however, they were generally located on rivers, fluvial swamps, or interior upland swamps. The size and duration of the base camps appear to have depended on the size, abundance, and diversity of the immediately local and nearby resource zones. In contrast to the earlier preference for cryptocrystalline materials, Middle Archaic populations used a wide variety of lithic raw materials, and propinquity became the most important factor in lithic raw material utilization (Walker 1981 and Johnson 1986). Settlement, however, continued to be controlled, in part, by the distribution of usable lithics.

Early Archaic components show a slight increase in numbers, but it is during the Middle Archaic (Morrow Mountain and later) that prehistoric human presence becomes relatively widespread (Gardner various; Johnson 1986; Weiss-Bromberg 1987). Whereas the earlier groups appear to be more oriented toward hunting and restricted to a limited range of landscapes, Middle Archaic populations move in and out and across the various habitats on a seasonal basis. The Triassic Lowlands, with their numerous upland swamps, would have offered numerous attractive settlement loci (Walker 1981).

Diagnostic artifacts from upland surveys along and near the Potomac show a significant jump during the terminal Middle Archaic (e.g. Halifax) and beginning Late Archaic (Savannah River). Johnson notes a major increase in the number of sites during the bifurcate phase and the later phases such as Halifax (Johnson 1986:2-14).

Late Archaic (2500-1000 BC)

During this time period, the climatic changes associated with the Sub-Boreal episode continued, although the climate began to ameliorate. At this time, a major adaptive element was found in the resources offered by the rivers and estuaries.

Diagnostic artifacts include broadspear variants such as Savannah River and descendant forms such as the notched broadspears, Perkiomen and Susquehanna, Dry Brook and Orient, and more narrow bladed, stemmed forms such as Holmes. Gardner (1987) separates the Late Archaic into two phases: Late Archaic I (2500-1800 BC) and Late Archaic II (1800-1000 BC). The Late Archaic I corresponds to the spread and proliferation of Savannah River populations, while the Late Archaic II is defined by Holmes and Susquehanna points. The distribution of these two, Gardner (1982; 1987) suggests, shows the development of stylistic or territorial zones. The Susquehanna style was restricted to the Potomac above the Fall Line and through the Shenandoah Valley, while the Holmes and kindred points were restricted to the Tidewater and south of the Potomac through the Piedmont. Another aspect of the differences between the two groups is in their raw material preferences: Susquehanna and descendant forms such as Dry Brook and, less so, Orient Fishtail, tended to be made from rhyolite, while Holmes spearpoints were generally made of quartzite.

A new item in the inventory was the stone bowl manufactured of steatite, or soapstone. These were carved from material occurring in a narrow belt extending from Pennsylvania south to Alabama and situated, for the most part, along the edge of the Piedmont and Inner Coastal Plain provinces.

An increasingly sedentary lifestyle evolved, with a reduction in seasonal settlement shifts (Walker 1981; Johnson 1986:5-1). Food processing and food storage technologies were becoming more efficient, and trade networks began to be established.

The most intense utilization of the region begins circa 1800 BC with the advent of the Transitional Period and the Savannah River Broadspear derivatives, which include the Holmes and other related points. In models presented by Gardner, this is linked with the arrival of large numbers of anadromous fish. These sites tend to be concentrated along the shorelines near accessible fishing areas. The adjacent interior and upland zones become rather extensively utilized as adjuncts to these fishing base camps. The pattern of using seasonal camps continues. Although hunting camps and other more specialized sites may occur in the Triassic Lowlands, the larger base camps are expected to be found along rivers or in estuarine settings (Walker 1981). Use of the interfluvial Piedmont diminished during the Late Archaic. Sites from this period are less frequent and more

widely scattered. It was at this point that the stylistic differentiation becomes apparent between the areas above the Fall Zone and those below, as discussed earlier: rhyolite usage and Susquehanna Broadspear forms occur above the Fall Zone while Holmes and its derivatives, including Fishtail variations, occur below the Fall Zone.

Early Woodland (1000-500 BC)

At this time during the Sub-Atlantic episode, more stable, milder and moister conditions prevailed, although short term climatic perturbations were present. This was the point at which the climate evolved to its present conditions (Walker 1981).

The major artifact hallmark of the Early Woodland is the appearance of pottery (Dent 1995; Gardner and McNett 1971). The Early Woodland period may be separated into three phases: Early Woodland I, II, and III. The earliest dates for pottery are 1200 BC in the Northern Neck (Waselkov 1982) and 950 BC at the Monocacy site in the Potomac Piedmont (Gardner and McNett 1971). This pottery is tempered with steatite, and the vessel shape copied that of the soapstone bowl, suggesting a local source for this innovation. This steatite tempered pottery is characteristic of the Early Woodland I period and is widely distributed throughout the Middle Atlantic (Dent 1995; Gardner and Walker 1993). Diagnostic points included smaller side notched and stemmed variants such as Vernon and Calvert. Early Woodland II pottery is characterized by steatite or other heavily tempered ceramics with conoidal bases that were made by the annular ring technique. This ware is referred to as Selden Island Cordmarked. The wide-spread adoption of this pottery type by groups throughout the Middle Atlantic was perhaps due to the fact that sand and grit was such a versatile temper, for groups once far removed from the steatite sources quickly adopted this new medium (Goode 2002:3,26). Again, small stemmed or notched points are diagnostic artifacts. Sand tempered pottery (Accokeek) is the Early Woodland III descendant of these steatite tempered wares. Rossville/Piscataway points are the diagnostic spearpoints.

It is important to note that pottery underscores the sedentary nature of these local resident populations. This is not to imply that they did not utilize the inner-riverine or inner-estuarine areas, but rather that this seems to have been done on a seasonal basis by people moving out from established bases. The settlement pattern is essentially a continuation of Late Archaic lifeways with an increasing orientation toward seed harvesting in floodplain locations (Walker 1981). Small group base camps would have been located along Fall Line streams during the spring and early summer in order to take advantage of the anadromous fish runs. Satellite sites such as hunting camps or exploitive foray camps would have operated out of these base camps.

Middle Woodland (500 BC-AD 1000)

Diagnostic artifacts from this time period include various grit/crushed rock tempered pottery types including Albemarle and Popes Creek (common in the Coastal Plain) that appeared around 500 BC A local variant of the net marked pottery is Culpeper ware,

found in the Triassic Basin. Net marking is characteristic of the Middle Woodland I period; however, it is supplanted by fabric impression and cord marking during the Middle Woodland II (Gardner and Walker 1993:4). Cord marked surfaces also occur on Culpeper ware, a sandstone tempered ceramic occasionally found in the Piedmont (Larry Moore, personal communication 1993). The associated projectile points are unclear, but do include small notched and/or stemmed forms. In general, the period from AD 200 to circa AD 900 sees little population in the Potomac Piedmont.

Late Woodland (A.D. 1000 to Contact/depopulation)

In the early part of the Late Woodland, the diagnostic ceramics in the Northern Virginia Piedmont region are crushed rock tempered ceramics for which a variety of names, such as Albemarle, Shepherd, etc., are used. The surfaces of the ceramics are primarily cord marked. Later in the Late Woodland, decoration appears around the mouths of the vessels and collars are added to the rims. In the Potomac Piedmont, circa AD 1350-1400, the crushed rock wares are replaced by a limestone tempered and shell tempered ware that spread out of the Shenandoah Valley to at least the mouth of the Monocacy. Triangular projectile points indicating the use of the bow and arrow are diagnostic as well.

Horticulture was the primary factor affecting Late Woodland settlement choice and the focus was on easily tilled floodplain zones where the larger hamlets and villages were found. This was characteristic of the Piedmont as well as the Coastal Plain to the east and the Shenandoah Valley to the west (Gardner 1982; Kavanaugh 1983). The uplands and other areas were also utilized, for it was here that wild resources would have been gathered. Smaller, non-ceramic sites are found away from the major rivers (Hantman and Klein 1992; Stevens 1989).

Most of the functional categories of sites away from major drainages are small base camps, transient, limited purpose camps, and quarries. Site frequency and size vary according to a number of factors, e.g. proximity to major rivers or streams, distribution of readily available surface water, and the presence of lithic raw material (Gardner 1987). Villages, hamlets, or any of the other more permanent categories of sites are rare to absent in the Piedmont inter-riverine uplands. The pattern of seasonally shifting use of the landscape begins circa 7000 BC, when seasonal variation in resources first becomes marked. By 1800 BC, runs of anadromous fish occur and the Indians spent longer periods of time along the Potomac, although not necessarily in the Piedmont where the fish runs could not get above Great Falls (Gardner 1982, 1987). It is possible some horticulture or intensive use of local resources appears sometime after 1000 BC, for at this time the seasonal movement pattern is reduced somewhat (Gardner 1982). However, even at this time and during the post-AD 900 agriculture era, hunting, fishing, and gathering in the upland and inter-riverine areas remained a necessity.

Perhaps after AD 1400, with the effects of the Little Ice Age, the resulting increased emphasis on hunting and gathering and either a decreased emphasis on horticulture or the need for additional arable land required a larger territory per group, and population pressures resulted in a greater occupation of the Outer Piedmont and Fall Line regions (Gardner 1991; Fiedel 1999; Miller and Walker n.d.). The 15th and 16th centuries were a time of population movement and disruption from the Ridge and Valley to the Piedmont and Coastal Plain. There appear to have been shifting socio-economic alliances over competition for resources and places in the exchange networks. A severe drought may have occurred in the 16th century. More centralized forms of social organization may have developed at this time, and small chiefdoms appeared along major rivers at the Fall Line and in the Inner Coastal Plain at this time. A Fall Line location was especially advantageous for controlling access to critical seasonal resources as well as being points of topographic constriction that facilitated controlling trade arteries (Potter 1993; Jirikowic 1999; Miller and Walker n.d.).

Historic Overview

Early English explorations to the American continent began in 1584 when Sir Walter Raleigh obtained a license from Queen Elizabeth of England to search for "remote heathen lands" in the New World, but all of his efforts to establish a colony failed. In 1606, King James I of England granted to Sir Thomas Gates and others, of The Virginia Company of London, the right to establish two colonies or plantations in the Chesapeake Bay region of North America in order to search "... For all manner of mines of gold, silver, and copper" (Hening 1823, Volume I:57-75).

In the spring of 1607 three English ships--the *Susan Constant*, the *Godspeed*, and the *Discovery* -- under the commands of Captains Newport, Gosnole, and John Smith, anchored at Cape Henry in the lower Chesapeake Bay. After receiving a hostile reception from native inhabitants, exploring parties were sent out to sail north of Cape Henry. Following explorations in the lower Chesapeake, an island 60 miles up the James River was selected for settlement (Kelso 1995:6,7), and the colonists began building a palisaded fort, which came to be called Jamestown. In 1608, Captain Smith surveyed and mapped the Potomac River, locating the various native villages on both sides of the Potomac River. Captain Smith's *Map of Virginia* supplies the first recorded names of the numerous native villages along both sides of the Potomac River. The extensive village network along the Potomac was described as the "trading place of the natives" (Gutheim 1986:22,23,28). After 1620, Native American trade with the English settlers on the lower Coastal Plain became increasingly intense. Either in response to the increased trade or to earlier intra-Native American hostilities, confederations of former disparate aboriginal groups were formed.

Reaffirmed by an "Ancient Charter" dated May 23, 1609, King James outlined the boundaries of the charter of The Virginia Company:

> ...in that part of America called Virginia, from the point of land, called Cape or Point Comfort, all along the sea coast, to the northward two hundred miles, and from the said point of Cape Comfort, all along the sea coast to the southward two hundred miles, and all that space and circuit of land, lying from the sea coast of the precinct aforesaid, up into the land, throughout from sea to sea, west and northwest; and also all the islands, lying within one hundred miles, along the coast of both seas... (Hening 1823, Volume II:88).

In 1611, John Rolfe (who later married Pocahontas in 1614) began experimenting with the planting of "sweet scented" tobacco at his Bermuda Hundred plantation, located at the confluence of the James and Appomattox Rivers. Rolfe's experiments with tobacco altered the economic future of the Virginia colony by establishing tobacco as the primary crop of the colony; this situation lasted until the Revolutionary War (O'Dell 1983:1; Lutz 1954:27). Tobacco was used as a stable medium of exchange, and promissory notes, used as money, were issued for the quantity and quality of tobacco received (Bradshaw 1955:80,81). Landed Virginia estates, bound to the tobacco economy, became independent, self-sufficient plantations, and few towns of any size were established in Virginia prior to the industrialization in the south following the Civil War.

A number of early English entrepreneurs were trading along the Potomac River in the early 1600s for provisions and furs. By 1621, the numbers of fur trappers had increased to the point that their fur trade activities required regulation. Henry Fleet, among the better known of the early Potomac River traders, was trading in 1625 along the Potomac River as far north as the Falls of the Potomac. He traded with English colonies in New England, settlements in the West Indies; and English merchants across the Atlantic in London (Gutheim 1986:28,29,35,39).

The first Virginia Assembly, convened by Sir (Governor) George Yeardley at James City in June of 1619, increased the number of corporations or boroughs in the colony from seven to eleven. In 1623, the first laws were made by the Virginia Assembly establishing the Church of England in the colony. These regulated the colonial settlements in relationship to Church rule, established land rights, provided some directions on tobacco and corn planting, and included other miscellaneous items such as the provision "…That every dwelling house shall be pallizaded in for defence against the Indians" (Hening 1823, Volume I:119-129).

In 1617, four parishes--James City, Charles City, Henrico and Kikotan--were established in the Virginia colony. By 1630, the colony had expanded, necessitating the creation of new shires, or counties, to compensate for the courts, which had become inadequate (Hiden 1980:3,6). In 1634, that part of Virginia located south of the Rappahannock River

was divided into eight shires called James City, Henrico, Charles City, Elizabeth Citty [sic], Warwick River, Warrosquyoake, Charles River, and Accawmack, all to be "…governed as the shires in England" (Hening 1823, Volume I:224). Ten years later, in 1645, Northumberland County was established on the north side of the Rappahannock River "…for the reduceing of the inhabitants of Chickcouan [district] and other parts of the neck of land between Rappahanock River and Potomack River," thus enabling European settlement north of the Rappahannock River and in Northern Virginia (Hening 1823, Volume I:352-353). In 1634, when the Virginia colony was divided by the Virginia House of Burgess into eight shires, there were approximately 4,914 men, women, and children in the colony (Greene 1932:136).

Prior to 1692, most lands in the Virginia Colony were granted by the Governor of the colony and were issued as Virginia Land Grants. In 1618, a provision of 100 acres of land had been made for "Ancient Planters," or those adventurers and planters who had established themselves as permanent settlers prior to 1618. Thereafter, Virginia Land Grants were issued by the "headright" system by which "any person who paid his own way to Virginia should be assigned 50 acres of land...and if he transported at his own cost one or more persons he should...be awarded 50 acres of land" for each (Nugent 1983:XXIV).

King Charles I was beheaded in January 1648/9 during the mid-17th century Civil Wars in England. His son, Prince Charles II, was crowned King of England by seven loyal supporters, including two Culpeper brothers, during his exile near France in September 1649. For their support, King Charles granted his loyal followers "The Northern Neck," or all that land lying between the Rappahannock and Potomac Rivers in the Virginia colony. King Charles II was subsequently restored to the English throne in 1660.

In 1677, Thomas, Second Lord Culpeper became successor to Governor Berkley in Virginia, and by 1681, he had purchased the six Northern Neck interests of the other proprietors. The Northern Neck grant (due to expire in 1690) was reaffirmed by England in perpetuity to Lord Culpeper in 1688. Lord Culpeper died in 1689, and four-fifths of the Northern Neck interest passed in 1690 to his daughter, Katherine Culpeper, who married Thomas, the fifth Lord Fairfax. The Northern Neck became vested and was affirmed to Thomas, Lord Fairfax, in 1692 (Kilmer and Sweig 1975:5-9). In 1702, Lord Fairfax appointed an agent, Robert Carter of Lancaster County, Virginia, to rent the Northern Neck lands for nominal quit rents, usually two shillings sterling per acre (Hening 1820, Volume IV:514-523; Kilmer and Sweig 1975:1-2,7,9).

The extent and boundaries of the Northern Neck were not established until two separate surveys of the Northern Neck were conducted. These were begun in 1736, and a final agreement was reached between 1745 and 1747 (Kilmer and Sweig 1975:13-14).

The oldest known land grants in Loudoun County, dating from the early 1700s, were located in the eastern part of the county on the Potomac River, then the northern part of Stafford County. These were granted to Captain Daniel McCarty and John Pope in 1709. Daniel McCarty's land grant was located on both sides of the mouth of Sugarland Run in the northeastern corner of Loudoun County and was adjoined on the west side by John Pope's land grant located along the south side of the Potomac River waterfront (MacIntyre 1978:21). The southeastern part of Loudoun County consists of a small part of a 41,660 acre tract of land patented in 1724 by the Northern Neck proprietor, Robert "King" Carter of Lancaster County, for his sons and grandsons. Other early patents in eastern Loudoun County were to Hugh Thomlinson (1724), Major John Fitzhugh (1726), and in 1729 to Robert Carter, Jr., Frances and Elizabeth Barnes, and Abraham Barnes (MacIntyre 1978:21; Northern Neck Land Grants A:71-72).

Large parcels of the Northern Neck Land Grants in the eastern portion of Loudoun County were originally obtained by tidewater plantation owners for their growing families of sons. Initially, these tracts were seated by slaves and overseers to establish tobacco plantations that were later settled by the owners' sons and/or descendants. The western part of Loudoun County was initially settled during the second quarter of the 18th century by Germans, Irish, and English Quakers from the northern states. The settlers in this part of the county held smaller tracts of land than those in the eastern portion and had few or no slaves. Approximately 2,200 people lived within what was to become Loudoun County by 1749; the ethnic groups represented included descendants of the English, German and Scotch-Irish settlers and more than 600 slaves (History Matters 2004:11). The slaves included Creoles, those slaves who were born in the British colonies including Virginia and those who were born in Africa, with western Africa being the most common point of origin (ibid.).

Following several county divisions, Loudoun County was created by an Act of the Virginia Assembly from Cameron Parish in the western part of Fairfax County on May 2, 1757 (Hening 1819, Volume VII:148-149). A survey of the dividing line between the two counties in 1757 began at the head of Difficult Run on the Potomac River and ran southwest to the head of Rocky Run on Bull Run. Parent counties of Loudoun County, derived from the Indian District of "Chickcoun" (Chicacoan) in 1645, were Northumberland County (1645-1651), Lancaster County (1651-1653), Westmoreland County (1653-1664) (Hening 1823, Volume I:352-353,381), Stafford County (1664-1732) (Hening 1823, Volume II:239), Prince William County (1732-1742) (Hening 1820, Volume IV:803), and Fairfax County (1742-1757) (Hening 1819, Volume V:207-208). Loudoun County was named for John Campbell, 4th Earl of Loudoun, commander of British Forces in North America during the French and Indian Wars and Governor General of Virginia from 1756-1759 (Head 1908:109-110; Church and Reese 1965:23).

Leesburg, the Loudoun County seat, was established by an Act of the Virginia Assembly in September 1758 on 60 acres of land belonging to Nicholas Minor that adjoined the courthouse lot. In addition to Nicholas Minor, the property owner and an officer of the Loudoun County militia, Philip Ludwell Lee, Thomas Mason, Francis Lightfoot Lee, James Hamilton, Josiah Clapham, Aeneas Campbell, John Hugh, Francis Hague, and William West, "gentlemen," were appointed trustees for the town of Leesburg (Hening 1819, Volume VII:235-236).

Although the early economic base of the county was tobacco, by the 1770s, a shift from tobacco crops to the cultivation of wheat and the development of flour mills had begun. Factors contributing to this shift to a diversified agricultural base included the exhaustion of tobacco fields and increased English duties on tobacco at a time of drought and crop failures in Virginia. Coincidentally, there was increasing demand for American wheat in England as Britain began entering the industrial age. By the third quarter of the 18th century "…caravans of flour wagons...were already the life of tidewater trade" (Harrison 1987:401-405).

During the Revolutionary War, the majority of the Loudoun County residents were loyal to the Virginia colony. Committees were formed in the county to elect representatives to attend the general meetings in Williamsburg, for the militia draft, and for seeing that the needy families of their soldiers were provided for (Head 1908:127-137). Seven resolutions were passed when the committee met at the courthouse in Leesburg on June 14th "…to consider the most effectual method to preserve the rights and liberties of N. America, and relieve our brethren of Boston." In the seventh resolution passed, Thomas Mason and Francis Peyton were appointed to represent the county at a meeting to be held on August 1, 1774, at Williamsburg, Virginia, to discuss the resolves (Evans 1877/78: 231-236).

British subjects who held land and property in the Virginia colony were deemed to be enemy aliens and their lands and personal property in Virginia, including slaves, were ordered by the Virginia Legislature to be seized as Commonwealth property in 1777 (Hening 1822, Volume X:66-71). Heirs to the Fairfax family holding the Northern Neck were considered enemy aliens and subject to losing their land. "American citizens," in possession of leased Northern Neck lands at the time the Fairfax lands escheated, obtained fee simple titles to the property by obtaining a certificate from the Governor of the Commonwealth, completing a Northern Neck Survey of the leased lands and paying a small fee.

Shipments of "State Arms" from Philadelphia for the militia of Loudoun County and the militia of the Northern Neck were kept in storage at Noland's Ferry, on the Potomac River in Loudoun County, by a Mr. Summers, "…an officer Stationed there to receive & Store them..." The Northern Neck militia was composed of men drafted from the counties of Loudoun, Fauquier, and Culpeper (Palmer 1881:223,257,308). In July of 1781, a report listing state arms being shipped for the Virginia militia names the following stands of armament:

> ...in a return of the State Arms coming on from Philadelphia, 275 muskets and 104 bayonets are lodged at Fredericksburg, and 841 Muskets and 465 Bayonets at Fauquier Court House. This would make more than the number allowed by 116 -- At Noland's there are 920 muskets and 486 bayonets... (Palmer 1881:258).

Head (1908:131) states that 1,746 men from Loudoun County were drafted into the Loudoun County militia in 1780 and 1781, contradicting the polls for Loudoun County in 1783 that enumerated 947 white males in the county over the age of 16 (Greene 1932:153), a portion of whom were Friends, or Quakers, who did not bear arms. The 1783 census also records that Loudoun County was the second largest slave holding county in the Commonwealth of Virginia, enumerating a total of 8,704 "blacks," most of whom were slaves, making the county second only to Amelia County, which had a population of 8,747 African Americans. The 1790 census shows a total of 14,739 "free white males and females," 4,030 slaves, and 183 "other free persons" (Greene 1932:152,153,155).

In 1787, the United States Constitution was ratified, a significant event for all of the colonists as well as enslaved African Americans (History Matters 2004:11). Under this constitution, Congress could end the importation of slaves after, but not before, a 20 year period. On January 1, 1808, Congress ended the importation of slaves (ibid.).

The Constitution also implemented the "three-fifths" clause which basically determined the method of allotting representatives to the U.S. House of Representatives (History Matters 2003:11). The method used was to count all free persons and three-fifths of the slaves; this prevented the domination of states with large slave populations and fewer free persons by states with large free populations and relatively few numbers of slaves (ibid.). The Constitution also prevented Congress from establishing a head tax on slaves, thereby providing a benefit to slave owners.

In 1800, Loudoun County's population was 20,523 persons of which 333 were free persons of color and 4,990 were enslaved, bringing the total African American population to approximately 25% (History Matters 2004:11). The expansion of western settlements spurred Loudoun's growth in the late 18th and 19th centuries, although some slowing was observed in the 1830s and 1840s (ibid.).

Early means of transportation, particularly during the colonial period, depended upon the Potomac River and inland water ways. Two early roads in Loudoun County were the Little River Turnpike (Route 50), chartered by an Act of the Virginia Assembly in 1801 and opened in 1806 from Alexandria as far as the town of Aldie (Edwards et al. 1994:82; Montague 1971:117), and the Leesburg Turnpike (Route 7), incorporated by an Act of the Virginia Assembly in 1809. The Leesburg Turnpike ran from Alexandria to Dranesville in western Fairfax County in 1822 and was finally extended to reach Leesburg in the late 1830s (Poland 1976:115,117-118).

A study of Loudoun County's geology, indigenous trees and plants, its villages and its agrarian society was published in 1836 by Joseph Martin in his book titled *A New And Comprehensive Gazetteer of Virginia, And The District of Columbia* (Martin 1836: 206-216). In naming the common stones found within the county he notes that: "Small pointed stones of different kinds of flints, and supposed to be Indian darts, are occasionally found" (Martin 1836:208,209). Staple articles of produce in Loudoun County were flour, wheat, pork and beef, and there were a few farm orchards supplying apples, peaches, cherries and plums. In addition to wheat, most of which was milled into flour, grain crops included rye, corn, oats, and buckwheat.

Commenting on the ethnic residents in the county, Martin found:

> A very considerable contrast is observable in the manners of the inhabitants in different sections of the county. That part of it lying northwest of Waterford was originally settled principally by Germans, and is now called the German settlement, and the middle of the county southwest of Waterford and west of Leesburg, was mostly settled by emigrants from the middle States, many of whom were members of the society of Friends. In these two sections the farms are generally from one to three hundred acres each and are mostly cultivated by free labor. In the southern and eastern parts of the county the farms are many of them much larger and principally cultivated by slave labor (Martin 1836:208-209).

Slave owners in Loudoun County in 1833 paid taxes on 3,021 slaves, the majority of whom were located within the eastern and southern portions of Loudoun County (Martin 1836:210). The 19th century, up until the Civil War, saw significant migration of enslaved African Americans out of the county because of Loudoun County's domestic slave trade (History Matters 2004:12). Over 1,000 slaves were sold out of Loudoun County between 1800 and 1810, and approximately 1,300 slaves were sold out of the county between 1850 and 1860 (ibid.). Ninety per cent of the slaves worked in the field, cultivating and harvesting crops as well as establishing and maintaining all of the plantation lands (ibid.:12-13).

Early in the antebellum period, free persons of color had formed communities within the towns of Leesburg, Middleburg, Hamilton, Snickersville/Bluemont, Waterford, Lovettsville and Hillsboro (History Matters 2004:13). However, hostility towards all African Americans accelerated in the wake of the Nat Turner Rebellion and, in 1831, Virginia passed a number of laws restricting the rights of free African Americans. These included barring African Americans from owning weapons, restriction of business, restriction of free movement and prohibiting them from learning to read or attend school (ibid.).

In the mid-1830s, the major towns of Loudoun County with populations of over 100 were: Hillsborough, on the public road from Harpers Ferry to Leesburg, with a population of 172; Leesburg, the county seat, with 500 dwellings and a population of 1,700; Middleburg, on Goose Creek and surrounded by 18 flour mills, with a population of 430; Upperville, in the southwestern part of Loudoun County near the Fauquier County Line, with a population of 300; and Waterford, a settlement in the northern part of the county, with a population of about 400. Other small settlements currently still in existence are: Aldie, at the junction of Snicker's Gap Turnpike and Little River Turnpike; Arcola, on the main stage road from Alexandria to Winchester; and Lovettsville, a German neighborhood about seven miles south of Harpers Ferry. The town of Purcellville was the site of Purcell's Store and was listed as a post office (Martin 1836:215,216). Approximately 16 small villages and post offices located throughout Loudoun County and at the ferry crossings in 1835/36 are no longer in existence (Martin 1836:210-216).

Between 1830 and 1840, Loudoun County experienced a decline in its population, dropping from 21,939 individuals in 1830 to 20,431 in 1840, or 6.9% (Deck and Heaton 1926:62; Head 1908:85). This population fluctuation appeared again later in the 1800's as well and reflects a phenomena typical of agricultural areas in which partial or total crop failure leads to an out-migration of portions of the population to large cities or other parts of the country (Head 1908:86)

No dwellings or cultural features are shown within the project area on Taylor's 1853 map of Loudoun County. Dwellings associated with the names "H. Moffitt," "T. Ellzey," "J. Baily," "R.P. Noland," and "J.T. Allen" are recorded within a one-mile radius of the property (Exhibit 5). Additionally, an unnamed road following the current alignment of Evergreen Mills Road is shown east of the project area.

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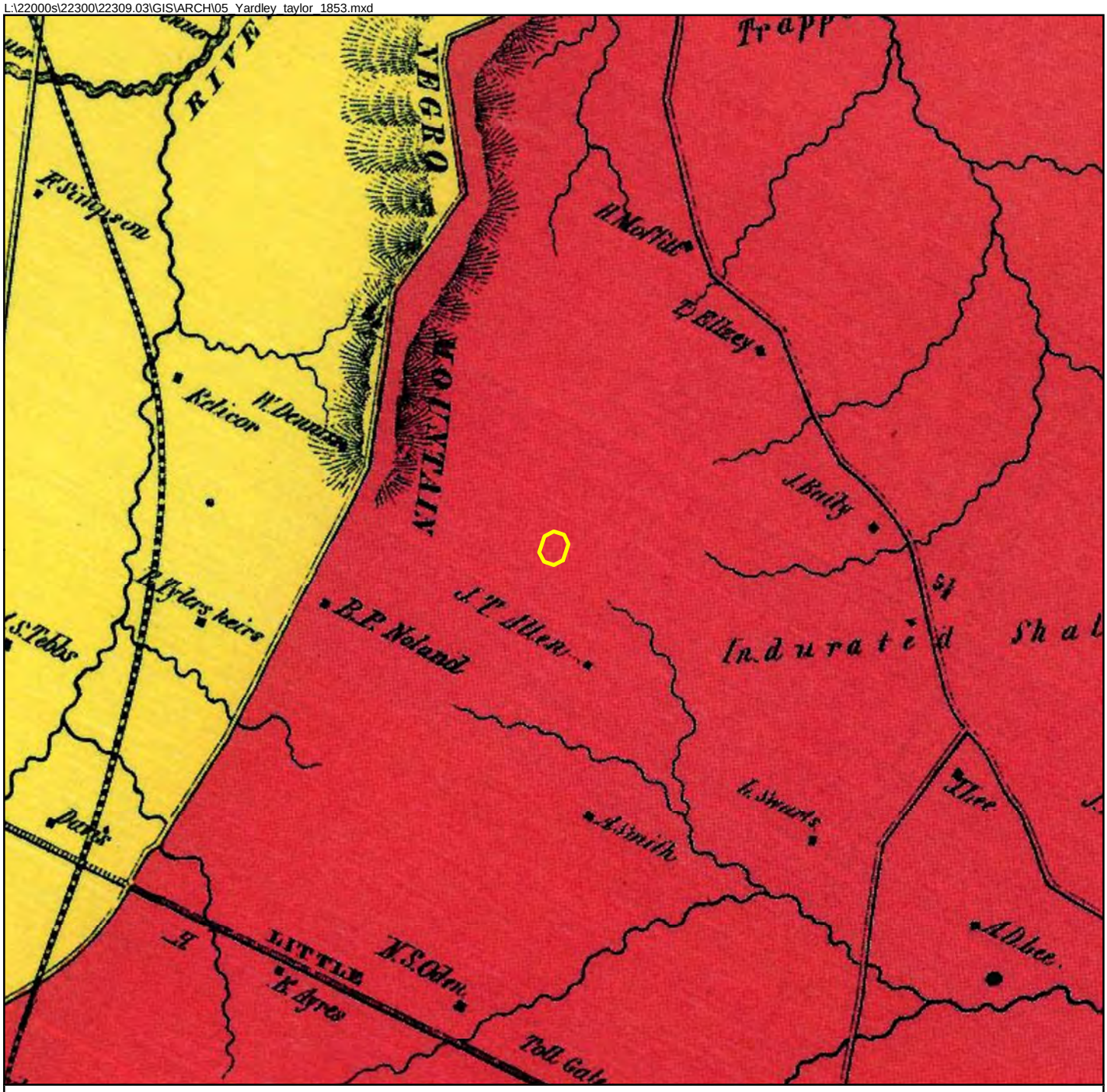

Approximate Location of Project Area

Map Source: "Map of Loudoun County, Virginia from actual surveys by Yardley Taylor, 1853". Historic Map Scale: 1" = 1 mile

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Original Scale: 1 " = 0.5 miles

Exhibit 5
1853 Yardley Taylor Map

A canal route from the mouth of Goose Creek on the Potomac River to the branches of Little River and Beaver Dam was surveyed in 1832 (Little River Navigation Company 1832). A second canal proposal to build lock and dam navigation for canal boats along Goose Creek was chartered by an Act of the Virginia Assembly in 1832, and a survey was carried out for the canal route in the same year. The purpose of the canal was to open navigation for 20 miles down Goose Creek from the Potomac River to the Snickers Gap Turnpike and to establish a five mile long canal up Little River to the town of Aldie.

Enough stocks in the Goose Creek and Little River Navigation Company, at $50.00 a share, were sold by 1839 to hold a stockholder's meeting. A contract was let in 1840 to James Roach of Alexandria for the first 12 miles of the canal. A financial statement of the Goose Creek and Little River Navigation Company for the year ending September 30, 1852, shows that 784 shares had been subscribed by individuals ($39,200.00) and 1,176 shares by the State of Virginia ($58,800.00). Expenses and disbursements from 1849 to 1852 totaled $75,552.46.

By the end of 1851, Goose Creek was open for the first seven miles, running through two canals, two guard gates, four dams and six locks. The canal was completed in 1854 to the mouth of Little River through a series of 99 locks (Trout 1967:31). The Goose Creek Canal survey shows eight mill sites operating at that time along Goose Creek.

The primary cause of the failure of the Goose Creek and Little River Navigation Company has been attributed to the industrial age advance into railroad systems. By 1854, the Company was financially broken, showing a balance of $1.95 on the account books. The company was dissolved in 1857 (The Library of Virginia 1839-1857; Trout 1967:31-34).

The Alexandria, Loudoun and Hampshire Railroad, the first railroad system through Loudoun County, was chartered in circa 1853 (Salmon 1996:15,47). Construction on the railroad line began in Alexandria in 1857 and reached Leesburg in 1860 (Geddes 1967:27). The Alexandria, Loudoun and Hampshire Railroad was renamed the Washington and Ohio Railroad circa 1873 and became the Washington, Ohio and Western Railroad in 1884 (Commonwealth of Virginia 1873:105; 1877:39; 1884:491).

The pre-Civil War population of Loudoun County was enumerated in 1860 at a total of 21,774 persons, including 5,501 slaves and 1,252 “free colored” persons. Slaves were owned at that time by 670 slave holders (Head 1908:85), indicating an average of eight slaves per household.

On the night of December 26, 1860, Major Robert Anderson moved his troops from Fort Moultrie to Fort Sumter in the harbor of Charleston, South Carolina. Subsequently, on April 15, 1861, President Lincoln sent a reinforcement fleet of war vessels from New York to Fort Sumter to suppress the rebellion in the southern states. Two days later, the Commonwealth of Virginia seceded from the Union, adopting the Virginia Ordinance of

Secession on April 17, 1861, and forming a provisional Confederate government (Gallagher 1989:29; Boatner 1991:729; Church and Reese 1965:134). The State formally seceded from the Union on May 23, 1861, by a vote of 97,000 to 32,000 (Bowman 1985:51, 55), with Loudoun County voting 1,626 to 726 to ratify the Ordinance of Secession (Hillsboro Bicentennial Committee 1976:21).

Located 25 miles from Washington, D.C., Loudoun County became a border county of divided loyalties during the Civil War years of 1861-1865. The southern and eastern parts of Loudoun County, settled by English colonials who farmed using slave labor, were loyal for the most part to the Confederacy. The northern and western parts of Loudoun County, settled by Quakers and Germans, although a minority, remained loyal to the Union.

Between 1863 and 1865, the southeastern part of Loudoun County was known as "Mosby's Confederacy" and was controlled by Mosby's Rangers who fought throughout the war using unconventional guerrilla warfare tactics. There were 46 skirmishes during the Civil War in the county, including the Battle of Ball's Bluff on October 21, 1861, and excluding less known skirmishes with Mosby's Rangers (Poland 1976:183,191-192,209).

The Battle of Balls Bluff, also known as the Battle of Harrison's Landing or the Battle of Leesburg, occurred on October 21, 1861; it centered around the Union Army's attempt to capture Leesburg by crossing the Potomac at Harrison's Landing. The Union attempt was thwarted by Confederate forces with an overwhelming number of Union casualties (921) compared to the number of Confederate losses (149). The conduct of the troops during the battle had strong political ramifications that led to the establishment of the Congressional Joint Committee on the Conduct of the War. The National Cemetery at Balls Bluff was established in 1865 for the burial of the Union soldiers who died in the battle. The Balls Bluff Battlefield and National Cemetery have been designated a National Historic Landmark.

McDowell's 1862 *Map of Northeastern Virginia and the Vicinity of Washington* shows no dwellings or cultural features within the project area (Exhibit 6). The dwellings recorded on the 1853 Taylor map (see Exhibit 5) continue to be shown on the McDowell map; however, the dwelling associated with the name "R.P. Noland" on Taylor's 1853 map is recorded as belonging to "R.P. Allen" on the 1862 map. Two additional dwellings are shown within one-mile of the project area to the south on McDowell's map; one associated with the name "A. Smith," about three quarters of a mile to the southwest, and one associated with the name "L. Swarts," about one mile to the southeast.

In 1863, Abraham Lincoln issued the Emancipation Proclamation, which stated that all enslaved persons in Confederate territory were to be free, and in 1865, Congress passed the 13th Amendment which banned slavery (History Matters 2004:15). However, with the abolition of slavery, Loudoun County saw a drop in the African American population from 6,753 in 1860 to 5,691 in 1870 (ibid.).

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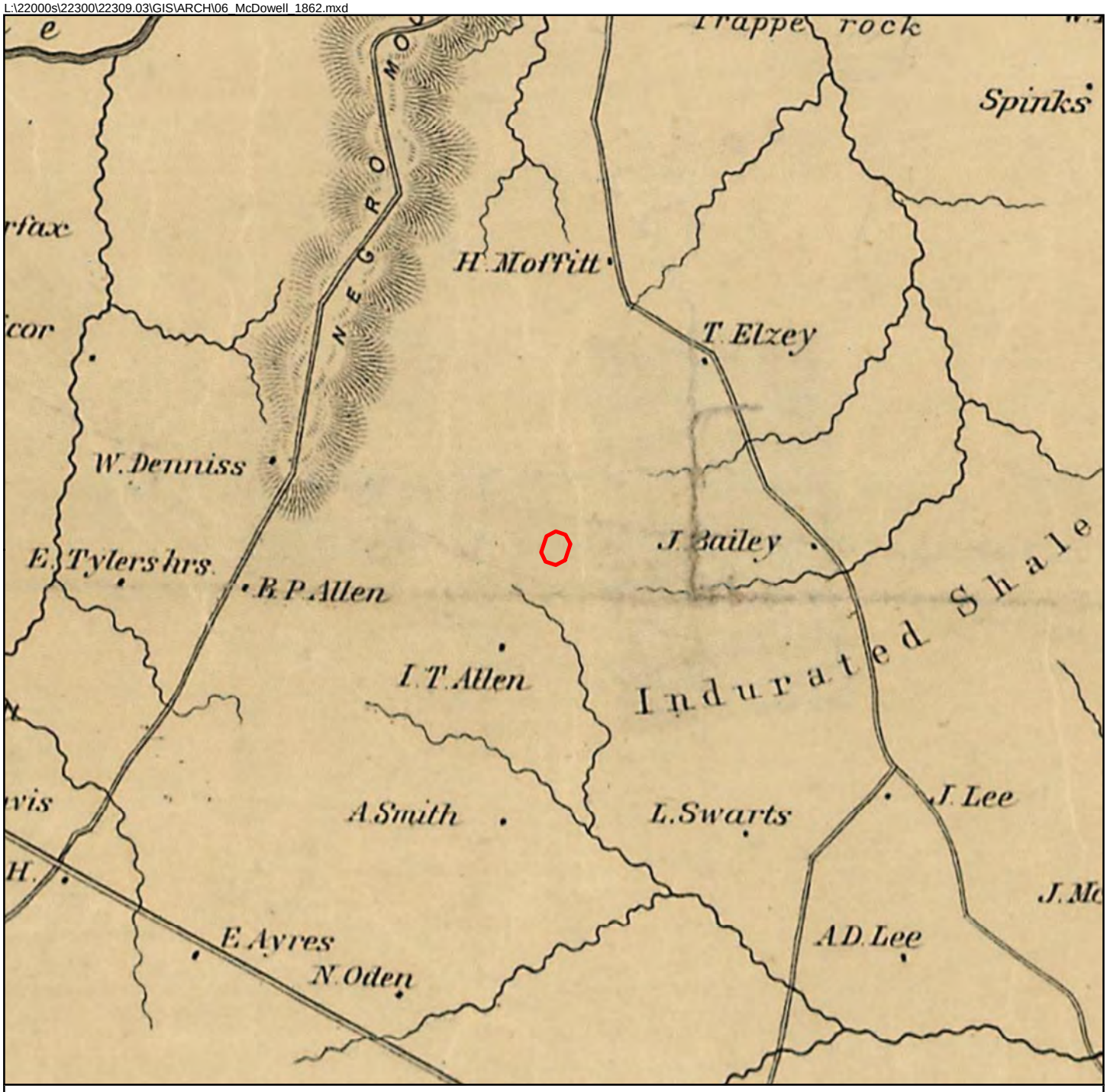

Approximate Location of Project Area

Map Source: Map of N. Eastern Virginia and Vicinity of Washington. Compiled by General Irvin Mc Dowell, January 1862. United States. Corps of Topographical Engineers". Library of Congress Geography and Map Division. Washington, D.C. Historic Map Scale: 1" = 1 mile.

N W E S

0 0.5 Miles

Original Scale: 1 " = 0.5 miles

Exhibit 6
1862 McDowell Map

Federal troops were stationed throughout Virginia, including Loudoun County, during the Reconstruction period, and in 1866, the 14th Amendment to the U.S. Constitution was passed, guaranteeing due process and equal protection under the law to all citizens and granting citizenship to African Americans (History Matters 2004:15). By 1869, the 15th Amendment was passed, giving African American men the right to vote, and the same year Virginia became the only former Confederate state to do this (ibid.).

The Underwood Convention held in Richmond from December 1867 through April 1868 led to the new Virginia Constitution of 1869. The Virginia Constitution, ratified on July 6, 1868, provided for the division of each county into townships (later magisterial districts) and for the development of a revolutionary educational system. In 1871-1872 the Virginia Public Free School system was adopted. At this time, there were 46 white schools and nine African American schools in the county (History Matters 2004:36). Many of the African American schools were built because of the efforts of the local African American communities who petitioned and acquired the land, money and labor for their construction (ibid.).

The Virginia Constitution also disenfranchised all southerners who had served in a civil capacity or in the military, and required an oath by anyone seeking public office (Church and Reese 1965:134; Woods 1901:24,25,119). In 1874, Loudoun County was divided into six magisterial districts: Broad Run, Jefferson, Leesburg, Lovettsville, Mercer, and the Mount Gilead District.

The Alexandria, Loudoun and Hampshire Railroad, reorganized as the Washington and Ohio Railroad in 1864, went into receivership and was reorganized after the war as the Washington and Western Railroad (Geddes 1967:27).

Agricultural recovery during the period of Reconstruction was supplemented by the repair and upkeep of roads and bridges. The Leesburg and Aldie Turnpike (Little River Turnpike or Route 50) was reported to the Virginia Assembly in March of 1873 to be "well graded." The company was authorized at that time to apply capital stock to the "metaling" of the road and to change the route of the turnpike to "south of the Goose Creek Bridge" (Commonwealth of Virginia 1873:249). On April 1, 1873, the Leesburg and Goose Creek Bridge Company was incorporated and authorized to erect toll bridges over Goose Creek from its mouth at the Potomac River to Ball's Mill. The company was also authorized to charge the following tolls: for each horse, mare, mule, gelding, jack, or jenny the toll was 3 cents; for each vehicle drawn by one animal, 10 cents; for each animal exceeding one, 3 cents; for each head of sheep, swine or goats, 1/4 cent; and for each head of neat cattle, 1/2 cent (Commonwealth of Virginia 1873:328-329).

Having lost most of the grist mills, mill dams, railroads, and bridges throughout the county, as well as farm buildings and houses, livestock, fences and crops during the Civil War years, Loudoun County planters were left with land but no laborers, money, farm animals, or farming tools. Loudoun County agriculture had a successful recovery during

post-war reconstruction and was listed in the 1880 U.S. Census as the leading county in Virginia in the "...production of corn, butter, eggs, wool, numbers of milch cows and sheep, and second only to Fauquier County in the number of stock cattle" (Head 1908:88). The Loudoun County Live Stock Exhibition Association, incorporated on March 7, 1884, was formed for the "…purpose of holding annual exhibitions of live stock, racing, and other entertainment's" (Commonwealth of Virginia 1884:409-410).

The first telephone system in Loudoun County was introduced by the Loudoun County Telephone Company, incorporated on February 5, 1886. During the spring of 1887, additional telephone lines connected the major towns in Loudoun County. Three of the telephone companies authorized to extend lines between towns in Loudoun County were the North Loudoun Telephone Company, incorporated with a principal office at Hillsboro; the Arcola and Aldie Telephone Company, authorized on April 28, 1887, to erect and maintain telephone lines and offices in the counties of Loudoun and Fairfax; and the Aldie and Leesburg Telephone Company, incorporated on May 12, 1887 (Commonwealth of Virginia 1886:62-63; 1887:31,109,280).

The 1900 U.S. population census showed a small population growth of less than 200 persons in Loudoun County from 21,774 in 1860 to 21,948 in 1900. By ethnic group, the 1900 census showed 16,079 whites, 5,869 blacks, and 101 foreigners. By comparison, there was a population increase of 1,058 whites between 1860 and 1900, and a decrease of 84 African Americans during this period (Head 1908:84,85).

Although the 15th Amendment to the U.S. Constitution had guaranteed the right of African American men to vote and the Virginia State Constitution of 1869 had affirmed this same right, in 1902, African Americans lost these rights (History Matters 2004:15). In Loudoun County, African Americans made up approximately 10% of the population at this time. The Virginia Constitution of 1902 limited the right to vote to war veterans, their sons, and to property owners who paid at least one dollar in property taxes or who could reasonably explain part of the new constitution (ibid.:15-16). The new constitution also required potential voters to complete registration applications in their own handwriting and answer any and all questions from local registrars about their voting qualifications and it imposed a poll tax on voters (ibid.:16). As a result, men who could not pay the poll tax, men who were illiterate and men who could not "correctly" answer the local registrar's questions, could not vote. By these measures, by 1904, Virginia's voters were cut in half and African American voters were reduced from around 147,000 to less than 10,000 (ibid.). This would not change until the 1960s.

Having recovered from the Civil War by 1900, Loudoun County had become the leading dairy county of Virginia. At the turn of the century, Loudoun County farmers were using agricultural farming methods and equipment that had been developed prior to the Civil War; this continued until the advent of World War I. General impacts on the agricultural community following the War were the introduction of powered machinery and an

increase in prices of farm products and cattle; these were offset by rising taxes and expenses. By the early 1920s, 81% of farmlands within the county were improved; major agricultural products were corn, wheat, dairy products, and the shipping of beef and pork (Deck and Heaton 1926:106).

Land ownership and a focus on agriculture by former African American slaves in Virginia grew rapidly in the late 19th and early 20th century (History Matters 2004:44). Between 1870 and 1910, African American farm ownership increased 3,641% from 860 to 32,168 farm owners. This rise is felt by historians to derive from a number of factors including a tradition of African American proprietorship in the state, greater opportunities for mortgage money, the establishment of a variety of race based mutual aid societies, the promotion of enterprise and self-sufficiency by institutions such as Virginia's Hampton Institute and the efforts of prominent African American Virginians (ibid.).

Although land ownership grew, the African Americans in Virginia and in Loudoun County felt disenfranchised after the passage of the 1902 Virginia Constitution. This precipitated the formation of social, religious and economic support groups that would assuage the bitterness of segregation and disenfranchisement. It also accelerated a fight for civil rights which would not end for over 50 years. In 1883, a number of individuals from African American communities within Loudoun County petitioned for the right to serve as jurors in the county courts (History Matters 2004:16). In 1890, the Loudoun County Emancipation Association was formed in Hamilton. The association was formed to work for the "betterment of the race – educationally, morally and materially." Emancipation Day was celebrated yearly on September 2 (ibid.). In 1910, the association moved to Purcellville where it purchased 10 acres of land on which Emancipation Day activities were held. Other organizations formed during this period were the Odd Fellows, the Willing Workers Club and the Society of Galilean Fishermen.

In 1920, Loudoun County was described as a rural county with 10 incorporated towns, but having no towns with a population of 2,500 or more.

> According to the Census for 1920 Loudoun County...ranked first in the percentage of Farm land improved; 2nd in the per Capita value of live stock... 3rd in the per capita county wealth ; 4th in total value of all farm property ...and 9th in total value of all crops. Loudoun's rank in these items seems to be particularly good when we consider that the county ranks 19th in size.…New developments in agriculture have been widespread in Loudoun in recent years. It has become the rule for farm boys to receive a college education. These men have been instrumental in the installing of improved farm machinery throughout the county. Our farmers have taken a real interest in the raising of pure bred stock. The breeders of horses and cattle have been foremost in this movement... (Deck and Heaton 1926:106).

The 1920 census shows 15,654 native whites, 4,810 African Americans, and 111 "foreign-born" persons residing in the county. This shows a population decrease of 7.4% over a period of twenty years (Deck and Heaton 1926:62-63).

The 1925 Post Office Map of Rural Delivery Routes shows two structures to the east and southeast of the project area; a dwelling (DHR 053-0735) is located to the southeast and a school, the Stone School, is recorded to the east of the project area (Exhibit 7). An unnamed road following the current alignment of Red Hill Road is shown running along the northern edge of the property; several structures are shown along this road, including three dwellings and a church less than one quarter mile from the property to the northwest.

The crash of the stock market in 1929 leading to the Great Depression of the 1930s, the extreme drought of 1930, and the subsequent government requests that cultivated acres be reduced 30%, saw hundreds of properties within the county being sold for delinquent real estate taxes in 1931 and 1932. The major relief during the depression years was the creation of the Rural Electrification Administration (R.E.A.) in 1935, which revolutionized rural life by introducing electricity and indoor plumbing (Poland 1976:279,317,319,326,327,334).

Although slowed by the Depression, Loudoun County's African American communities continued to grow (History Matters 2004:46). A number of commercial enterprises owned and operated by African Americans grew into significant local institutions during this period.

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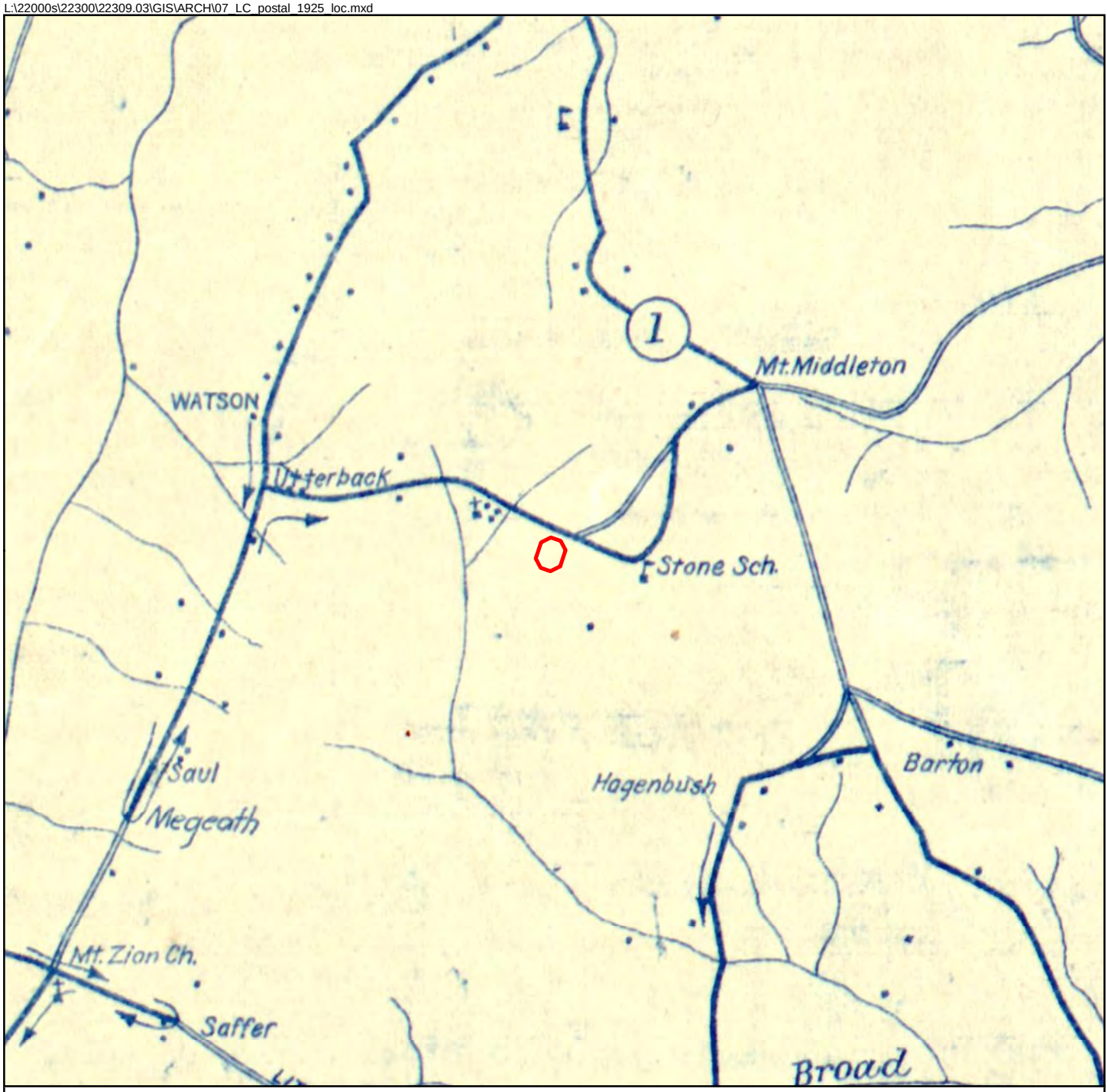

Exhibit 7
1925 United States Post Office Rural Delivery Routes Map
Loudoun County, VA

Post-depression years saw Loudoun's farm production and income soaring during World War II (Poland 1976:337). Poland comments:

> As the war demanded additional farm products and the labor shortage became critical, farmers were forced to use more modern farm equipment...During the later years of the war, attempts were made to alleviate labor shortages...by the use of Nazi prisoners of war. Approximately 170 German soldiers, held under U.S. Army guard in a camp near Leesburg, were taken from there by trucks to work on county farms (Poland 1976:336).

In the early 1940s, efforts by African Americans succeeded in obtaining better public education and improved public facilities for African American children (History Matters 2004:53). One of the major achievements of this group was the construction in 1941 of the Douglass High School in Leesburg, the first high school for African Americans in the county (ibid:53-54). Two additional schools, the 1946 Carver School in Purcellville and the 1948 Banneker School in St. Louis followed (ibid.:54). Ultimately, the schools were integrated.

By the time of World War II in Europe, despite shortages in labor and farm equipment, Loudoun County's farm production and income had grown. The subsequent postwar years of mechanization saw more specialized farming with dairying, poultry and beef cattle leading the list of major agricultural pursuits; commuting increased significantly as well. By 1960, Loudoun County's life style was becoming increasingly urban (Poland 1976:336-337,341,342), a trend that continues into current times. By 1970 new suburbanites sought housing in planned communities in the major incorporated towns in Loudoun County and commuted into the Washington, D.C., area to work (ibid.:341,342, 365). This trend continues today.

The 1943 United States Geological Survey (USGS) Arcola, VA topographic quadrangle shows scattered dwellings in the general vicinity of the project area, including the nearby buildings indicated on the 1925 Post Office map as well as more concentrated habitation in and near the hamlet of Watson to the west (Exhibit 8). Two unimproved roads are also shown connecting to what is the current alignment of Stone School Lane. The 1968 USGS Arcola, VA quadrangle also includes a cemetery to the east of the east of the project area (Exhibit 9). Additionally, the easternmost portion of unimproved road is no longer shown on the 1968 quadrangle; however, an improved road following the current alignment of Stone School Lane is shown. Conditions within the project area on the most recent USGS map, the 1981quadrangle, remain unchanged from the 1968 map (see Exhibit 2).

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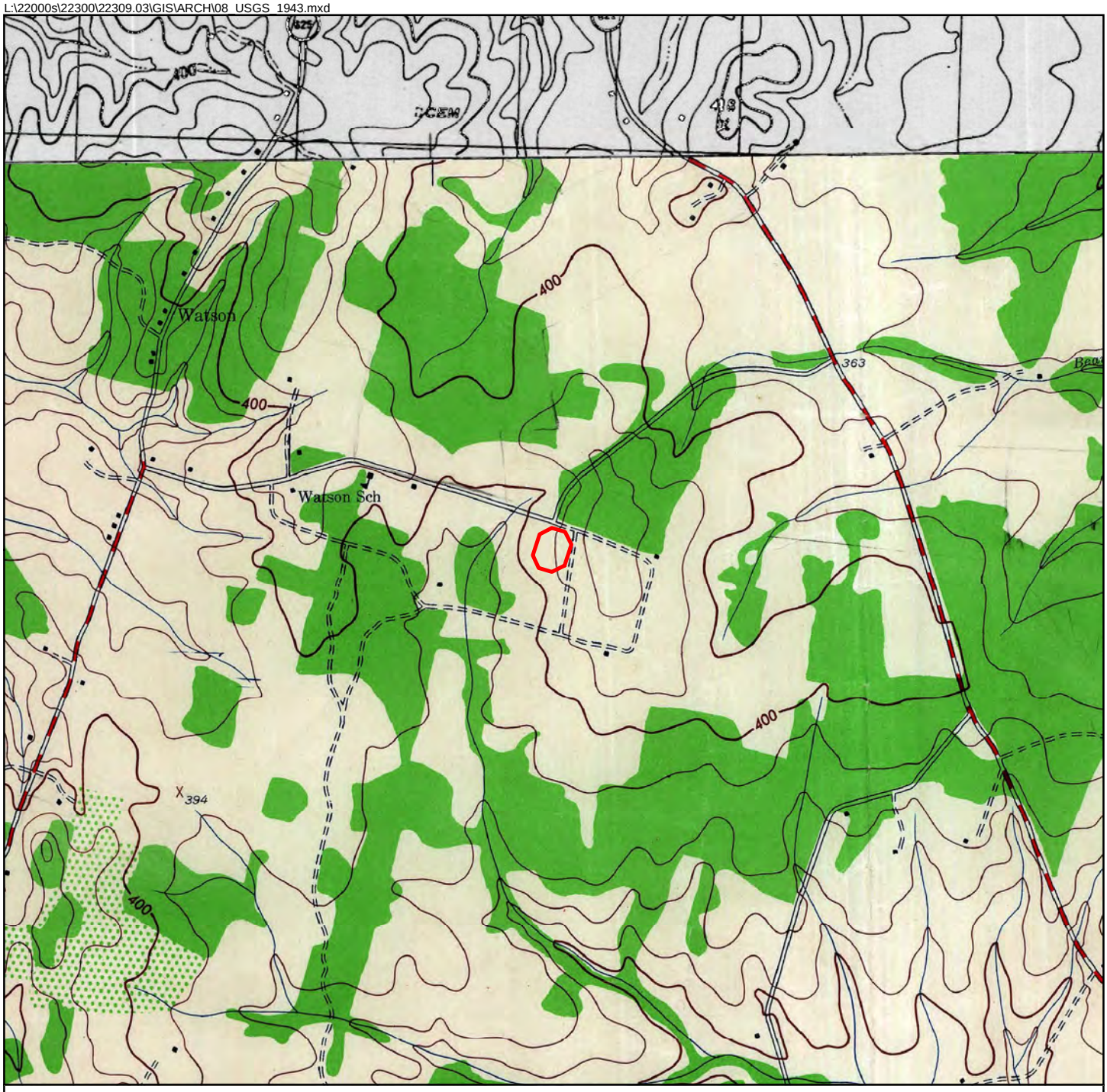

Exhibit 8
USGS 7.5 Minute Quadrangle Map
Arcola, VA 1943 & Leesburg, VA-MD 1943

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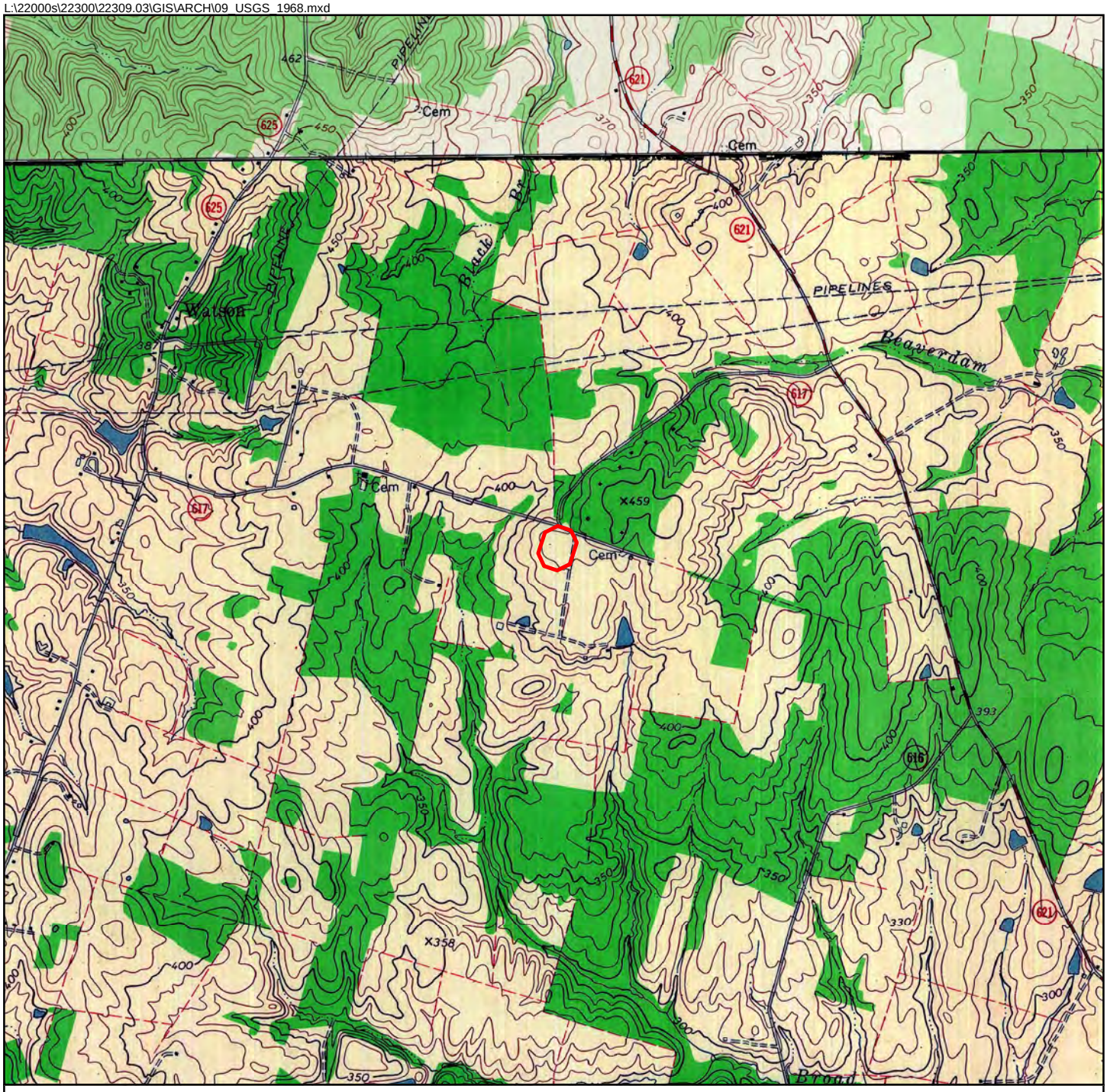

Project Area

Latitude: 38°59'07" N
Longitude: 77°34'38" W
Source: USGS

N
W
E
S

0 2,000
Feet
Original Scale: 1 " = 2,000 '

Exhibit 9
USGS 7.5 Minute Quadrangle Map
Arcola, VA 1968 & Leesburg, VA-MD 1968

Loudoun Water Tanks, Rouse Property - Phase I Archeological Investigation

PREVIOUS ARCHEOLOGICAL RESEARCH

The following inventory of previously recorded architectural resources within and near the project area was established by using the Department of Historic Resources' (DHR) online Virginia Cultural Resource Information System (V-CRIS), as well as examining cultural resource files and reports at the Thunderbird Archeology office in Gainesville, Virginia.

No archeological sites have been recorded within the current project area. Thirteen archeological sites and ten architectural resources have been identified within a one-mile radius of the project area (Exhibit 10; Tables 1 and 2).

TABLE 1: Previously Recorded Archeological Sites within a One-Mile Radius of the Project Area

DHR Site Number	Site Type	Temporal Affiliation	National Register Eligibility
44LD0348	Lithic scatter	Prehistoric Unknown	Not evaluated
44LD1093	Trash scatter	19th century/20th century	Not evaluated
44LD1248	Dwelling, single	19th century: 4th quarter	Not evaluated
44LD1395	Dwelling, single; Cemetery	19th century: 1st half	**Potentially eligible: 4/6/2007**
44LD1450	Camp, temporary	Late Archaic	Not eligible: 4/6/2007
44LD1516	Lithic scatter; Trash scatter	Prehistoric/Unknown; 18th century: 4th quarter/19th century: 1st half	Not evaluated
44LD1517	Trash scatter	19th century	Not evaluated
44LD1576	Trash scatter	19th century/20th century	Not evaluated
44LD1577	Lithic scatter	Prehistoric/Unknown	Not evaluated
44LD1654	Dwelling, single/ Farmstead	18th century: 4th quarter; 19th century; 20th century	Not evaluated
44LD1655	Trash scatter	18th century;19th century; 20th century	Not evaluated
44LD1656	Trash scatter	18th century;19th century; 20th century	Not evaluated
44LD1657	Dwelling, single	19th century; 20th century	Not evaluated

As Table 1 shows, four archeological sites were prehistoric, or included a prehistoric component, and were characterized as three lithic scatters and one temporary camp. Three of these sites lacked temporally diagnostic artifacts and could not be dated to a specific prehistoric period. One site, 44LD1450, yielded artifacts dating to the Late Archaic period; the site was determined not eligible for listing on the NRHP by DHR staff in 2007.

Ten sites were historic or included an historic component and included six trash scatters, four domestic dwellings, and a cemetery. Four sites included an 18th century component, while the remaining sites dated to the 19th century or the 19th/20th centuries.

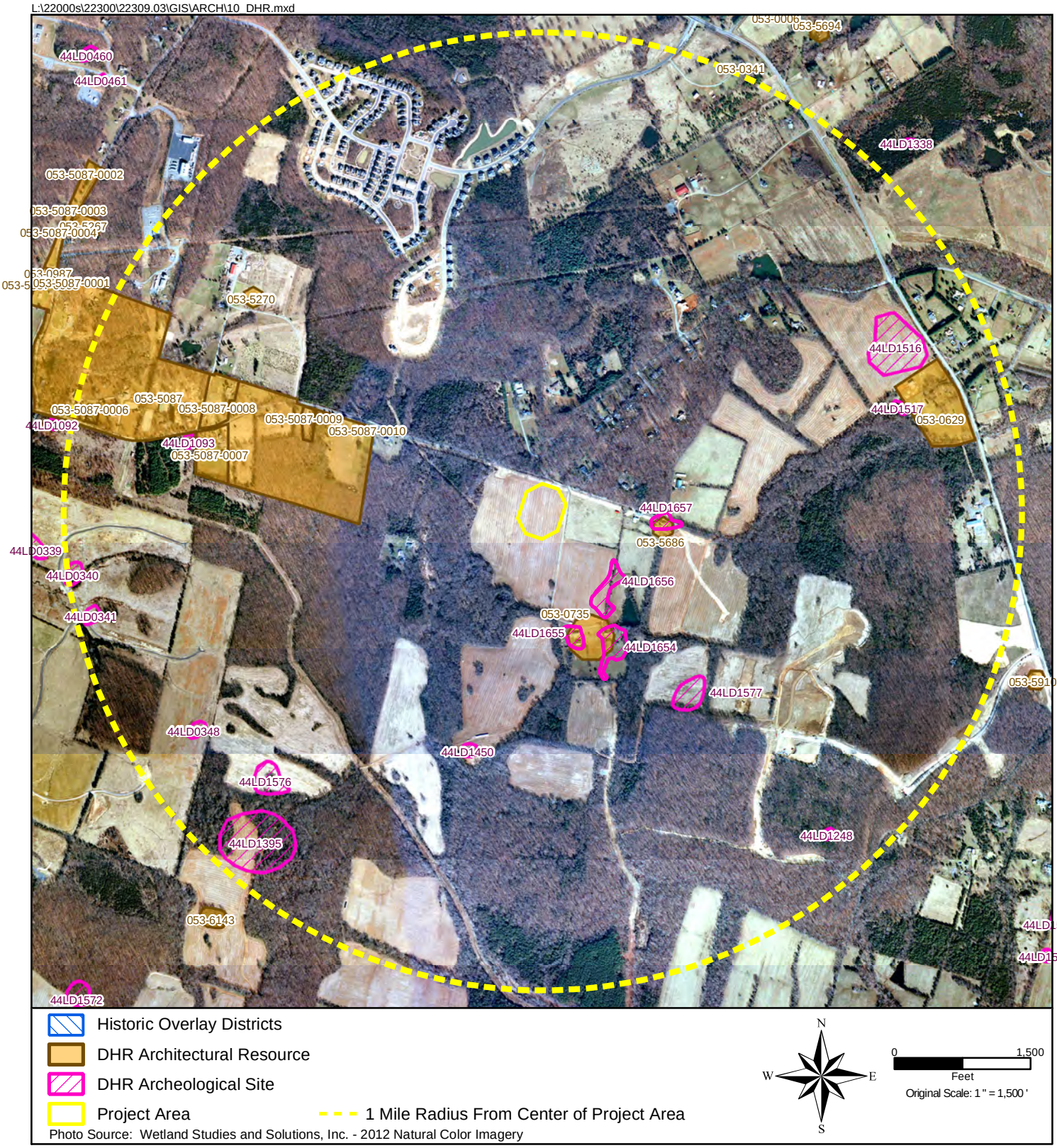

Exhibit 10
DHR Architectural Resources and Archeological Sites Map

One site, 44LD1395, was determined potentially eligible for listing on the NRHP by DHR staff in 2007; the site dates to the first half of the 19th century and includes a log-constructed dwelling and its associated cemetery. A second site, 44LD1654, has not been evaluated by DHR staff but was recommended potentially eligible by the recorders. This site dates to the late 18th century and is associated with the occupation of DHR 053-0735, the Bailey/Allen House, located a short distance to the southeast of the project area.

TABLE 2: Previously Recorded Architectural Resources within a One-Mile Radius of the Project Area

DHR RESOURCE NUMBER	RESOURCE NAME	TYPE	TEMPORAL AFFILIATION	NATIONAL REGISTER ELIGIBILITY
053-0629	**Fleetwood Farm/Greenhill Plantation**	**Farmstead**	**Ca. 1775**	**Listed: 2/1/1991**
053-0735	Bailey House/Allen House	Farmstead	Ca. 1790	Not evaluated
053-5087	**Watson Historic District**	**Historic district**	**Ca. 1888**	**Eligible: 3/16/2005**
053-5087-0007	Thornton House	Dwelling, single; outbuildings	Ca. 1900; 1920	Not evaluated
053-5087-0008	40852 Red Hill Road	Dwelling, single	Ca. 1910	Not evaluated
053-5087-0009	First Baptist Church; Cemetery	Church/Chapel; Cemetery	1957; 1914	Not evaluated
053-5087-0010	40991 Red Hill Road	Dwelling, single	Ca. 1850	Not evaluated
053-5270	40824 Red Hill Road	Barn	1920	Not evaluated
053-5686	41321 Stone School Lane	Dwelling, single	Ca. 1951	Not evaluated
053-5910	23423 Evergreen Mills Road	Dwelling, single	Ca. 1955	Not evaluated

Ten architectural resources have been recorded within a one-mile radius of the project area (see Table 2); seven are recorded as dwellings or farmsteads, one as a barn, one as a church and cemetery, and one as a historic district. Of these resources, six date to the 20th century, two date to the 19th century, and two date to the 18th century.

One resource, Fleetwood Farm/Greenhill Plantation (DHR 053-0629), was added to the NRHP in 1991; the farmstead is located approximately 3000 feet to the northeast of the project area along Evergreen Mills Road (Route 621). The farm was built circa 1775 by William Ellzey, a prominent lawyer and member of the Tidewater society. The outside of the dwelling reflects the Federal style; however, the interior is in Georgian style, which is more typical of Tidewater colonial architecture. A stone smokehouse, barn, and springhouse are also associated with the farm.

One resource, located approximately 1500 feet to the west of the project area, the Watson Historic District (DHR 053-5087), was determined eligible for listing on the NRHP by DHR staff in 2005. According to the DHR survey form, the hamlet of Watson is composed of approximately 25 buildings located along Watson Road (Route 860) and Red Hill Road (Route 617) and is centered on a general store built in 1888 by John O. Daniel. Watson is reported to be the largest community of free African-Americans living in Loudoun County prior to the Civil War. In the late-19th/early-20th century, the hamlet was a mixed-race community comprised of "both an African-American Baptist congregation and a Presbyterian Church that served a predominantly white congregation.

The remaining resources located in the vicinity of the project area have not been formally evaluated for NRHP eligibility; however, four of these resources (DHR 053-5087-0007, 053-5087-0008, 053-5087-0009, and 053-5087-0010) are associated with the Watson Historic District, which is eligible for listing on the NRHP. Although the four resources have not been individually evaluated, they are considered potentially eligible for listing on the NRHP as they contribute to the eligibility of the historic district as a whole.

DHR 053-0735, the Bailey/Allen House, is located a short distance to the southeast of the project area and is recorded as a two-and-a-half-story brick residence built circa 1790; ruins of a detached kitchen/quarter and a spring house associated with the dwelling are also present. DHR 053-5686 is located east of the project area and is recorded as a one-story stone and frame dwelling built in 1952, with original or later one-story additions on its east, south, and west elevations, according to the survey form. However, this resource is located in the same general location as the building recorded as the Stone School on the 1925 Post Office Map of Rural Delivery Routes (see Exhibit 6), suggesting the Stone School building may have been converted into a dwelling in the 1950s. If so, then a portion of DHR 053-5686 was constructed prior to 1925.

RESEARCH EXPECTATIONS

The following presents an assessment of the probability that archeological sites will occur within the project area based on topography, drainage, the presence of roads and historic map projection.

The probability for locating prehistoric sites generally depends on the variables of topography, proximity to water, and internal drainage. Sites are more likely on well-drained landforms of low relief in close proximity to water. The project area is considered to have a moderate probability of containing prehistoric cultural resources. Although few previously recorded prehistoric sites are in the vicinity of the project area, the presence of low relief landforms and the unnamed tributary of Broad Run near the project area indicate that these areas may have attracted prehistoric peoples to the property, likely groups involved in seasonal resource exploitation.

The probability for the occurrence of historic period sites largely depends upon the historic map search, the history of settlement in the area, the topography and the

proximity of a particular property to historic roads. However, the absence of structures on historic maps does not eliminate the possibility of an archeological site being present within the property as it was common for tenant, slave, and African-American properties to be excluded from these maps.

Due to the presence of several extant historic architectural resources and a historic road in the near vicinity, there is a moderate probability for locating historic resources within the project area, either associated with these properties or as-yet unrecorded historic sites.

FIELD AND LABORATORY METHODS

Fieldwork

The Phase I field methodology included both the use of surface reconnaissance and shovel testing to locate and define boundaries of archeological sites. The surface reconnaissance consisted of walking over the area and examining all exposed areas for the presence of artifacts. Exposed areas included cut banks, tree falls, machinery cuts, soils exposed by erosion, etc. The surface reconnaissance was also used to examine the topography of specific areas in order to determine the probability that they contain archeological sites. All high and moderate probability areas--areas that were well drained and possessed low relief--were tested at 50 foot intervals. High probability areas also included historic structure areas identified through surface reconnaissance or through archival review of historic maps. Additional shovel tests were excavated at 25 foot intervals in a cruciform pattern around the positive shovel tests as necessary to define site boundaries and to delineate artifact concentrations. In general, the low probability areas were those that were sloping, poorly drained or that had been disturbed.

Shovel test pits measured at least 15 inches in diameter and were excavated in natural or cultural soil horizons, depending upon the specific field conditions. Excavations ceased when gleyed soils, gravel, water, or well developed B horizons too old for human occupation were reached. All excavated soils were screened through 1/4-inch mesh hardware cloth screens and were classified and recorded according to standard pedological designations (A, Ap, B, C, etc.); excepting the terms Fill and Fill horizon, which are used to describe disturbed, transported, or culturally modified sediments and soils. Such use of the terms is consistent with use in standard geomorphological studies and recordation of geo-boring profiles in environmental studies. Soil colors were described using Munsell Soil Color Chart designations and soil textures were described using the United States Department of Agriculture soil texture triangle. Artifacts recovered during Phase I shovel testing were bagged and labeled by unit number and soil horizon.

The location of each shovel test pit was mapped; unless otherwise noted, the graphic representation of the test pits and other features depicted in this report are not to scale and their field location is approximate.

Laboratory

All artifacts were cleaned, inventoried, and curated. Historic artifacts, if found, were to be separated into four basic categories: glass, metal, ceramics, and miscellaneous. The ceramics were identified as to ware type, method of decoration, and separated into established types, following South (1977), Miller (1992) and Magid (1990). All glass was examined for color, method of manufacture, function, etc., and dated primarily on the basis of method of manufacture when the method could be determined (Hurst 1990). Metal and miscellaneous artifacts were generally described; the determination of a beginning date is sometimes possible, as in the case of nails.

Artifacts were entered into a Structured Query Language (SQL) Server database in order to record all aspects of an artifact description. For each artifact, up to 48 different attributes are measured and recorded in the database. Once entered in the SQL Server database, users can create queries and reports through a Microsoft Access front end. Several pre-existing report templates are available, or users can create custom queries and reports for complex and unique analyses. The use of a relational database system to store artifact data permits a huge variety of options when storing and analyzing data. A complete inventory of all the artifacts recovered can be found in the Appendix of this report.

RESULTS OF FIELD INVESTIGATIONS

The project area consists of an approximately 575 by 450 foot area in an agricultural field south of the intersection of Red Hill Road (Rt. 617) and Stone School Lane (Exhibit 11; Plate 1). The central and eastern portions of the project area are situated along the crest of an upland ridge and knob landform, with the western portion of the project area falling on the shoulder slopes of the landform that trend down to the west toward an unnamed tributary of Broad Run.

A gravel driveway runs just to the east of the project area, dividing the corn field to the west from fallow grass/hay field to the east of the driveway. Water main utilities run generally east/west just south of Red Hill Road and Stone School Lane and through the northern portion of the project area (see Exhibit 11).

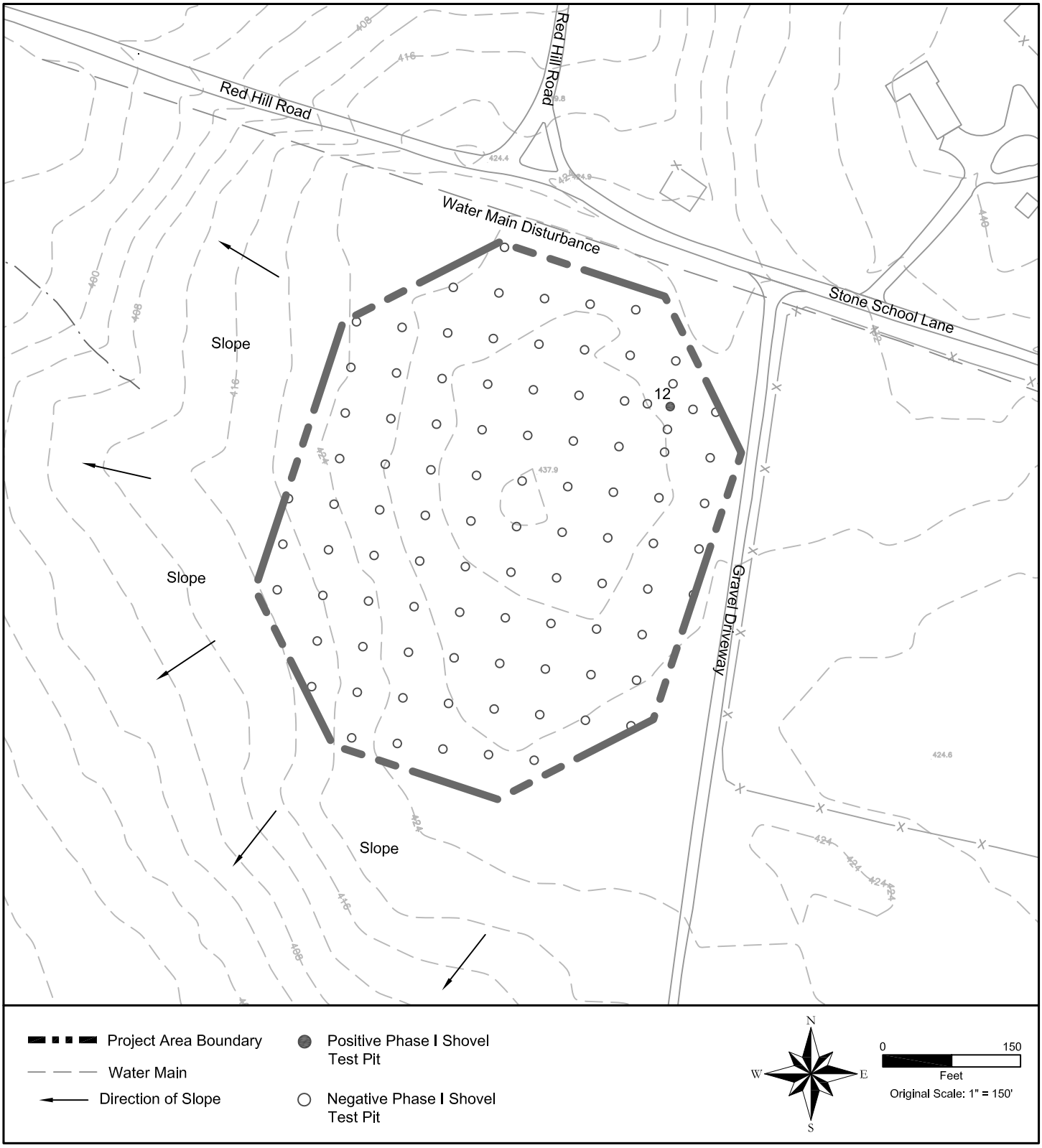

Exhibit 11
Testing within the Project Area

The project area was tested with the systematic excavation of shovel test pits (STPs). Ninety-one STPs were excavated at 50-foot intervals across the project area, with four additional 25-foot interval STPS excavated around an artifact find (see Exhibit 11). The typical soil profile encountered consisted of plow zone overlying subsoil and is exemplified in STP 12, which is summarized below and illustrated in Exhibit 12.

STP 12

Ap horizon: 0-9.6 inches below surface-[5YR 4/3] reddish brown silty clay loam

B horizon: 9.6-13.2 inches below surface-[5YR 4/4] reddish brown silty clay

One artifact was recovered during subsurface testing in the project area; STP 12 yielded one wire nail (1890-present). Additional STPs excavated at 25 foot intervals in a cruciform pattern around the location of the find produced no additional cultural materials. DHR guidelines require a minimum of three temporally or functionally related artifacts found within a defined area to constitute a site (DHR 2011: 46). As such, the artifact recovered from STP 12 is considered an isolated find and was not recorded as an archeological site. No additional work is recommended in association with this find.

PRELIMINARY VISUAL EFFECTS ANALYSIS

Should this project be subject to review under Section 106 of the National Historic Preservation Act (NHPA), due to a need for Section 404 (Clean Water Act) permitting or in association with another federal undertaking, consideration of indirect effects on nearby historic properties will be necessary. As mentioned above, two previously recorded architectural resources that are eligible for listing or listed on the NRHP, Fleetwood Farm/Greenhill Plantation (DHR 053-0629) and the Watson Historic District (DHR 053-5087), are located within a one-mile radius of the project area (see Exhibit 10).

Fleetwood Farm/Greenhill Plantation, added to the NRHP in 1991, is located approximately 3000 feet to the northeast of the project area along Evergreen Mills Road (see Exhibit 9). According to the DHR survey form, the farm was built circa 1775 by William Ellzey, a prominent lawyer and member of the Tidewater society.

The Watson Historic District (DHR 053-5087) was determined eligible for listing on the NRHP by DHR staff in 2005. Architectural resources considered to be contributing elements of the Watson Historic District are located approximately 1500 west feet of the project area. According to the DHR survey form, the hamlet of Watson is composed of approximately 25 buildings located along Watson Road (Route 860) and Red Hill Road (Route 617) and is centered on a general store built in 1888 by John O. Daniel. Watson is reported to be the largest community of free African-Americans living in Loudoun County prior to the Civil War. In the late 19th/early 20th century, the hamlet was a mixed-

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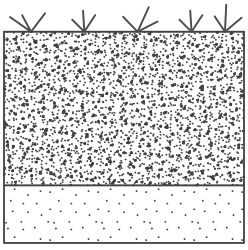
STP 12



Ap horizon: 7.5YR 4/4 brown silt loam

B horizon: 5YR 5/4 reddish brown silty clay loam

0 1
Feet
Original Scale: 1" = 1'

Exhibit 12
Representative Soil Profile from the Project Area

race community comprised of “both an African-American Baptist congregation and a Presbyterian Church that served a predominantly white congregation.

Topographically, the Fleetwood Farm/Greenhill Plantation is located along the southern edge of a north/south trending landform, at an elevation of about 392 feet a.m.s.l. Within the project area, the topography is comparatively higher; with the highest elevations measuring approximately 442 feet a.m.s.l. The Watson Historic District is situated at elevations similar to those within the project area, between approximately 390 feet and 440 feet a.m.s.l.

Preliminary visual effects analysis, based only on examination of aerial photography, indicates existing forest between the project area and the two Historic Properties may provide screening of the historic vistas (see Exhibit 10). However, based upon balloon test photography prepared by Digital Design and Imaging Services, Inc. in 2013, proposed water tower tanks with a height of approximately 190 feet above ground surface will be visible from portions of the Watson Historic District. The viewshed from Fleetwood Farm was apparently not evaluated during the Digital Design study. Indirect effects of planned development, including impacts to viewshed, may be considered under Section 106 review with regard to the NRHP listed and eligible resources in the vicinity. And a formal visual effects study that also considers possible indirect effects on the viewshed from Fleetwood Farm/Greenhill Plantation may be needed.

SUMMARY AND RECOMMENDATIONS

A Phase I archeological investigation was conducted of the ± 5 acre Loudoun Water Tanks site on the Rouse property located south of the intersection of Red Hill Road (Route 617) and Stone School Lane in Loudoun County, Virginia. Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc., of Gainesville, Virginia, conducted the study described in this report for Urban, Ltd. of Chantilly, Virginia. The fieldwork was carried out in October of 2013. No archeological sites were recorded during the survey, and no further archeological work is recommended.

While development of the property will not directly impact any NRHP-eligible archeological or architectural resources, indirect impacts, including viewshed, on nearby register-listed and –eligible resources must be taken into account if the project is subject to review under Section 106 of the National Historic Preservation Act.

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REFERENCES CITED

Bailey, C.M.
1999 "Physiographic Map of Virginia," *The Geology of Virginia*. Chad Roberts and C.M. Bailey, College of William and Mary Department of Geology. http://www.wm.edu/geology/virginia/phys_regions.html (29 October 2004)

Boatner, Mark M.
1991 *The Civil War Dictionary*. Vintage Books, New York, New York.

Bowman, John S.
1985 *The Civil War Almanac*. World Almanac Publications, New York, New York.

Bradshaw, Herbert Clarence
1955 *History Of Prince Edward County, Virginia From its Earliest Settlements through its Establishment in 1754 To its Bicentennial Year.* The Dietz Press, Richmond, Virginia.

Brown, Lois
1979 *Fluted Points in Maryland.* Unpublished, on file at the Maryland Geological Survey, Division of Archeology.

Carbone, Victor A.
1976 *Environment and Prehistory in the Shenandoah Valley*. Unpublished Ph.D. Dissertation, Catholic University of America, Washington, D.C.

Church, Randolph W. and George H. Reese
1965 *A Hornbook of Virginia History*. The Virginia State Library. Richmond, Virginia.

Commonwealth of Virginia
1873 *Acts and Joint Resolutions Passed by the General Assembly of the State of Virginia at Its Session of 1872-'73*. R.F. Walker, Richmond, Virginia.
1877 *Acts and Joint Resolutions Passed by the General Assembly of the State of Virginia at Its Session of 1876-77*. R.F. Walker, Richmond, Virginia.
1884 *Acts and Joint Resolutions Passed by the General Assembly of the State of Virginia at Its Session of 1883-84*. R.U. Derr, Richmond, Virginia.
1886 *Acts and Joint Resolutions Passed by the General Assembly of the State of Virginia at Its Session of 1885-'86.* A.R. Micou, Richmond, Virginia.
1887 *Acts and Joint Resolutions Passed by the General Assembly of the State of Virginia, During the Extra Session of 1887*. A.R. Micou, Richmond, Virginia.

Darmody, R.G. and J.E. Foss
1978 *Tidal Marsh Soils of Maryland*. Maryland Agricultural Experimental Station Publication 930:1-69.

Deck, Patrick A. and Henry Heaton
1926 *An Economic and Social Survey of Loudoun County*. In University of Virginia Record Extension Series, Vol. X. University of Virginia, Charlottesville, Virginia.

Dent, Richard J.
1995 *Chesapeake Prehistory: Old Traditions, New Directions*. Plenum Press, New York, New York.

Department of Historic Resources (DHR)
2011 *Guidelines for Conducting Historic Resources Survey in Virginia.* Virginia Department of Historic Resources, Richmond, Virginia.

Edwards III, Conley L., Gwendolyn D. Clark and Jennifer D. McDaid
1994 *A Guide To Business Records In The Virginia State Library And Archives*. Virginia State Library and Archives, Richmond, Virginia.

Evans, James D.
1877/78 *Loudoun County a Hundred years Ago* in William and Mary Quarterly, S1, 12:231-236).

Fenneman, Nevin M.
1938 *Physiography of Eastern United States*. McGraw-Hill Book Company, Inc. New York, New York and London, England.

Fiedel, Stuart J.
1999 *Connecting Late Prehistoric Ceramic Lineages with Early Historic Ethnic-Linguistic Groups: Prospects and Problem*s. Paper presented at the 1999 Middle Atlantic Archeological Conference, Harrisburg, Pennsylvania.

Gallagher, Gary W. [editor]
1989 *Fighting for the Confederacy*. *The Personal Recollections of General Edward Porter Alexander*. The University Of North Carolina Press, Chapel Hill, North Carolina.

Gardner, William M.
1982 Early and Middle Woodland in the Middle Atlantic: An Overview. In *Practicing Environmental Archeology: Methods and Interpretations*, pp. 53-86, Roger W. Moeller, editor. Occasional Paper Number 3, American Indian Archeological Institute, Washington, Connecticut.
1985 *Prehistoric Site Distribution in the Greater Washington, D.C. Area*. Paper presented at the Annual Meeting of the American Anthropological Society, Washington, D.C.

1987 Comparison of Ridge and Valley, Blue Ridge, Piedmont, and Coastal Plain Archaic Period Site Distribution: An Idealized Transect. In *Journal of Middle Atlantic Archeology,* Vol. 3, pp. 49-80, Roger W. Moeller, editor. Archeological Services, Bethlehem, Connecticut.

1989 An Examination of Cultural Change in the Late Pleistocene and Early Holocene (circa 9200-6800 B.C.) in *Paleoindian Research in Virginia: A Synthesis*, edited by J. Mark Wittkofski and T.R. Rhinehart, pp.5-51. Special Publication No. 19 of the Archeological Society of Virginia. The Dietz Press, Richmond, Virginia.

1991 *Notes for the Territory Presentation*. Paper presented at the 1991 Middle Atlantic Archeological Conference, Ocean City, Maryland.

Gardner, William M. and Charles W. McNett, Jr.

1971 Early Pottery in the Potomac. *Proceedings of the Second Middle Atlantic Archeological Conference*. Washington, D.C.

Gardner, William M. and Lauralee Rappleye

1979 A *Cultural Resources Reconnaissance and Impact Area Assessment of the Great Dismal Swamp Wildlife Refuge, Chesapeake and Nansemond Counties, Virginia*. Report prepared for the U.S. Department of the Interior, Interagency Archeological Services, Atlanta, Georgia by Thunderbird Research Corporation, Woodstock, Virginia.

Gardner, William M. and Joan M. Walker

1993 *A Phase I Cultural Resources Reconnaissance of the Proposed Mitchell Substation and Mitchell Transmission Line in Culpeper County, Virginia*. Report prepared for Rappahannock Electric Cooperative, Fredericksburg, by Thunderbird Archeological Associates, Inc., Woodstock, Virginia.

Geddes, Joan

1967 *Fairfax County. Historical Highlights From 1607*. Delinger's, Fairfax, Virginia.

Goode, Charles E.

2002 *The Rise of Ceramic Production in the Potomac Piedmont of Virginia: An Analysis of Steatite Vessel Fragments and Early Woodland Ceramics from Sites 44LD619, 44LD617, 44LD6, 44LD659 and 44LD672*. Unpublished M.A. Thesis, Department of Anthropology, Catholic University of America, Washington, D.C.

Greene, Evarts B.

1932 *American Population Before The Federal Census Of 1790*. Columbia University Press, New York, New York.

Gutheim, Frederick

1986 *The Potomac*. John Hopkins University Press, Baltimore, Maryland and London, England.

Hantman, Jeffrey L. and Michael J. Klein
1992 Middle and Late Woodland Archeology in Piedmont Virginia. In *Middle and Late Woodland Research in Virginia: A Synthesis*, pp. 137-164, Theodore R. Reinhart and Mary Ellen N. Hodges, editors. Archeological Society of Virginia Special Publication No. 29. The Dietz Press, Richmond, Virginia.

Harrison, Fairfax
1987 *Landmarks of Old Prince William. Volumes I and II.* Gateway Press, Baltimore, Maryland.

Head, James W.
1908 *History and Comprehensive Description of Loudoun County, Virginia*. Park View Press (no location stated).

Hening, William Waller
1819 *The Statutes at Large; Being a Collection of All the Laws of Virginia, From the First Session of the Legislature, In the Year 1619. Volume V*. Franklin Press, Richmond, Virginia.
1819 *The Statutes at Large; Being a Collection of All the Laws of Virginia, From the First Session of the Legislature, In the Year 1619. Volume VII*. Franklin Press, Richmond, Virginia.
1820 *The Statutes at Large; Being a Collection of All the Laws of Virginia, From the First Session of the Legislature, In the Year 1619. Volume IV*. Franklin Press, Richmond, Virginia.
1822 *The Statutes at Large; Being a Collection of All the Laws of Virginia, From the First Session of the Legislature, In the Year 1619. Volume X*. George Cochran, Richmond, Virginia.
1823 *The Statutes at Large; Being a Collection of All the Laws of Virginia, From the First Session of the Legislature, In the Year 1619. Volume I.* R. & W.G. Bartow, New York, New York.
1823 *The Statutes at Large; Being a Collection of All the Laws of Virginia, From the First Session of the Legislature, In the Year 1619. Volume II*. R. & W.G. Bartow, New York, New York.

Hiden, Martha W.
1980 *How Justice Grew. Virginia Counties: An Abstract of Their Formation*. The University Press of Virginia, Charlottesville, Virginia.

Hillsboro Bicentennial Committee
1976 *Hillsboro: Memories of a Mill Town*. Potomac Press, Leesburg, Virginia.

History Matters
2004 Loudoun County African American Historic Architectural Resources Survey. Prepared by History Matters, Washington, D.C. for the Loudoun County Board of Supervisors and the Black History Committee of the Friends of Thomas Balch Library, Leesburg, Virginia.

Hurst, Gwen J.
1990 *U.S. Bottle Chronology*. B.P. Bishop Museum, Honolulu, Hawaii.

Jirikowic, Christine
1999 *Keyser Ware Ceramics at the Hughes Site and in the Potomac Basin*. Paper presented at the Middle Atlantic Archeological Conference, Harrisburg, Pennsylvania.

Johnson, Michael
1983 The Evolution of the Bifurcate Hunting System in the Interior Piedmont of Fairfax County, Virginia. In *Piedmont Archeology*, pp. 55-73, J. Mark Wittkofski and Lyle E. Browning, editors. Archeological Society of Virginia Special Publication No. 10. Richmond, Virginia.
1986 *Fairfax County Archeological Overview*. Heritage Resources Branch, Fairfax, Virginia.

Kavanaugh, Maureen
1983 Prehistoric Occupation of the Monocacy River Region, Maryland. In *Piedmont Archeology*, pp. 40-54, J. Mark Wittkofski and Lyle E. Browning, editors. Archeological Society of Virginia, Special Publication 10, Richmond.

Kelso, William M.
1995 *Jamestown Rediscovery I: Search for 1607 James Fort*. Association for the Preservation Of Virginia Antiquities, Jamestown, Virginia

Kilmer, Kenton and Donald Sweig
1975 *The Fairfax Family in Fairfax County*. Fairfax County Office of Comprehensive Planning, Fairfax, Virginia.

Library of Virginia, The
1839-1857 Records of "Goose Creek and Little River Navigation", Accession Number 94. The Library of Virginia, Richmond, Virginia.

Little River Navigation Company
1832 *Survey of Goose Creek and Little River & Beaver Dam Branches thereof.* (Library of Virginia Map Collection 755.27 H9 [1832]).

Lutz, Francis Earle
1954 *Chesterfield. An Old Virginia County.* William Byrd Press, Richmond, Virginia.

MacIntyre, Carl Franklin
1978 Proprietary Land Grants in Eastern Loudoun County. In the May 19 *Loudoun Easterner*.

Magid, Barbara H., editor
1990 *Alexandria Archeology Artifact Code Books.* Alexandria Archeology Publications Number 11. Alexandria Archeology Office of Historic Alexandria, City of Alexandria, Virginia.

Martin, Joseph
1836 *A New and Comprehensive Gazetteer of Virginia, and the District of Columbia: Containing a Copious Collection of Biographical, Statistical, Political, Commercial, Religious, Moral, and Miscellaneous Information, Collected and Compiled from the Most Respectable, and Chiefly from Original Sources*. Moseley & Tompkins, Charlottesville, Virginia.

Miller, George
1992 *Refinement of South's Types and Median Dates*. Manuscript at University of Delaware Center for Archeological Research, Newark.

Miller, Glenda F. and Joan M. Walker
n.d. *Competing Agendas: The Fur Trade and Native Americans.*

Montague, Ludwell Lee
1971 Richard Bland Lee of Sully in *Historical Society of Fairfax County, Virginia,* 11:117.

Nugent, Nell Marion
1983 *Cavaliers And Pioneers. Abstracts of Virginia Land Patents and Grants 1623-1666*. Virginia Book Company, Berryville, Virginia.

O'Dell, Jeffrey M.
1983 *Chesterfield County. Early Architecture and Historic Sites*. Chesterfield County, Virginia.

Palmer, William P. [editor]
1881 *Calendar Of Virginia State Papers And Other Manuscripts, From April 1, 1781, To December 31, 1781. Preserved In The Capitol At Richmond*. Sherwin McRae, Richmond, Virginia.

Poland, Charles P., Jr.
1976 *From Frontier to Suburbia*. Walsworth Publishing Company, Marceline, Missouri.

Potter, Stephen R.
1982 *An Analysis of Chicacoan Settlement Patterns.* PhD dissertation on file, Department of Anthropology, University of North Carolina, Chapel Hill, North Carolina.
1993 *Commoners, Tribute and Chiefs: The Development of Algonquian Culture in the Potomac Valley*. University Press of Virginia, Charlottesville, Virginia.

Salmon, John S.
1996 *Board Of Public Works Inventory. Records In The Library Of Virginia*. The Library of Virginia, Richmond, Virginia.

South, Stanley
1977 *Method and Theory in Historical Archeology*. University of Illinois Press, Urbana, Illinois.

Stevens, J. Sanderson
1989 *Environmental Site Predictors and Prehistoric Settlement Patterns in the Central Piedmont of Virginia*. Paper presented at the Middle Atlantic Archeological Conference, Rehoboth Beach, Delaware.

Sweig, Donald M.
1995 *A Brief History Of Fairfax County*. Heritage Resources Branch, Office of Comprehensive Planning, Fairfax County, Virginia.

Trout, W. E. III
1967 "The Goose Creek and Little River Navigation. A canal project in Loudoun County took twenty years to complete, but it carried only one boat" in *Virginia Cavalcade*, Winter 1967:31-34).

Walker, Joan M.
1981 *A Preliminary Report On the Prehistory of Prince William County, Virginia.* Report prepared for the County of Prince William by Thunderbird Research Corporation, Woodstock, Virginia.

Walker, Joan M. and William M. Gardner
1989 *Phase I Archeological Survey, Telegraph Woods Sanitary Sewer Line, Fort Belvoir, Virginia.* Report prepared for Paciulli, Simmons and Associates, Ltd., Fairfax, Virginia by Thunderbird Archeological Associates, Inc., Woodstock, Virginia

Waselkov, Gregory A.
1982 *Shellfish Gathering and Shell Midden Archeology*. Ph.D. Dissertation, University of North Carolina, Chapel Hill, North Carolina.

Weiss-Bromberg, Francine
1987 *Site Distribution in the Coastal Plain and Fall Zone of the Potomac Valley from ca. 6500 B.C. to A.D. 1400.* Master's Thesis, Department of Anthropology, The Catholic University of America, Washington, D.C.

Woods, Edgar
1901 *Albemarle County In Virginia*. The Michie Company Printers, Charlottesville, Virginia.

PLATES

Plate 1: Overview of the Project Area
View to Northwest

APPENDIX
Artifact Inventory

LOUDOUN WATER TANKS, ROUSE PROPERTY
PHASE I ARTIFACT INVENTORY

Isolated Find
STP 12, Ap horizon

Metal

1 wire nail fragment (1890-present)