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***OF COUNSEL - WILLIAMS MULLEN**

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***THOMAS MOORE LAWSON • TLAWSON@LSPLC.COM**

March 26, 2026

Keven Walker, Chief Executive Officer
Shenandoah Valley Battlefields Foundation
P.O. Box 897
9386 S. Congress Street
New Market, VA 22844

Re: Winchester Gateway LLC
Frederick County Tax Map Number 63-A-80I
Our File No. 1503.002

VIA E-MAIL

Dear Mr. Walker:

As you know, I represent Winchester Gateway LLC, which owns property bounded by Apple Valley Road, Middle Road, and Rt. 37 in Frederick County, Virginia. I attach a copy of an aerial which depicts the property. The site is currently zoned M1, which allows for by right construction of industrial uses under the Frederick County Code. The property owner has filed a Conditional Use Permit application asking the County to allow for the development and construction of only a data center project on the property. For your convenience, I attach a copy of the recorded Proffers that were part of the approval of a successful rezoning of this property to industrial in 2023. Those proffers include the requirement of the installation of landscape berms around the perimeter of the property with very specific requirements for plantings. The buildings are capped at a height of sixty (60) feet, which is consistent with the industrial buildings immediately adjacent to the property. There are also proffered sound mitigation elements that must be installed as part of the construction to reduce any sound being emitted from the site. The Conditional Use Permit conditions, which are also attached, go much further and build upon the already proffered requirements. The goal of all of this is to create architecturally attractive buildings, which are heavily screened from view from the outside. This would include the views from the residences along Apple Valley Road and also the other properties across Middle Road, including the battlefield property recently acquired by the Shenandoah Valley Battlefields Foundation from the Glass-Glen Burnie Trust.

As you may know, this site has received favorable comments as part of the aforementioned rezoning to industrial, and it is currently before the Historic Resources Advisory Board ("HRAB") as part of a requirement of the Conditional Use Permit process. Given that this property has been through the HRAB process previously, we would not expect further historical comments because they were previously addressed. Nevertheless, attached is a Phase I Archeological Survey of the property prepared by The Ottery Group. This report does point out two areas identified as Sites 44FK1076 and 44FK1077 that may warrant further study. Fortunately, both of those sites are on areas of the property that are either not slated for development or are only partially impacted pursuant to the current development plan for the property.

Separately, there have been comments received from a meeting on February 20, 2026 with the HRAB and discussions about viewshed analysis of the property from adjoining properties, including the battlefield's property. I attach some viewsheds the Applicant's consultants have prepared to assist with this evaluation. As stated above, the intent of installing landscape berms, using architectural grade building materials, and applying earth-tone colors to the buildings is that the developed site will provide a natural buffer for the residents and visitors to the surrounding properties as they look at the Winchester Gateway LLC property and towards the industrial buildings constructed and in use to the east. The thinking is this new development will actually soften the existing viewshed from the adjoining properties.

We would greatly appreciate it if you could look at our development plans and related materials and provide your comments as our neighbor and also as a Director of a highly regarded professional organization devoted to the preservation of Civil War sites and properties.

Thank you for your assistance and cooperation. I look forward to hearing from you at your convenience.

Very truly yours,

Thomas Moore Lawson

TML:atd
Attachments
cc: Winchester Gateway LLC

Greenway Engineering, Inc.
151 Windy Hill Lane
Winchester, VA 22602
T: 540.662.4185
F: 540.722.4185
www.GreenwayEng.com

GREENWAY ENGINEERING

WINCHESTER GATEWAY PHASE 1 - CIUP

AERIAL EXHIBIT

240003158

PROFFER STATEMENT

REZONING:	RZ# 06-23 Rural Areas (RA) and Light Industrial (M1) to Light Industrial (M1) Previously approved rezoning application #01-15
PROPERTY:	71.85 Acres +/-; Tax Map Parcel 63-A-80I (the "Property") Back Creek District.
RECORD OWNER:	Winchester Gateway LLC ("Owner")
ORIGINAL DATE OF PROFFERS:	August 23, 2023
REVISION DATE(S):	November 28, 2023; February 27, 2024; March 14, 2024; March 27, 2024; April 10, 2024

The undersigned Owner hereby proffers that the use and development of the above-referenced parcels, which are requested to be rezoned, shall be in strict conformance with the following conditions, which shall supersede all other proffers on the Property that may have been made prior hereto. In the event that the above-referenced M1 conditional rezoning is not granted as applied for by the Owner, these proffers shall be deemed withdrawn and shall be null and void. Further, these proffers are contingent upon final rezoning of the Property with "final rezoning" defined as that rezoning which is in effect on the day following the last day upon which the Frederick County Board of Supervisors' (the "Board") decision granting the rezoning may be contested in the appropriate court. If the Board's decision is contested, and the Owner elects not to submit development plans until such contest is resolved, the term rezoning shall include the day following entry of a final court order affirming the decision of the Board which has not been appealed, or, if appealed, the day following which the decision has been affirmed on appeal.

The headings of the proffers set forth below have been prepared for convenience or reference only and shall not control or affect the meaning or be taken as an interpretation of any provision of the proffers. The improvements proffered herein shall be provided at the time of development of that portion of the Property adjacent to or including the improvement or other proffered requirement, unless otherwise specified herein. The term "Owner" as referenced herein shall include within its meaning all future owners and successors in interest.

1. Site Development

1.1 Owner proffers to develop the Property in substantial conformance with the Generalized Development Plan for Winchester Gateway dated March 14, 2024 by Greenway Engineering which is attached hereto and incorporated herein by reference as "Exhibit A" ("GDP").

1.2 Development of the Property shall include the following building restrictions:

All buildings on the Property within five hundred (500) feet of Apple Valley Road shall not have loading docks facing Apple Valley Road.

1.3 Development of the Property shall include the following landscape design features:

Owner proffers to install a green space buffer between Apple Valley Road and the existing pond. The buffer will extend two hundred (200) feet from the edge of Apple Valley Road and shall include the berms and plantings which are further described in the attached and incorporated GDP. All of the plantings described on the above-referenced GDP shall be of native species. The green space buffer may only be disturbed for installation and maintenance of utilities, and maintenance of the vegetation. The green space buffer shall be in substantial conformance with the location and quality depicted on the GDP.

1.4 The maximum height for all primary and ancillary structures will be sixty (60) feet within a distance of one thousand (1000) feet of Apple Valley Road. Roof top mechanical equipment is not subject to the sixty (60) foot height restriction.

1.5 The primary building material for all buildings on the Property shall be stone, wood, brick, architectural concrete masonry unit (e.g. regal stone, split face, precision ground face), precast concrete panels and EIFS (exterior insulation and finish systems), or metal panel of architectural grade and quality.

1.6 All freestanding lights within four hundred (400) feet of Apple Valley Road shall be mounted on poles with a maximum height of twenty-five (25) feet.

1.7 Noise levels from any activities generated on the Property shall not exceed sixty (60) dBA at the boundary line of the Property with Apple Valley Road.

1.8 Owner proffers that uses on the Property shall practice and apply noise attenuation measures, including low noise emission fans, compressor and oil separator acoustic wraps, and acoustically rated louver walls.

1.9 Owner proffers there shall be no outdoor processing on the Property.

2. Transportation

2.1 Owner proffers to construct not more than two full-movements entrances on Apple Valley Road in general conformance with the locations shown on the GDP. Owner also proffers to construct road improvements along Apple Valley Road which are generally consistent with the road improvements that were installed to the M1 property immediately adjacent to the east. This would include paving of two full lanes of travel with a center turn lane from Middle Road and tie in to the existing three lane section which has been installed by the property owner immediately to the east of the Property. The road improvements would also include a five (5) foot wide sidewalk, four (4) foot wide green strip, and two and one-half (2.5) wide curb and gutter along the length of the Property's Apple Valley Road frontage. Said road improvements shall be constructed

on or before the issuance of the first certificate of occupancy for any industrial building on the Property.

2.2 Owner proffers to restrict trucks leaving the Property to making only eastbound trips. The mechanisms to direct truck trips to the east shall be through a combination of signage on the site and physical improvements of the entrance, all designed in coordination with Frederick County Planning Staff and the Virginia Department of Transportation.

3. Limited Uses

3.1 Owner proffers that the Property shall not be developed for regional criminal justice, enforcement and detention facilities.

3.2 Owner proffers that the Property shall not be developed for a freestanding fast food restaurant and/or any restaurant that includes a drive-through window/food service.

4. Fire and Rescue

4.1 Owner proffers to make a one-time payment to Frederick County for the purposes of fire and rescue services in the amount of $0.10 per square foot of any future building constructed on the Property.

5. Escalator

5.1 In the event the monetary contributions set forth in these Proffers are paid to Frederick County within eighteen (18) months of the approval of this rezoning, as applied for by Owner, said contributions shall be in the amounts as stated herein. Any monetary contributions set forth in these Proffers which are paid to the County after eighteen (18) months following the approval of this rezoning shall be adjusted in accordance with the Urban Consumer Price Index ("CPI-U") published by the United States Department of Labor, such that at the time contributions are paid they shall be adjusted by the percentage change in the CPI-U from that date eighteen (18) months after the approval of this rezoning to the most recently available CPI-U to the date the contributions are paid, subject to a cap of six percent (6%) per year, non-compounded.

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Respectfully submitted,

WINCHESTER GATEWAY LLC
By: Winchester Advisors LLC
Its: Manager

By: Darius E. Saeidi
Its: Manager

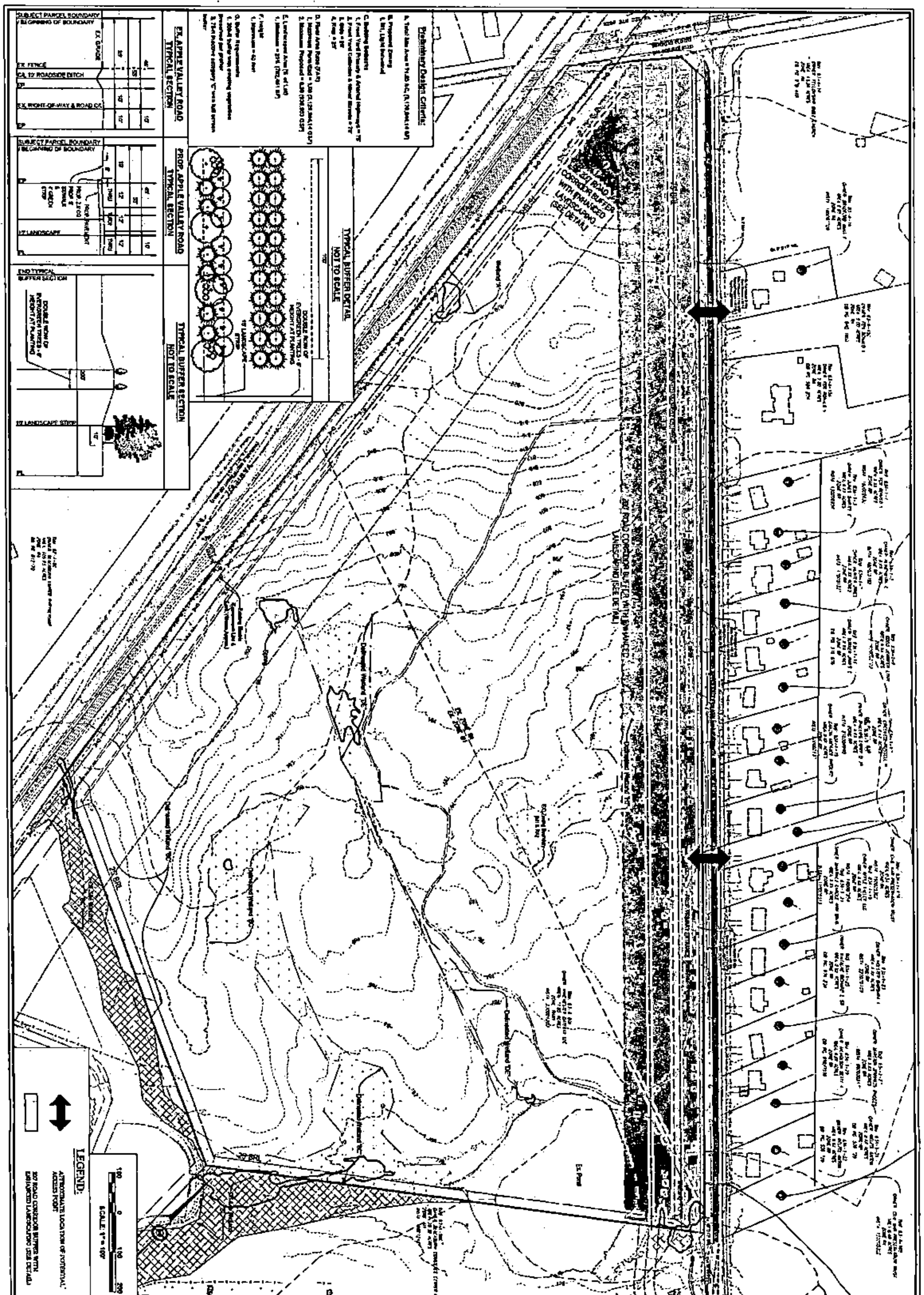
STATE/COMMONWEALTH OF VA, AT LARGE
CITY/COUNTY OF Loudoun, to-wit:

The foregoing instrument was acknowledged before me this 10 day of April, 2024, by Darius E. Saeidi, Manager of Winchester Advisors LLC, Manager of WINCHESTER GATEWAY LLC.

VALERIE THURMAN WHITE
NOTARY PUBLIC
REGISTRATION # 179801
COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES
DECEMBER 31, 2024

NOTARY PUBLIC

My commission expires: _____
Registration number: _____



GENERAL DEVELOPMENT PLAN

WINCHESTER GATEWAY

BACK CREEK MAGISTERIAL DISTRICT
FREDERICK COUNTY, VIRGINIA

GREENWAY ENGINEERING

EX. APPLE VALLEY ROAD
TYPICAL SECTION
PROP. APPLE VALLEY ROAD
TYPICAL SECTION
SCALE: 1"=5'
ROAD WIDENING ILLUSTRATIVE EXHIBIT
WINCHESTER GATEWAY
BACK CREEK MAGISTERIAL DISTRICT
FREDERICK COUNTY, VIRGINIA
GREENWAY
ENGINEERING

ORDINANCE

Action:		
PLANNING COMMISSION:	March 6, 2024	Recommended Approval
BOARD OF SUPERVISORS:	April 10, 2024	Adopted

AMENDING THE ZONING DISTRICT MAP
REZONING #06-23 FOR WINCHESTER GATEWAY, LLC

WHEREAS, REZONING #06-23 for Winchester Gateway, LLC submitted to rezone approximately +/- 34.26-acres of a +/-71.85-acre parcel from the RA (Rural Areas) District to the M1 (Light Industrial) District with proffers. The subject property is located southeast of the intersection of Apple Valley Road and Middle Road, west of Route 37, and are identified by Property Identification Number 63-A-80I in the Back Creek Magisterial District; and

WHEREAS, the Frederick County Planning Commission held a public hearing on this rezoning on January 3, 2024, and tabled action for 60-days; and

WHEREAS, the Frederick County Planning Commission held a public meeting on this rezoning on March 6, 2024, and recommended approval; and

WHEREAS, the Frederick County Board of Supervisors held a public hearing on this Rezoning during their regular meeting on April 10, 2024; and

WHEREAS, the Frederick County Board of Supervisors finds the approval of this Rezoning to be in the best interest of the public health, safety, and welfare, and in conformance with the Comprehensive Plan; and

NOW, THEREFORE, BE IT ORDAINED by the Frederick County Board of Supervisors, that in accordance Chapter 165 of the Frederick County Code, Zoning, to rezone approximately +/- 34.26-acres of a +/-71.85-acre parcel from the RA (Rural Areas) District to the M1 (Light Industrial) District with proffers. The conditions voluntarily proffered in writing by the Applicant and the Property Owner are attached.

This ordinance shall be in effect on the date of adoption.

Passed this 10th, day of April 2024 by the following recorded vote:

Josh E. Ludwig, Chairman	Aye	John F. Jewell	Aye
Heather H. Lockridge	Aye	Robert W. Wells	Aye

Res# 063-24
PDRes#21-24

Blaine P. Dunn	Aye	Judith McCann-Slaughter	Aye
Robert T. Liero	Aye		

A COPY ATTEST

Michael L. Bollhoefer
Frederick County Administrator

INSTRUMENT 240003158
RECORDED IN THE CLERK'S OFFICE OF
FREDERICK CIRCUIT COURT ON
APRIL 17, 2024 AT 02:15 PM
SARAH J. KAHLE, CLERK
RECORDED BY: HEM

Winchester Gateway LLC (Applicant) – Data Center

Revised February 13, 2026

Site Assessment for Conditional Use Permit Application Parcel 63-A-801

Introduction and Overview

Winchester Gateway LLC respectfully requests a Conditional Use Permit (CUP) to authorize the development of a data center campus on Parcel 63-A-801. Granting Applicant's request for a Conditional Use Permit on its Property to allow for a data center will have a positive impact on the community by generating economic diversity through the creation of high-paying employment opportunities and contributing to the commercial tax base within the County. The proposed development, situated in the M1 (Light Industrial) Zoning District, aligns with Frederick County's goals of fostering economic diversity and fiscal sustainability. In addition, the non-residential development proposed for the Property will decrease demands and impacts on County and community facilities such as schools, parks and libraries as residential development will not occur on the Property. The proposed development is not anticipated to negatively impact the County's public safety facilities, and the Applicant has worked closely with County stakeholders to ensure that potential impacts are addressed as part of this Application.

Fiscal and Economic Impact

The proposed data center will serve as a substantial economic driver for Frederick County, characterized by a high revenue-to-expense ratio that will benefit the local tax base without burdening public services. According to the Economic Impact Analysis prepared by MuniCap, Inc., the project is projected to generate approximately $19 million annually in gross tax revenue for Frederick County upon full buildout and stabilization. This revenue stream is comprised primarily of Business Personal Property Tax, estimated at $16.48 million annually, and Real Property Tax, estimated at $2.35 million annually. Over a thirty-year period, the cumulative general fund revenue contribution to the County is projected to exceed $635 million.

In addition to direct fiscal contributions, the proposed development will serve as a catalyst for employment. The construction phase is expected to support approximately 4,678 direct full-time equivalent (FTE) jobs, generating over $441 million in labor income. Once operational, the

facility will support 155 direct permanent jobs with an average annual income of $86,000, which is consistent with the County's goals for attracting high-wage employment. Unlike residential developments, data centers do not generate new students for the school system or require significant county services, allowing the surplus tax revenue to directly fund County priorities such as education, public safety, and infrastructure.

Transportation and Traffic Impact

A primary advantage of the proposed data center over the previously approved industrial use is a dramatic reduction in traffic generation. A Transportation Overview indicates that the data center use will generate significantly less traffic than the industrial park, allowed by-right for the site. Specifically, the data center proposal results in a reduction of 1,925 daily vehicle trips compared to the approved industrial use. This reduction is particularly beneficial during critical commuter windows, with projections showing 172 fewer trips during the AM peak hour (a 63% reduction) and 240 fewer trips during the PM peak hour (an 87% reduction).

Despite this reduction in traffic volume, the Applicant remains committed to the roadway improvements proffered during the prior zoning action to ensure maximum safety and efficiency. These commitments include widening Apple Valley Road to consistent cross-sections and installing a left-turn lane at the site driveway. With the significantly reduced traffic load inherent to data center operations, these improvements will provide Apple Valley Road with greater reserve capacity than originally anticipated.

Noise Impact and Mitigation

The Applicant has prioritized acoustical engineering to ensure the Winchester Gateway Data Center not only complies with, but is projected to operate at or below, Frederick County's maximum allowable noise limits. An Environmental Noise Study prepared by Salas O'Brien (November 21, 2025) utilized SoundPLAN modeling software to evaluate noise emissions under normal operating conditions and during generator testing scenarios.

Field measurements confirm that the existing acoustic environment in the area is heavily influenced by roadway traffic. Daytime ambient noise levels along Apple Valley Road average approximately 63–64 dB(A), while Route 37 produces levels in the range of 67–68 dB(A). The

proposed facility is designed to blend into these daytime background conditions and to minimize potential intrusion during quieter nighttime periods.

The Frederick County Zoning Ordinance requires that data centers not exceed 65 dB(A) during daytime hours and 60 dB(A) during nighttime hours at the property line. The Salas O'Brien modeling indicates the Project will maintain meaningful safety margins at all boundaries. Along the northern property line adjacent to Apple Valley Road, the facility is projected to reach approximately 55 dB(A) during normal operations and 56 dB(A) during generator testing. Noise levels along the remaining property lines are projected to be lower, ranging from approximately 47 dB(A) at the northwest boundary to 54 dB(A) at the southwest boundary during normal operations.

It is also important to note that the Property is zoned M1 (Light Industrial), and under County Code, certain by-right industrial uses may generate noise levels up to 70 dB(A) at the property line. By comparison, the proposed data center's modeled noise levels—generally in the mid-to-high 40s through mid-50s dB(A), with higher levels during testing still below applicable thresholds—represent a substantially quieter land use than what could otherwise be developed on the site.

To achieve this performance, the Applicant will incorporate specific noise mitigation measures into the Project's design and equipment selection. These measures include rooftop parapet walls to block line-of-sight to rooftop equipment and reduce sound propagation, the use of low-sound fan options, acoustic wraps for compressors, and high-performance mufflers on exhaust stacks, and the placement of emergency generators within sound-rated enclosures designed to minimize noise during operation.

Operational protocols will further reduce potential impacts by restricting generator testing and maintenance cycling to weekdays between 8:00 a.m. and 5:00 p.m., consistent with County requirements. The Applicant also commits to the post-construction monitoring provisions of § 165-204.41, which require a certified noise study 12 months after the first certificate of occupancy and every five years thereafter to verify continued compliance.

Impacts on Surrounding Uses and Historic Sites

The project layout has been designed to maximize compatibility with adjacent properties, including the nearby Kernstown Battlefield and residential uses along Apple Valley Road. To minimize visual impacts, the layout provides a substantial 200-foot setback from Apple Valley Road and adjacent residential zoning districts (RA, RP, and R4). Within this setback, the Applicant commits to installing a Category C full-screen buffer utilizing berms and dense plantings to visually screen the facility from neighbors.

Architectural treatments and building scale have also been tailored to the site's context. Building heights will be capped at 60 feet, consistent with M1 zoning standards, ensuring the scale of the structures remains compatible with the surrounding viewshed. The use of high-quality materials was part of the existing M1 proffers and will further ensure the development enhances the existing industrial character of the immediate area.

Power and Utilities

The project is already served by significant utilities to include public water and sewer, natural gas and electricity. On the site there are significant 138kv power lines that connect to an existing substation immediately across Rt. 37 from the Winchester Gateway site. The Applicant anticipates a maximum transmission voltage requirement of 160 MW to support operation of the proposed data center. As such, the Applicant is in the process of working with local electric cooperatives and First Energy to confirm available power to the site and also the scope of needed enhancements for the delivery of additional power to the site. Because of the existing and installed infrastructure, the delivery of additional power to the site as the proposed data center develops and expands will be of no impact to adjoining properties. The additional power is already being planned to be delivered to the site and substation, and the Winchester Gateway development is a planned participant to use the power. There will be the need to build an additional substation on the Winchester Gateway site as part of the proposed data center use. That substation, which will be built at the sole cost of Winchester Gateway, will be installed in a manner so that it is behind the already proffered screening which was part of the approved rezoning.

With respect to water usage, the facility will utilize a closed-loop or air-cooled mechanical system. This technology will enable the facility to limit its water usage to a maximum of 35,000 gallons per day (GPD), thereby minimizing the impact on public water resources compared to traditional water-cooled facilities. That said, daily water usage will fluctuate in response to time-of-year conditions, resulting in water usage that occasionally exceeds the GDP projection, but when averaged based on annual usage, will fall within the 35,000 GDP threshold.

Impact on Public Parks

The Winchester Gateway site is not proximate to any existing or planned public parks. Development of a data center on the site will therefore have no impact on any such public facilities.

Impact on Agricultural Resources

The Winchester Gateway site is located within an area of Frederick County designated for Industrial land use by the Comprehensive Plan, meaning neither the site nor immediately contiguous land are envisioned to contain or otherwise support agricultural activities. Consistent with this expectation, the site neither contains nor adjoins any active agricultural resources. As such, the development of a data center on the Winchester Gateway site will not impact Frederick County's agricultural base.

Impact on Forestland

Neither the Winchester Gateway site nor immediately contiguous land contains forestland resources. Development of a data center on the site will therefore have no impact on forestland resources.

Conclusion

The Winchester Gateway Data Center represents a high-value, low-impact land use that is consistent with the Frederick County Comprehensive Plan. By granting the Conditional Use Permit, the County secures nearly $19 million in annual tax revenue and significant job growth while simultaneously reducing traffic congestion compared to the previously approved industrial plans. Through advanced acoustical engineering, extensive site buffering, and architectural

design, the Applicant has ensured the project will remain compatible and beneficial to the community.

PHASE I ARCHEOLOGICAL SURVEY OF THE APPLE VALLEY ROAD TRACT, WINCHESTER, FREDERICK COUNTY, VIRGINIA

FINAL REPORT

Prepared For:

Winchester Gateway, LLC
15 South King St.
Leesburg, VA 20175

Prepared By:

THE OTTERY GROUP
P.O. Box 4265
Silver Spring, Maryland 20914

Jay Lunze, Karl Franz
Lyle Torp (Principal Investigator)

August 2023

Executive Summary

This report presents the findings of a Phase I archeological survey of the Apple Valley Road development tract in Winchester, Frederick County, Virginia. Winchester Gateway plans to develop two parcels of undeveloped land totaling 71.85 acres. At the time of survey, no specific land usage has been determined for the development of the parcel.

The Phase I archeological survey of the Apple Valley Road Tract was conducted as part of the due diligence prior to the pending development of the property. Depending on the development of the property that occurs, the development will likely come under review of the Historic Resources Advisory Board (HRAB), which advises the Frederick County Planning Commission on potential impacts to known historic and archeological resources, or the Virginia Department of Historic Resources (VDHR), which would be required based upon permits that may be required for development.

Archeological fieldwork for the Phase I survey consisted of the excavation of 1,580 shovel test pits across the proposed development tract. Archeological testing was conducted at 15-meter intervals, supplemented with close interval testing around clusters of positive test pits. The testing resulted in 197 positive test pits; 144 positive STPs containing chert debitage and tool fragments associated with pre-contact Native American land use and 53 positive STPs containing historic period artifacts dating from the mid-18th through 20th centuries. A total of five archeological sites were identified on the property during the Phase I survey. These were designated 44FK1076 to 44FK1080.

The Apple Valley Road Tract falls within the boundaries of the National Register-eligible Kernstown Battlefield (034-0007) which was expanded to include the project area in 2011. A metal detection survey was conducted across all areas of the APE where vegetation permitted. A total of 7 metal objects were recovered from 11 targets, with 20th and 21st century aluminum beverage cans noted but not collected. No potential military artifacts were found, although local residents described collecting Civil War material from the property in the past. No members of the local community were willing to bring in their finds for photography and cataloging.

Site 44FK1076 is a dense cluster of 18th and 19th century domestic artifacts, possibly associated with the David Glass, Sr. homestead. Glass purchased the property in 1749 and appears to have remained in the family for three generations, until approximately 1850. The site is relatively intact and does not contain later 20th century materials. A wide variety of ceramics recovered from the site suggests a long duration of habitation, and the potential for encountering intact features is high. Metal detection within the site resulted in the recovery of additional artifacts. A **Phase II investigation is recommended to establish the National Register eligibility of the site.**

Site 44FK1077 is a large moderately dense scatter of pre-contact Native American lithic artifacts with a light scatter of 18th to 19th century domestic artifacts at a springhead. The majority of the lithic artifacts recovered consist of local Beekmantown chert shatter. The site yielded one lithic tool, a nondiagnostic hafted scraper. Two fragments of unidentified pre-contact ceramic were also recovered. The pre-contact component is interpreted as a repeated use Woodland period lithic extraction site. The historic materials are likely associated with the more concentrated site 44FK1076 directly to the north of it and may represent a springhouse or other outbuilding. The ephemeral nature of the site suggests that intact cultural deposits are unlikely. **Based upon the presence of Native American tools and ceramics as well as 18th century material culture,** a **Phase II investigation is recommended to establish the National Register eligibility of the site.**

Site 44FK1078 is a low density scatter of pre-contact lithic material similar to Site 44FK1077. No tools or diagnostic artifacts were recovered from the site. The site is interpreted as a repeated use lithic extraction site. **The site is not considered to represent a significant archeological resource and no additional testing is recommended.**

Site 44FK1079 is a small scatter of pre-contact lithic material consisting of seven artifacts. No tools or diagnostic artifacts were recovered. It is likely that the site is a resource extraction site. **The site is not considered a significant archeological resource and no additional testing is recommended.**

Site 44FK1080 is a cluster of pre-contact lithic artifacts found on the north of an artificial pond and along the original spring running through the property. The site contained a moderate density of artifacts, none of which are chronologically diagnostic. The artifact assemblage is consistent with the other sites within the project area. The only anomalous artifact was a possible nutting stone, which suggests that the site may be more than a temporary resource extraction camp. **The site is not considered to meet the criteria for significance and no additional testing is recommended.**

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Appendices

1.0 Introduction

The Ottery Group conducted a Phase I archeological survey of the Apple Valley Road Tract in Frederick County, Virginia. The project area comprises 71.85 acres of former agricultural land southwest of the City of Winchester. The Phase I archeological survey of the Apple Valley Road property was conducted prior to the pending development of the property. The planned development will be subject to review by the Historic Resources Advisory Board (HRAB), which advises the Frederick County Planning Commission on potential impacts to known historic and archeological resources, or the Virginia Department of Historic Resources (VDHR), which would be required based upon the need for state or federal permits for the planned development.

The Phase I archeological survey consisted of background research, field survey, artifact processing and cataloging, and report preparation. Fieldwork was conducted between June 16th and July 21, 2023. The archeological survey consisted of the excavation of 1,435 shovel test pits excavated at 15-meter intervals, with an additional 145 7.5-meter interval radial tests used to bound artifact concentrations.

Subsequent metal detector survey was conducted within all accessible areas within the project area to determine the presence of material culture associated with the National Register-eligible Kernstown Battlefield.

The methods for completing this Phase I archeological survey follow the recommended approach in the *Guidelines for Conducting Historic Resources Survey in Virginia* (VDHR 2017). The metal detector survey was conducted in accordance with the VDHR guidelines for specialized testing of military sites (VDHR 2017:45-47). All technical staff assigned to this project meet the *Secretary of the Interior's Professional Standards for Archaeology* (36 CFR 61).

The following chapters discuss the environmental and cultural conditions and backgrounds of the project area and Frederick County. The report also details the field and laboratory methods as well as the results of the archeological survey. The last chapter summarizes the survey work performed and provides a conclusion on the identified cultural resources and future research potential within the project area.

2.0 Project Area Location and Description

The Apple Valley Road Tract is situated along a corridor of shipping warehouses located at the junction of Virginia Route 37 and Interstate 81 outside of the City of Winchester, Virginia. The project area is accessible via Middle Road (Route 628) on the north and by Apple Valley Road (Route 652) on the east (Figure 2.1). Apple Valley Road continues southeast until it intersects Route 11/Main Street/Valley Pike, the primary road through the region prior to the construction of Interstate 81 and the main north-south route across the Shenandoah Valley.

The Area of Potential Effects (APE) for the planned development is drawn to include the maximum extend of impacts by potential development. Because there are no development schematics, the APE for the archeological survey includes the entire property. Archeological survey was conducted across the entirety of both parcels within the development tract.

Terrain within the project area consists of an upland ridge running through the center of the project area, with terrain gently sloping to the north-east and south-west. Outcroppings associated with the Beekmantown Group geologic unit appear across the whole of the northern half of the property, with chert nodules weathering out of the exposed bedrock. The southern half of the APE is characterized as hummocky karst topography with hydric soils bounded by small elevation rises of dryer ground.

The project area is situated within the Great Valley subprovince of the Valley and Ridge physiographic province. The Great Valley is a continuous basin that extends along the eastern edge of the Appalachian Mountains through several states. It is characterized by broad valleys, meandering streams, and rolling hills bounded by steeply sloping ridges (Bailey 1999).

The APE ranges in elevation from 839 to 781 ft. above sea level. The landscape surrounding the APE is part of the Opequon Creek drainage and is comprised of an eroded karst topography, this includes at least one disappearing stream which runs underground throughout the southernmost part of the APE before emerging to become Hoge Run to the Southeast, this drains into the Opequon Creek proper 1.5 miles south of the APE. The Opequon Creek comes closest to the APE on its western boundary being just under a mile away. As mentioned previously, a spring head drains into the disappearing stream that connects to Hoge Run along the western boundary of the APE with the low ridge making a drainage boundary. The disappearing stream reappears at the southeastern most corner of the APE and a large cattle pond has been created at this location as a catchment basin (Figure 2.1).

The United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey maps four different upland soils within the project area (Figure 2.2). The soils are characterized as well-drained soils found in upland settings; ridges, interfluves, and mountain slopes (NRCS 2023). These soils belong to the Frederick-Poplimento series. The most common soil is the Oaklet silt loam, 7-15% slopes, which covers approximately 60% of the project area in its southern expanse. The other soils, the Frederick-Poplimento very rocky loam, 2-7% slopes, and Frederick-Poplimento loam, 2-7% slopes, each account for approximately 15% of the project area respectively. A small area along the northern edge of State Route 37 is comprised of soils of the Swimley silt loam, 2-7% slopes and makes up the remainder of the APE.

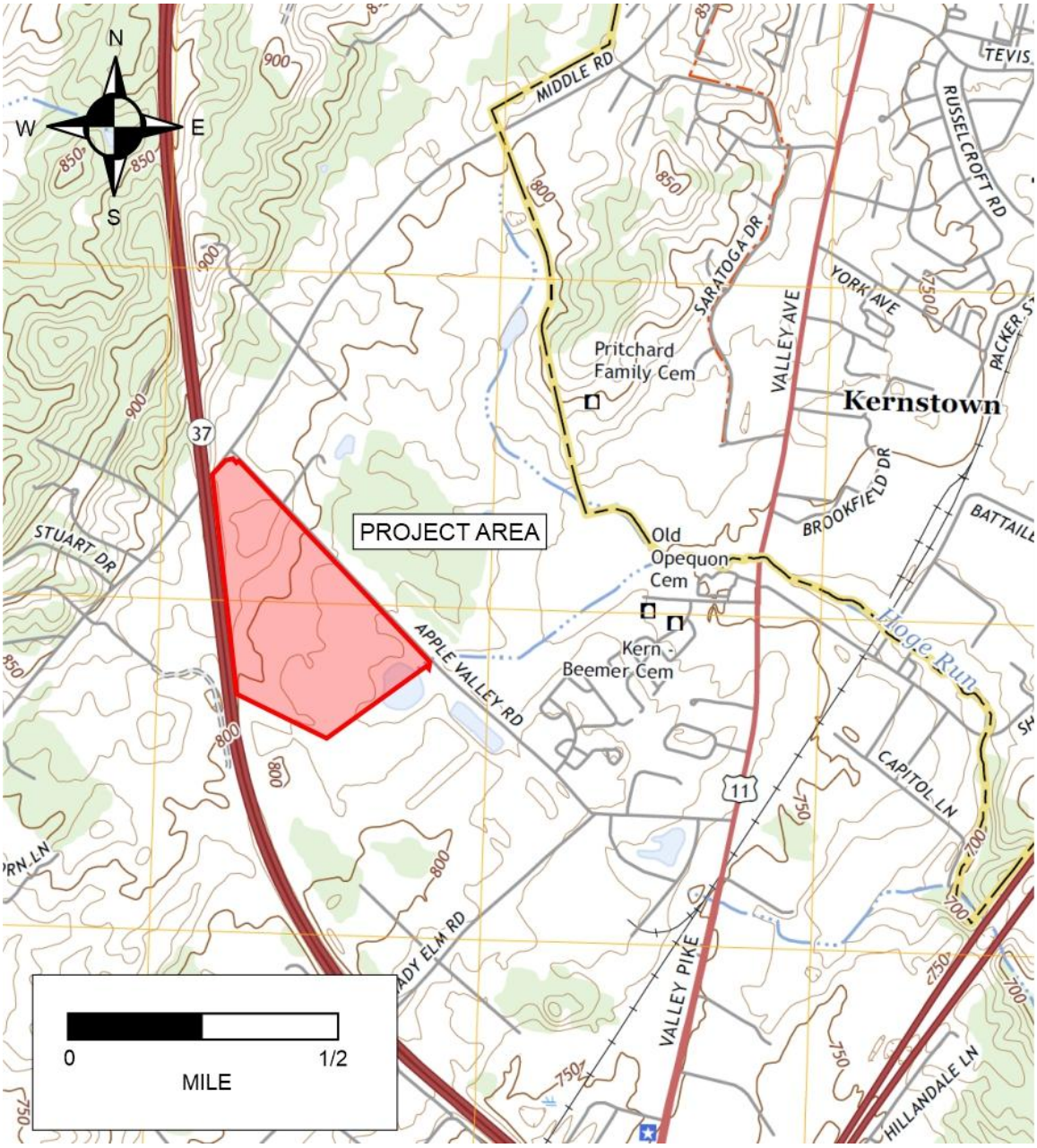
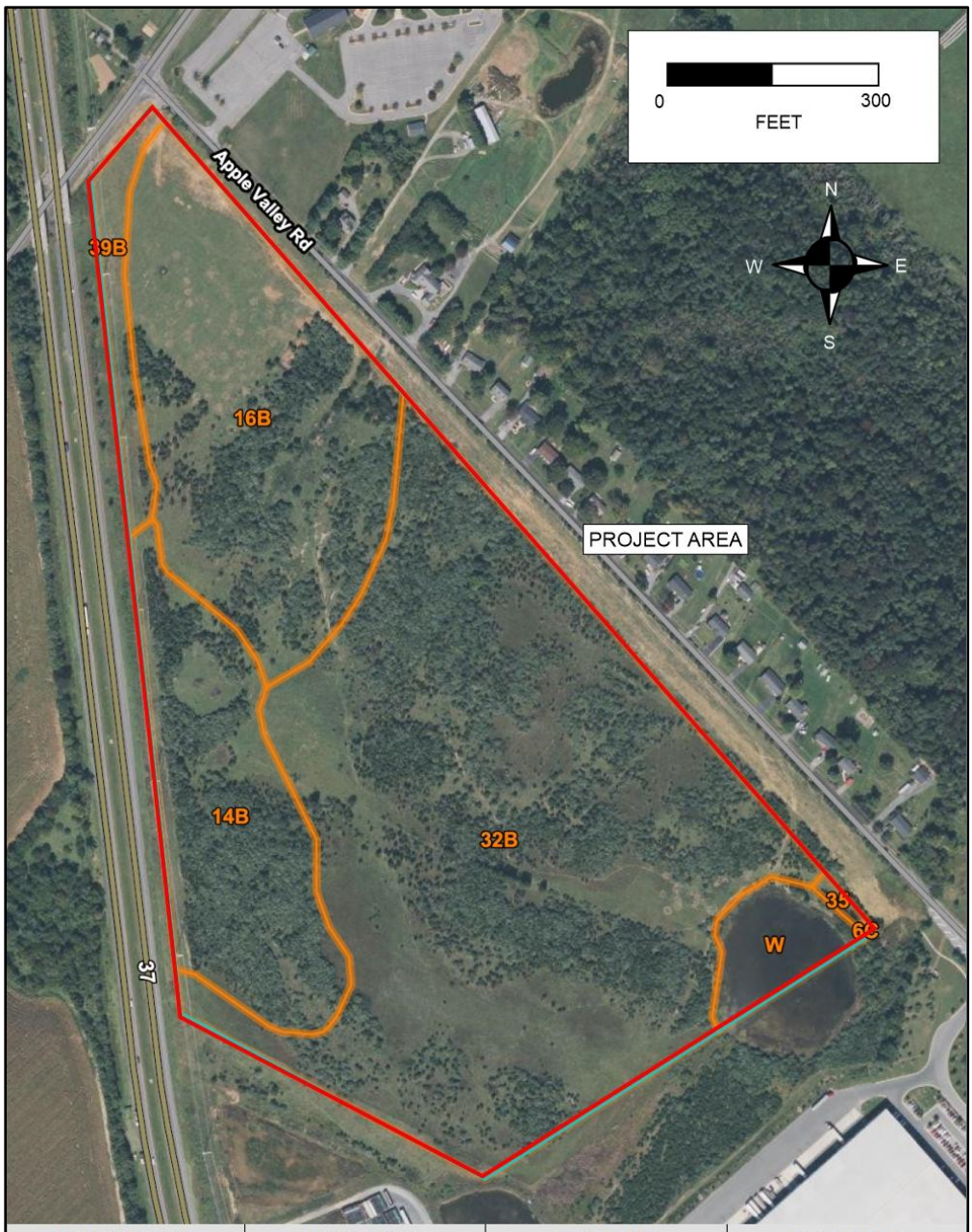


Figure 2.1: Location of the project area on the 2022 USGS Winchester, VA quadrangle map.



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6C	Carbo-Oaklet, very rocky silt loams, 2 to 15 percent slopes	0.0	0.0%
14B	Frederick-Poplimento loams, 2 to 7 percent slopes	9.4	14.1%
16B	Frederick-Poplimento, very rocky loams, 2 to 7 percent slopes	15.4	23.1%
32B	Oaklet silt loam, 2 to 7 percent slopes	37.8	56.6%
35	Pagebrook silty clay loam	0.1	0.2%
39B	Swimley silt loam, 2 to 7 percent slopes	1.8	2.7%
W	Water	2.1	3.2%

Figure 2.2: Soils within the project area.

Figure 2.3: Terrain and vegetation in the west central portion of the project area.

Figure 2.4: Spring in the southern portion of the project area.

Figure 2.5: Filled sinkhole near the artificial pond.

Figure 2.6: Pile of demolished split rail fence at a former property boundary within the project area.

Figure 2.7: Outcropping of chert nodules within the host Beekmantown dolostone.

3.0 Environmental and Historical Background

3.1 Environmental Context

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

3.1.1 Paleo-Climate

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

The last glacial episode reached its peak at approximately 18,000 BP. The glaciation occurring at the terminal Pleistocene had profound effects upon the climate of the Middle Atlantic region. The climate during this time was cool and wet; average temperatures were several degrees lower than present (Carbone 1976). Surface runoff from the retreating glaciers and heavy precipitation resulted in numerous upland bogs and poorly drained lowlands (Custer and Wallace 1982). A relatively open forest dominated by spruce and pine was the predominant vegetative cover. Moist climatic conditions during this episode promoted the development of uplands and increased wetland areas associated with stream drainages. These vegetation communities would have provided unique sets of resources and unique resource distributions for Paleoindian and Early Archaic populations.

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

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

The warmer and drier climatic conditions resulted in the draining of bogs and pocosins, which decreased the number of water sources available across the landscape.

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

3.1.2 Modern Climate, Flora, and Fauna

Frederick County is located in the middle latitudes with prevailing winds generally flowing from northwest to southeast. These conditions provide for a continental climate with well-defined annual seasons. Temperatures in Frederick County vary from an average daily high temperature of 41.7 degrees Fahrenheit (°F) in January to 86.6°F in July. An average of 38.43 inches of precipitation falls over the course of a year, with highest amounts in June and July. There is an average annual snowfall of 27.8 inches (Holmes and Wagner 1987).

3.2 Pre-contact Cultural Sequence

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

There are three general pre-contact Native Americans cultural traditions recognized in the Mid-Atlantic region: Paleoindian, Archaic, and Woodland. Originally developed as cultural historical units primarily intended to classify temporal and spatial site attributes, these traditions are defined by diagnostic artifact forms and assemblages. In more recent years, this scheme has been modified to emphasize cultural adaptations to changing ecological conditions.

3.2.1 Paleoindian Period

The Paleoindian period (ca. 12,000-6,500 BP) represents human occupation and utilization of the lands representing a tundra-like environment following the retreat of the Wisconsin glaciers circa 11,000 B.C. (Dent 1995). Classical models of Paleoindian traditions propose a hunting and foraging subsistence pattern focused on extinct megafauna, pursued by highly mobile, opportunistic populations organized as bands composed of multiple family groups.

These models, largely derived from Paleoindian sites identified west of the Appalachian chain, have proved to be not directly applicable to eastern North America, where direct association between Paleoindian artifacts and extinct megafauna has not been identified. There is also material evidence to support the hypothesis that Eastern Paleoindian populations exploited of a wider range of resources, perhaps most notably the findings at the Shawnee-Minisink site along the Delaware River in the Upper Delaware Valley (McNett 1985). Thus, Paleoindian populations were mobile, frequently changing location throughout the year within a territory in order to utilize available resources. Gardner's research at the Flint Run Complex in the Shenandoah Valley in Virginia (Gardner 1974, 1977, 1979) has identified several types of sites organized around the base camp, which was the main focus of habitation by aggregate bands. Base camps tend to have heterogeneous artifact assemblages, in contrast to smaller special purpose sites that were occupied by smaller groups for shorter periods of time to make use of seasonally available resources. Base camps were tied to

quarry sites where high-quality cryptocrystalline lithic materials were extracted for stone tool manufacture (Gardner 1977, Goodyear 1979). Gardner (1974) and others (Witthoft 1953) have also proposed that upland settings were utilized as they offered a vantage point from which to observe migrating animals. Smaller camps and special use sites radiate from the base camps in varying distances.

Gardner (1974) notes that Paleoindians placed an emphasis on hunting, although it is most likely that exploitation of available floral resources were also a critical component of Paleoindian subsistence strategies. In many areas, Paleoindian sites are associated with large Pleistocene megafauna such as mammoth and mastodon, however, Gardner (1980) notes that the hunting economy probably focused on deer, elk, and possibly caribou. Diagnostic projectile point forms include (from earliest to latest) Clovis, Mid-Paleo, and Dalton-Hardaway. Although the Thunderbird site is located in nearby Warren County, no archeological sites with Paleoindian components have been recorded in Frederick County.

3.2.2 Archaic Period

The Archaic Period (8,500-3,000 BP) spans a great amount of time and substantial cultural change in the eastern United States, and is traditionally divided into three subperiods: Early, Middle, and Late. Generally, the Archaic Period refers to pre-ceramic sites associated with nomadic hunter-gatherer populations that occupied the emerging Holocene deciduous forests. This was considered distinct from the Paleoindian period that was characterized by highly mobile hunters reliant on big game for their livelihood. Warmer and drier climatic conditions at the onset of the Holocene resulted in a more varied floral and faunal resource base and resulted in cultural adaptations during the Archaic period. Settlement patterns were seasonally oriented, and groups were still semi-nomadic, with a subsistence base focused on hunting and gathering. An increase in population density appears to have resulted in both a larger number of sites and an increase in site revisitation, especially during the Late Archaic. In all probability, the geographical range of individual populations during the Archaic was smaller and more seasonally defined compared with the range of human groups during the Paleoindian period. There is evidence of increased trade between distant groups, such as the rise in the quantity in eastern sites of rhyolite quarried from the Catoctin Mountains in Maryland and Uwharrie Mountains in North Carolina.

Research over the last two decades has revealed that the transition between the Paleoindian and Early Archaic was not as great as previously thought. The transition to the Archaic appears to have been more gradual and characterized by exploitation of an increasingly broad range of local resources and decreasing mobility.

The Early Archaic sub-period (8,500-7,500 BP) is viewed as a continuation of the earlier Paleoindian lifeways, with an emphasis on the use of cryptocrystalline lithic materials for tool making. Lithic technology, however, shifted to a variety of corner-notched types, including Hardway, Palmer and Kirk, as well as bifurcate-base types such as Lecroy during the transition to the Middle Archaic period (Dent 1995). This shift in projectile point form may indicate diversification within the system of production, as economies shifted from a concentration on hunting deer and other large game to more diverse faunal exploitative patterns focused on smaller game. By the end of this sub-period, less emphasis is placed upon high-quality cryptocrystalline stone, suggesting that the settlement system based on quarry-related base camps became less important. A total of 16 sites with specified Early Archaic components have been recorded in Frederick County.

The Middle Archaic (7,500-5,000 BP) is cited as a time when hunting and gathering groups began to develop a subsistence strategy that incorporated a diverse array of seasonally available resources. This is indicated by the addition of specialized plant processing tools in Middle Archaic assemblages.

A wider variety of projectile point styles is evidenced during this time; however, the use of cryptocrystalline stone for tool production is nearly abandoned. Diagnostic artifacts include Stanley, Morrow Mountain, Guilford, and Halifax point types. Tool kits are seen as becoming increasingly diversified during this period, with many more ground- and rough-stone implements (Dent 1995). The focus of settlement is at seasonally occupied base camps located on the floodplains of major drainages where seed plants could be exploited. Hunting and limited-use sites are located in the uplands, along lower-order streams and near lithic sources, and adjacent to interior swamps and swampy floodplains of low order drainages. A total of 20 sites with specified Middle Archaic components have been recorded in Frederick County.

The Late Archaic sub-period (5,000-3,000 BP) is characterized by cultures that made efficient use of their local environments, and as a result, there is an increased degree of regional distinction that is visible in the archeological record. During this time semi-sedentary settlement systems expanded, possibly as a result of greater aridity that tethered groups to critical resources, or an increase in population that resulted in territorial circumscription. A total of 48 sites with specified Late Archaic components have been recorded in Frederick County, more than any other pre-contact time period.

Increased use of riverine and estuarine resources is evident. The development of estuaries throughout the Coastal Plain from the continued rise in sea levels resulted in the increased distribution of crabs and oysters and extensive seasonal runs of anadromous fish. Steatite bowls are introduced into the technology inventory. The majority of projectile points representative of this time period consist of side-notched and stemmed varieties, which are typically manufactured from quartz.

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

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

3.2.3 Woodland Period

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

The Early Woodland period represents a continuation of trends begun during the Middle and Late Archaic periods towards increased exploitation of local resources and decreased mobility. The increased productivity of coastal and estuarine resources resulted from the stabilization of sea levels; marshes developed and estuarine areas rapidly became places on the landscape in which fish, waterfowl, and shellfish could be easily exploited. Floodplains are increasingly the focus of plant harvesting. A total of 26 sites with specified Early Woodland components have been recorded in Frederick County.

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

During the Middle Woodland (300 B.C.-A.D. 900) sub-period, villages grew in size and became more permanent. Handsman and McNett (1974:26) have suggested that there was a greater reliance on horticulture resulting from an increasing population. Diagnostic artifacts include Popes Creek ceramics that are more frequent in the Coastal Plain, and Albermarle wares which are more common in the Piedmont, as well as shell-tempered Mockley wares. A total of 19 sites with specified Middle Woodland components have been recorded in Frederick County.

Sedentism and subsistence based on food production were solidly established by the Late Woodland (A.D. 900-1,600). Large, permanent villages were located on the floodplains of major rivers. By A.D. 1,350, there is evidence of stockaded villages, suggesting extensive warfare throughout the Middle Atlantic region. Shell-tempered Townsend series ceramics are predominant in Late Woodland assemblages, while crushed-rock-tempered Potomac Creek wares are prevalent in the Inner Coastal Plain to the Fall Line zone. Triangular projectile points are typical of this period. A total of 26 sites with specified Late Woodland components have been recorded in Frederick County.

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

At the time of European arrival into the Chesapeake region, the Piedmont area of northern Virginia was inhabited by the Manahoacs, a tribe or confederacy of Siouan-speaking people first encountered by Captain John Smith (Haynes 1990; Barbour 1986II:175). The area around Leesburg appears to have been the center of overlapping culture groups, defined primarily by linguistic characteristics. Algonquian speaking groups occupied much of the land on both sides of the Potomac River up to the Fall Line. Jennings (1978) claims that Iroquoian speaking Susquehannocks were primarily located north of Leesburg, and similar accounts (e.g., Hudson 1976) note that Iroquoian or Siouan speaking groups probably inhabited what is now the Leesburg area. However, as European settlements began encroaching into former Indian lands, many of these original inhabitants left the area or were ravaged by diseases for which they had no resistance.

3.3 Historic Background

Prior to its establishment in 1738, Frederick County was initially part of a five million acre tract called the Northern Neck of Virginia Proprietary that was granted in 1649 to seven noblemen by King Charles II of England. The county was named after Frederick, the father of King George II, of England, or possibly after the town of Winchester, originally name Fredericktown upon its founding in 1732 (Holmes and Wagner 1987). Winchester was founded on part of 140,000 acres of land

secured by Jost Hite and Robert McKay, who settled there with 16 families that they brought with them.

The first European permanent colonial settlements in what became Frederick County began between 1725 and 1730, although the area had been visited by trappers, traders, hunters and explorers since at least the 1670s. Settlers moved into this area from neighboring colonies of Maryland and Pennsylvania, and also New Jersey, following the major Indian Path down the Shenandoah Valley. During this time, the primary motivation for settling here was the presence of fertile land which was used for growing grains and raising livestock. The terrain and lack of a reliable transportation network made the area unsuitable to the production of tobacco. The many creeks had mills built along them to transfer grain crops to flour and fruit to cider and alcohol, which were longer lasting, easier to transport to the coastal cities, and more profitable than fresh produce. The 1809 Charles Varle map of Frederick, Berkeley, Jefferson Counties shows multiple mills on Opequon Creek south of Winchester and Kernstown as well as distilleries and blacksmithing establishment to the north in Winchester (Figure 3.1).

During the 18th century there were few major roads crossing overland. The Indian Path was widened and improved and became the Great Wagon Road during the mid-18th century, spurring increased settlement. Small communities developed along the road including Winchester, Kernstown, Stevens City, Middletown, Woodstock, and Strasburg most of which were founded in the period of 1730-1770. Frederick County was organized in 1738 as a reflection of the increasing population shifts. Kernstown, which is the location of the APE was originally founded by Jost Hite who purchased forty thousand acres from John Van Meter in 1731. In 1735, Jost Hite settled large portions of this land along the upper Opequon Creek along the Great Wagon Road/ Valley Turnpike. The families who bought properties within or adjoining the APE were the Glasses, Cartmells, Woods, Vances, and Hoges all of whom purchased land from Hite from 1735 to 1742.

The area that makes up this settlement founded by the 16 families who would establish the Opequon Presbyterian Church the year of their arrival had a rich prehistory with many of the 19th historical works covering it mentioning that it had been referred to as the Shawnee Hills or Shawnee Springs, vestiges of these place names still survive on modern roads in the area today. Historical accounts also mention that ancient monuments in the form of mounds and burials were also present, as well as a substantial village just north of Winchester. Raiding parties of Delaware and Catawba were frequent in the area up until the French and Indian War. Historical accounts, especially of the Glasses, whose ancestor purchased at least 920 acres from Jost Hite in 1736 indicate that their homes were palisaded and had defensive slits cut in the shutters. Many of the second generation of the settlers of Kernstown and the Opequon Presbyterian Church would serve as militiamen and serve in various forts of the frontier, some having seen conflicts in Ireland and Germany before arriving to the frontier.

Winchester, established within 2 years of Kernstown and largest of the settlements, was important to the area during the French and Indian War. Col. James Wood who had property on the edge of the APE purchased a large area of land and laid off streets even before the town was officially recognized in 1758. Fort Loudoun in Winchester was constructed in 1756 to protect the frontier community. The fort had barrack space for 450 and was the largest of the frontier fortifications. It was besieged in 1760 during an offshoot of the French and Indian War, resulting in the surrender of English troops. Raids on Winchester and Kernstown would continue in the area until 1766. Joseph Martin's 1836 *A Comprehensive Gazetteer of Virginia and the District of Columbia* showed the population of Winchester, the closest town to Kernstown, is included as 3,620 residents with a wide variety of businesses, schools, and churches. Kernstown would contribute to Winchesters growth by providing the raw agricultural goods which would be processed as well as being an important shipping hub for the products of the many water mills along Opequon Creek.

Figure 3.1: Approximate location of the project area on the 1809 Charles Varle *Map of Frederick, Berkeley, and Jefferson Counties in the State of Virginia.*

Kernstown would be established as an official town by an act of the Virginia Assembly in 1799 and named after Adam Kern Jr. whose father had bought land just south of Winchester in 1765 along the Great Wagon Rd. Kernstown as a district stretched from Hoge's Tavern on the south at the intersection of the Great Wagon Road and the Opequon Creek to the North of the Opequon Presbyterian Church at the properties owned by the Kern family. In the early 1830's the railroad was built through the Shenandoah Valley adjacent to the original Great Wagon Road passing beside Kernstown. This infrastructure improvement allowed for the more profitable movement of processed agricultural goods from Kernstown to Winchester and external markets. For the first three generations the 16 families who came with Jost Hite intermarried and kept their lands in ever smaller divided portions amongst their families. During the early 19th century these families who had prospered in the area would use Winchester as a steppingstone to move out into the Ohio, Kentucky, and Tennessee frontiers. While many of the founding families can still be found within the boundaries of Kernstown, throughout the early 19th century and especially after the Civil War as Kernstown became more peripheral to Winchester those families began to sell their farms to people from farther afield.

Two Civil War battles were fought adjacent to the APE and both Confederate and Union Soldiers likely camped within its boundaries. These two battles at Kernstown were part of the strategic control of the Shenandoah Valley and its resources by the Confederacy as well the Union Army's attempts to disrupt this resource network at the same time protecting Maryland, Pennsylvania, and Washington D. C. from assault. As part of Maj. General Stonewall Jacksonson's early Valley Campaign he was ordered by General Johnston to prevent three separate Union forces from reinforcing McClellan's movements on Richmond. During this time 17,000 troops under his command kept 52,000 Union troops from reaching the Piedmont. Col. Turner Ashby, the Commander of the 7th Virginia Cavalry under General Jackson on skirmished with the Federal outpost on the southern edges of Winchester on March 22nd, 1862. He falsely reported to General Jackson that these troops were on the move to support over divisions in the Piedmont. With direct orders from General Johnston General Jackson's hand was forced and he moved his troops to engage the Union Army to hold them at Winchester.

General James Shields 8,000 men in their fortified positions awoke on the morning of March 23rd to see Col. Turner Ashby's cavalry return along with Confederate artillery. The Confederate forces staged their battle line roughly 700 meters northeast of the Area of Potential Effects and opened fire on General James Shields Union divisions at 9 am. Col. Ashby was unable to flank the Union forces from their entrenched positions around Pritchard's farm just northwest of Opequon Presbyterian Church on the northern edge of Kernstown. General Jackson at this time had gathered his troops and was riding north from Strasburg, arriving in the vicinity of Kernstown shortly before 3 pm. The confederates attempted to flank the Union forces at Sandy Ridge to the northeast of the project area but were pushed back by heavy artillery fire from Pritchard's farm and Union reinforcements from Winchester. Running low on ammunition, the 3,700 Confederate forces retreated from the field. The Confederate casualties numbered 740 killed while the Union army lost nearly 500 of the 7,200 troops they had committed to the battle. The First Battle of Kernstown was one of Stonewall Jackson's two major defeats, but because of the battle, the Union command chose to keep Winchester reinforced, reuiring troops that could have been otherwise used for the campaigns in the Piedmont. Figure 3.2 illustrates the position of the First Battle of Kernstown to the project area.

The entire Shenandoah Valley would be a battleground throughout the American Civil War with both Union and Confederate victories. Late in the War during 1864 Kernstown would once again be host to another battle caused by poor intelligence, this time on the Union side. The Second Battle of

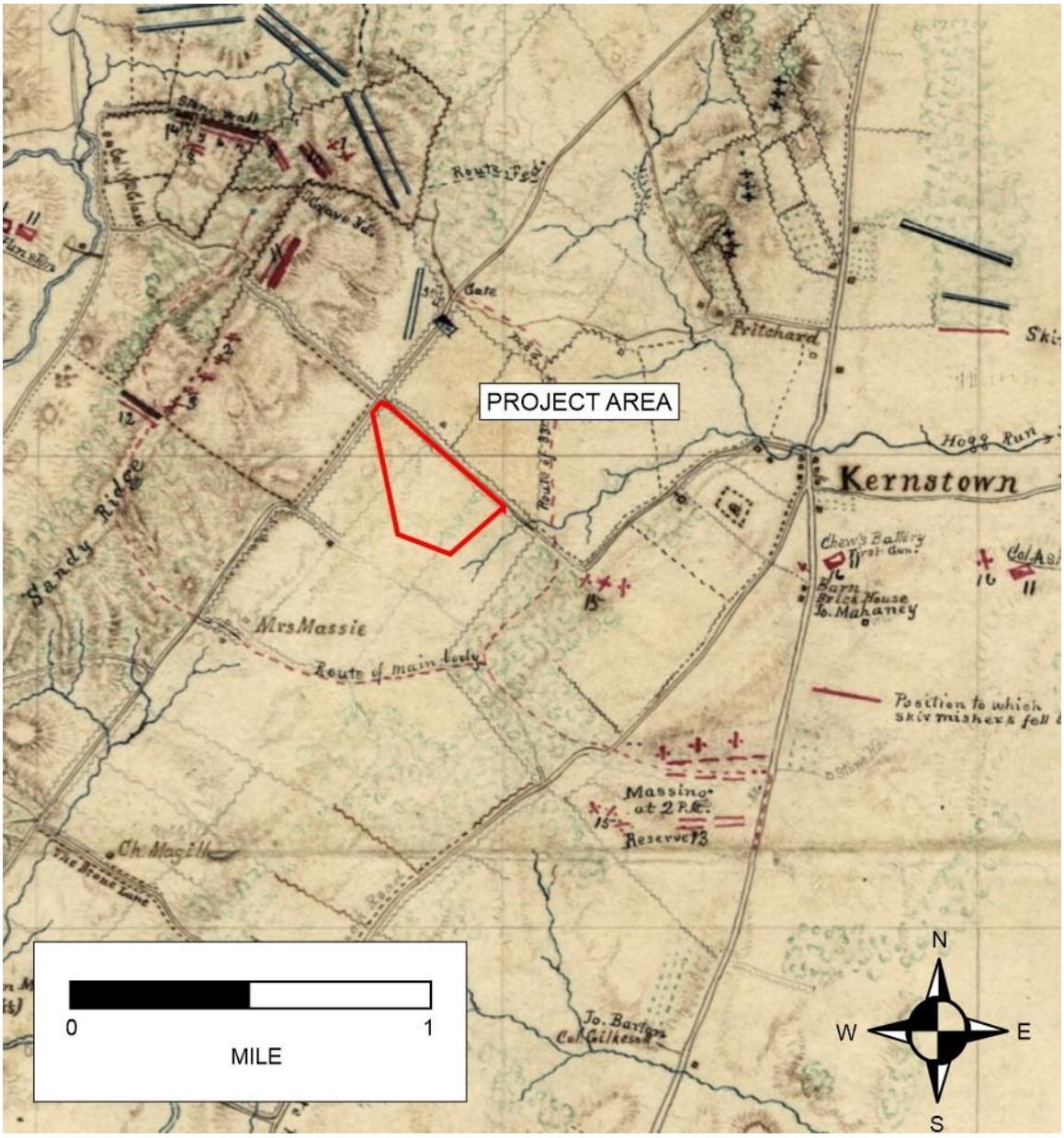


Figure 3.2: Location of the Area of Potential Effects on the Hotchkiss Map of the Battle of Kernstown, Sunday, 23 March, 1862.

Kernstown would happen late in the American Civil War after a series of defeats which resulted in the loss of valuable territory for the Confederacy. The motivations for the battle were much the same as the first, that was to keep Union troops from entering the theatre of war in the Piedmont. The commander of the overall Confederate forces in the Shenandoah Valley had fallen to General Jubal Early who had suffered a strategic defeat at the Battle of Rutherford's Farm on July 20th, 1864. The Union commander in the area General Horatio Wright after this battle assumed incorrectly that General Early and his forces would retreat out of the Shenandoah Valley and dispatched a large portion of his veteran forces from West Virginia and Virginia to support the sieges of Richmond and Petersburg. This left the bulk of Wrights forces under General George Crook with only 13,000 infantry, cavalry, and artillery men in the Shenandoah Valley. General Early learned of these events from prisoners taken during cavalry skirmishes after the Battle of Rutherford's Farm and with clear

orders from General Robert E. Lee was tasked with holding the remaining forces in the Shenandoah Valley.

Early on the morning of July 24th, 1864 General Early began marching his troops up the Valley Turnpike towards Winchester. General Early was confident his forces, which numbered 16,000 could overpower General Crook's. Col. Joseph Thoburn's held the position on Sandy Ridge and Col. James Mulligan's Artillery with new 10-pound Parrott rifles were stationed at Pritchard's Farm establishing his line of battle along the same high ground that was so successful for the Union Army during the First Battle of Kernstown. This included the digging of rough defensive works on the hill at Pritchard's Farm. Due to a lack of cavalry available, the eastern flank of General Crook's position was weakened with only a small contingent under Col. Jacob Higgins to hold the flat area east of Kernstown and the Valley Turnpike. By about 8 am on the morning of the 24th heavy skirmishing began as Confederate cavalry under Col. William Jackson assaulted Sandy Ridge much as at the beginning of the First Battle of Kernstown. The bulk of this offensive took place along Sandy Ridge and Middle Road just adjacent to the APE. This was followed up by Confederate infantry troops under Col. Stephen Ramseux assaulting Sandy Ridge moving down Middle Road and across the Northern edge of the APE. This cavalry and infantry skirmishing was held back along Sandy Ridge by Mulligan's troops.

The Confederate forces used their knowledge of the terrain around Kernstown to their advantage, using ravines and low elevation areas to covertly move troops into position along General Crook's weak east flank many of which are in the southern part of the APE. General Mulligan knowing the weakness of the line of battle at this point dispatched the 54 Pennsylvania Infantry to reinforce this part of his line. The confederate assault of was intense enough that Mulligan's infantry under Col. Thomas Harris were pushed back from their advance positions all the way back to Pritchard's Farm. At this time in the battle Col. Mulligan sent an urgent plea to General Crook for more reinforcements to shore up his weak east flank. Mulligan sent a brigade under Col. Rutherford B. Hayes and an additional artillery battery to bolster the Union defenses. At this point in the Battle General Crook left the safety of Winchester and went to the front lines to manage the offensive directly. General Crook decided to take decisive action and pushed a counter offensive. He had Thoburn, Mulligan, and Hayes leave their stable positions and advance on the larger Confederate force.

This choice would lead to the Union defeat at the Second Batlle of Kernstown. Confederate General Wharton had skillfully taken up position along Crook's weak east flank by moving his troops through the project area. Wharton's troops under General Breckinridge pushed Hayes's forces back. At the same time Ramseux's Confederate division assaulted the Union troops along Middle Road and Sandy Ridge weakened their forces there. By early afternoon the Union positions around Kernstown had been completed surrounded by the Confederate line, which by 1 pm. spread over 4 miles. The Confederate forces at this time put all their strength on the northwest and south flanks of the Union forces. The confederate forces had been bolstered by the arrival of Maj. General Robert Rodes along the Unions eastern flank along with a contingent of 12 artillery pieces under Maj. William McLaughlin. Around 3 pm the Union forces under Mulligan and Hayes attempted another advance on the Confederate positions but were pushed back by overwhelming fire from the Confederate forces to the stone walls of the Opequon Presbyterian Church. By 4 pm General Crook issued the orders for a general retreat resulting in a Confederate victory.

In the post-Civil War period, Frederick County continued much as it had prior to the war. For the first decade, population of the County remained largely unchanged, with gradual increases through the end of the 19th century.

At the end of the 19th century there was a shift from grain-livestock agriculture to an orchard-livestock agricultural model (Geier and Hofstra 1991). The transition was mostly complete by 1930. During this period, small family farming plots were commonly consolidated to enable large scale production in competition with the growing number of commercial farms. By 1958, the majority of the agricultural properties in the vicinity of the project area are orchards.

3.3.1 Tract History

The project area is situated within the historic boundaries of the town of Kernstown established as a community in 1736. The earliest maps to show detail of the vicinity of the project area, including the 1809 Varle Map do not show any structures within the project area. Later maps, including the 1862 Hotchkiss *Map of the First Battle of Kernstown,* show a road and a possible structure on the southern side of the project area. The town of Kernstown was established by 16 families who bought land either from Jost Hite, John Van Meter, or Lord Fairfax and established the Opequon Presbyterian Church in 1735. Hofstra and Geier in their 1996 work *Beyond the Great Blue Mountain: Historical Archaeology and 18th Century Settlement in Virginia West of the Blue Ridge* through careful research established the property boundaries of many of these families during the 18th century. The land ownership either within the project area or just adjacent to it during this period fell into three families: the Cartmells, Glasses, and Hoges (Figure 3.3).

Nathaniel Cartmell, known as Nathaniel Cartmell of England, was born sometime in the third quarter of the 17th century in Westmoreland England and immigrated to New Jersey with his family in 1724. Nathaniel of England apparently died before 1735 and it is one of his eldest sons and his

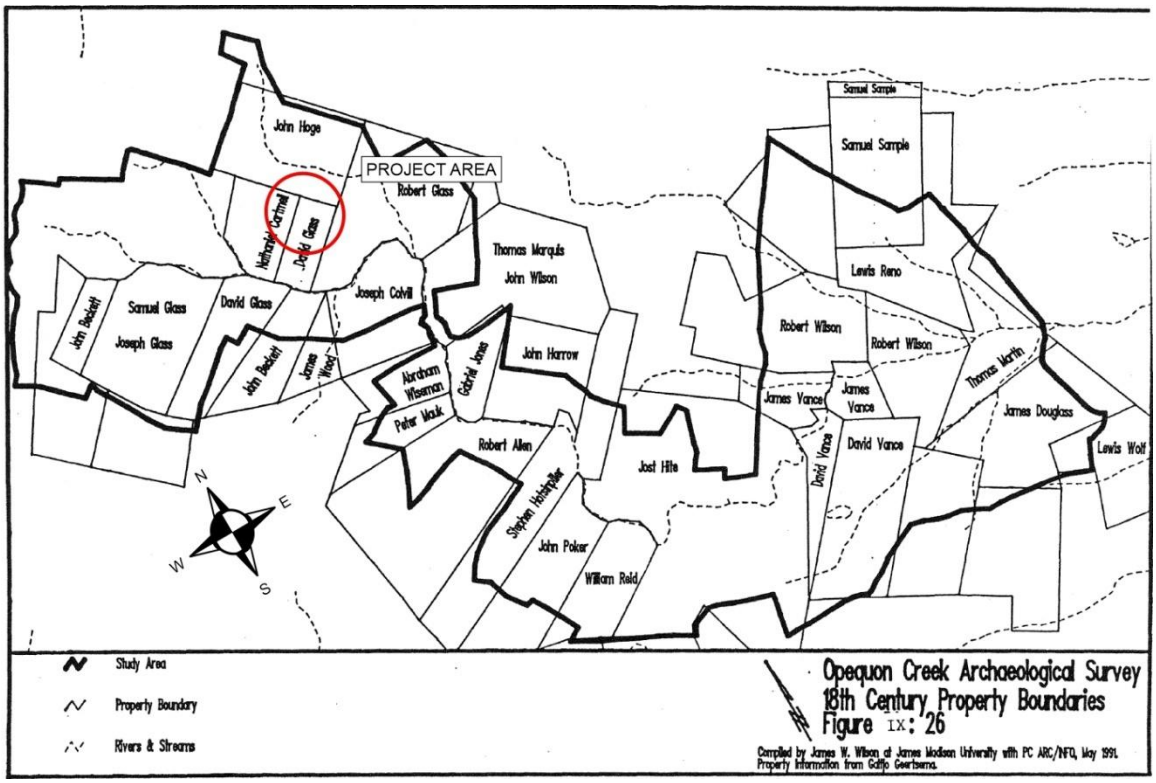


Figure 3.3: 18th century land grants which formed the basis of the project area.

widow who have appeared to have had a significant property south of the Opequon Creek. The survey of the purchase of land took almost two years to complete as the widow and her children did not arrive until 1737. The Cartmells built large estate houses on many of their properties including Homespun, Cloverdale, and Greenfield Farm. Nathaniel I also purchased other smaller tracts for his children, but there is little record of residences on those properties. Much of the Cartmell property boundaries were in dispute during the 18th century due to the family not officially leaving the parcels in wills and having land titles in their siblings or even cousins' names. The Cartmell family as a whole were farmers, millers, blacksmiths, and soldiers during both the French and Indian War and the American Revolutionary War.

The next family who may have owned portions of the center and eastern portion of the project area were the Glasses. Samuel Glass the Immigrant and his wife Mary Gamble immigrated from County Down Ireland in 1735. Samuel was born in 1660 and was already of a respectable age when arriving in the Opequon drainage in 1736. He brought with him his children and in some cases his grandchildren. There is some dispute over the amount of land he initially purchased with early accounts stating 1,600 acres and later works stating 920, this is likely due to the fact he purchased 900+ acres south of the Opequon, but also held 700 acres north of the Opequon. The land was purchased from both Jost Hite and Lord Fairfax. Prior to his death in 1767, he willed his sons several portions of his land holdings. Samuel Glass the Immigrant's three sons all have properties which were adjacent to or within the APE. Samuel Glass sold his eldest son John 250 acres from his original purchase in 1749. John never resided on this property though and may have rented it to others as he remained with his family at Beverly Manor, after his death his other properties were broken up between his 11 children. Samuel Glass sold to his son Joeseph 250 acres in 1751, much of this property was divided upon his death in 1794 by his 13 children. Robert David, another one of Samuel Glass's sons, purchased his own property to the northeast of the APE, this property was dispersed largely to his 13 children upon his death in 1797. David Glass likely owned a portion of the property that makes up the APE which he purchased from his father in 1749. His two sons inherited his estate upon his death in 1775. The Glasses married into many neighboring families including the Cartmells, Hoges, Woods, Becketts, and Vances.

William Hoge immigrated from Scotland in 1682 having been born in 1660 and met his wife Barbara Hume on that voyage. William Hoge was the son of Sir James Hoge of Scotland and his future wife was the daughter of Sir James Hume. They had both journeyed from Scotland on the Ship Caledonia to Perth Amboy New Jersey. Barbara's parents died on the voyage and William attended her for the remainder of the voyage until they were married in 1695. William was a tailor by profession but also served on the board of a trading company established by Governor Berkely. In 1688 he served a session in the House of Deputies of the New Jersey Assembly. In 1689 he moved to present day Delaware. In 1710 he purchased 1,000 acres in Chester County Pennsylvania and moved his family there until 1729. The acreage of William's estate on the branch of the Opequon Creek that still bears his name has been in dispute since historians of the 19th century. His property was "vast" compared to his neighbors. All of his children were prosperous as farmers, investors in mills, and running Hogue's Ordinary the local tavern at the intersection crossing the Opequon Creek and the Great Wagon Road/ Valley Turnpike. William Hoge's grandson John II, the son of John, would later move onto this property and establish a farm at the same time becoming Opequon Presbyterian Church's first permanent minister. This property would later be broken up and sold, with the northern portion being sold to the Pritchard family, who established Pritchard's Farm, a prominent defensive feature during the First and Second Battles of Kernstown during the Civil War.

There is a break in the land ownership records for the area of the APE during the second to third quarter of the nineteenth century. The 1885 D.J. Lake and Company *Atlas of Frederick County, Virginia* contains a map of the Shawnee District for which Kernstown is well illustrated at that time

(Figure3.4). That map shows the ownership of the property by the Fullerton family, descendants of Dr. Humphrey Fullerton who had served in the Continental Army during the American Revolutionary War. Aerial photographs from the mid-20th century show that the property remained much as it appeared in 1885, with cleared fields that are likely used for pasture (Figure 3.5). The pattern of land ownership appears to have continued into the 1970s, when Virginia Route 37 was constructed through the farm. Aerial photographs from 1982 and later show increasingly encroaching brush, likely showing the abandonment of the farmhouse on the southern site of the highway. The fields within the project area remain well maintained and actively used as pasture until 2006. Beginning in 2008, aerial photographs show scrub brush overtaking the southern fields, with only the northern field still in use until the present day.

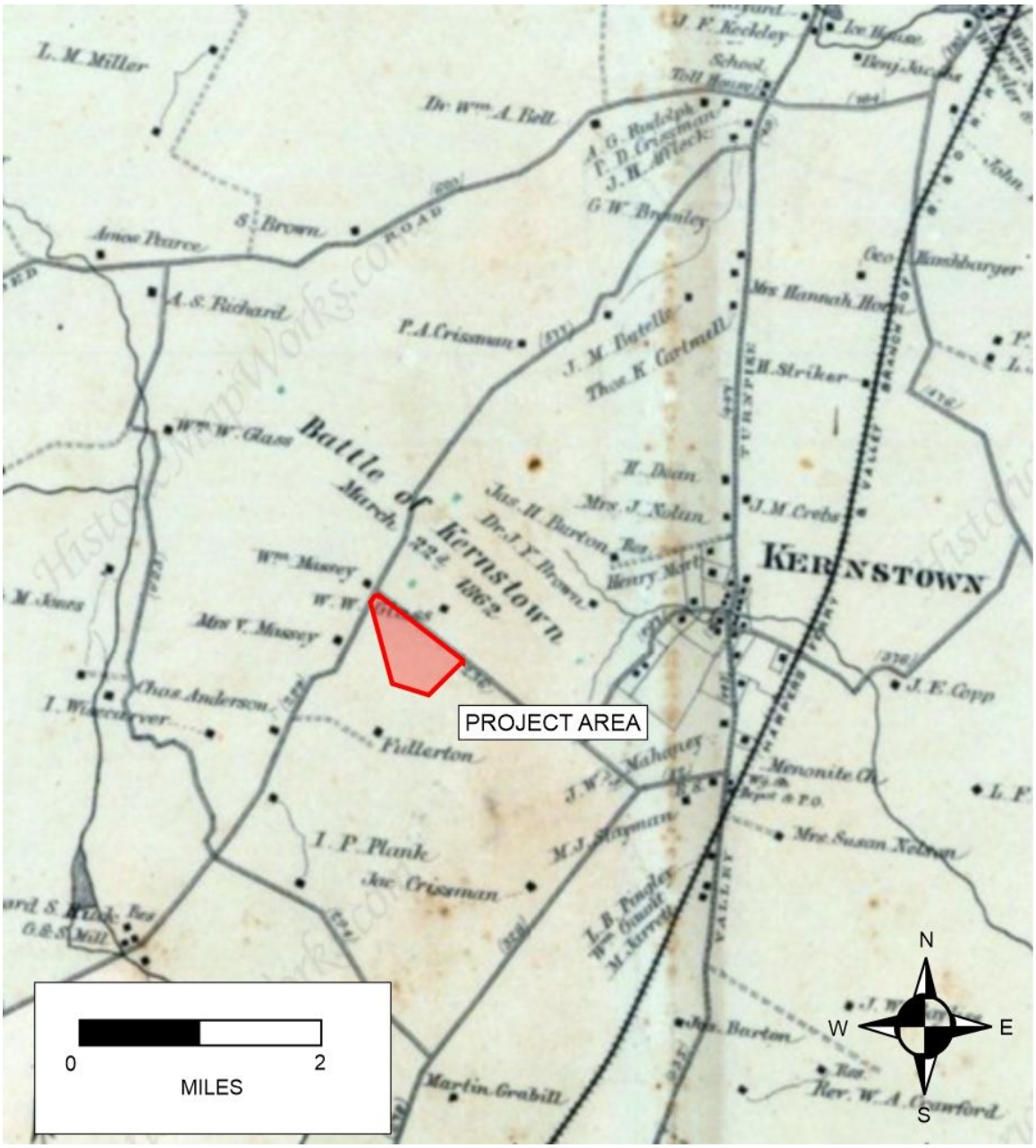


Figure 3.4: Location of the project area on the 1885 D.J. Lake and Company *Atlas of Frederick County, Virginia*.

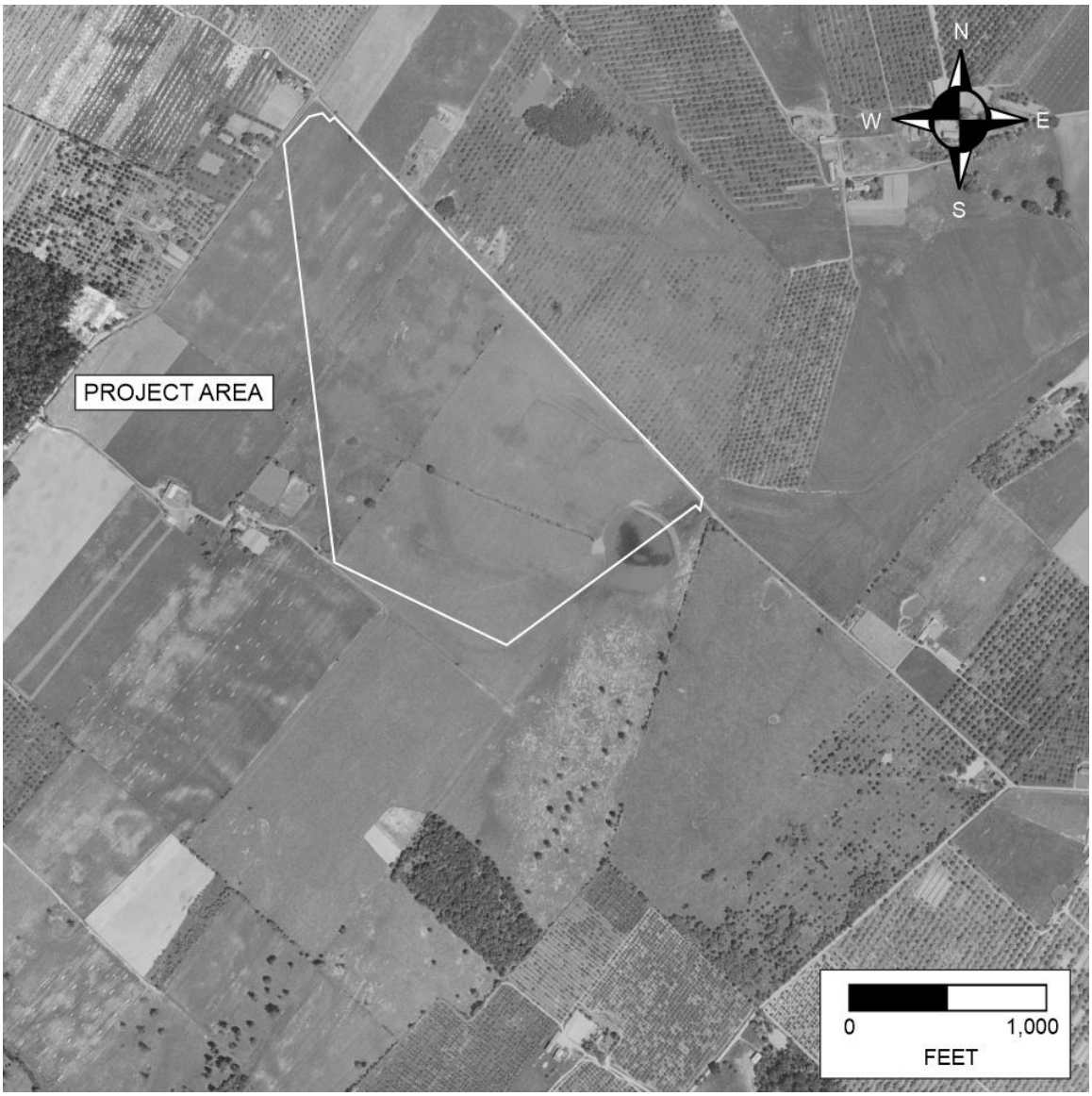


Figure 3.5: Location of the project area on a 1958 aerial photograph.

3.4 Previous Surveys

Previous archeological work in the vicinity of the project area was reviewed using the Virginia Cultural Resources Information System (VCRIS) maintained by the VDHR. The database indicates that there are no previously identified archeological sites within the APE and that the project area has not been the subject of any professional archeological investigation. Surrounding the APE is the protected National Register-eligible Kernstown Battlefield (034-0007). While numerous studies have focused on the historical and architectural history of Kernstown and its affiliated battlefield, only two large scale archaeological surveys have been conducted (Gallucci et al. 1992; Geier and Hofstra 1991). These investigations examined the Kernstown Battlefield as well as early settlement patterns along the Opequon Creek. More recent field observations of threatened site have been investigated by Robert Jolley of VDHR, but full reports on this data is presently unavailable on VCRIS.

There are a total of 22 previously identified sites within one mile of the project area (Table 3.1). The majority of the sites (n=15) date to the historic period while multi-component sites that include pre-contact Native American artifacts are uncommon (n=1). Native American sites are present within the search area (n=6) and are mostly comprised of small lithic scatters. Four of the sites are identified as Civil War encampments and or defensive positions associated with the First/Second Battles of Kernstown. The non-Civil War sites are generally farmsteads or outbuildings dating to the mid-18th through 20th century, as well as property boundaries in the form of stone walls and tree lines (witness trees). Other sites include a French and Indian War Fort and two 18th-19th century cemeteries associated with the Opequon Presbyterian Church. All of the pre-contact Native American sites in the vicinity of the project area are low density lithic scatters and most did not yield diagnostic artifacts that would allow the sites to be placed within a chronological sequence. Two of the pre-contact Native American sites had material consistent with Archaic to Early Woodland material culture.

Table 3.1: Previously recorded archeological sites within one mile of the project area.

Site Number	Description	Report Reference
44FK0025	P: Surface Lithic Scatter/ Nondiagnostic	Thunderbird Arch. Assoc. 1979
44FK0026	P: Archaic & Woodland Lithic Scatter H: Historic Ceramic Scatter	WMCAR 1980
44FK0027	P: Archaic Lithic Scatter	Thunderbird Arch. Assoc. 1979
44FK0029	H: Late 18th C. Home & Millsite	VDOT-Lyle Browning 1981
44FK0178	H: 18th or 19th Century Farm	JMU-WHITLEY 1991
44FK0181	P: Archaic & Woodland Lithic Scatter	JMU 1991
44FK0183	P: Lithic Scatter/ Nondiagnostic	JMU-WOOD 1991
44FK0188	H: 18th Century Stone Wall (Glass Family)	JMU-WOOD 1991
44FK0202	H: 18th Century Homesite (Colvill Family)	JMU-HOFSTRA 1991
44FK0228	H: Witness Tree/ Property Boundary	JMU-Opequon Arch. Survey 1991
44FK0232	H: 18th Century Stone Wall	JMU-Opequon Arch. Survey 1991
44FK0233	H: Union Defensive Earthwork	JMU-Opequon Arch. Survey 1991
44FK0266	P: Lithic Scatter/ Nondiagnostic	JMU-Opequon Arch. Survey 1991
44FK0267	P: Lithic Scatter/ Nondiagnostic	JMU-Opequon Arch. Survey 1991
44FK0272	H: Fenceline/ Union Defensive Position	JMU-Opequon Arch. Survey 1991
44FK0544	H: Union Cavalry Encampment	JRIA-JOLLEY 1998
44FK0592	H: French & Indian War Fort Colvin	DHR-JOLLEY 2002-2014
44FK0650	H: Civil War Encampment	DHR-JOLLEY 2007
44FK0651	H: Union Encampment	DHR-JOLLEY 2007
44FK0803	H: 1736 & 1790 Opequon Presbyterian Church	DHR-JOLLEY 2016
44FK1016	H: Opequon Burial Ground No. 2	DHR-JOLLEY 2020
44FK1017	H: Opequon Burial Ground No. 4	DHR-JOLLEY 2021

3.5 Above-Ground Resources

There are few surviving above-ground historic resources within half a mile of the project area. A search of VCRIS returned seven historic structures, primarily related to Kernstown Battlefield or 19th century or later domestic structures. The only standing 18th century structure within this radius is the homesite of the Wilson Family, who built this structure in around 1740. This site is known interchangeably in historical accounts as Stony Lonesome as well as the Wilson-Magill-Madagan House (034-0027). To the North of the APE is the Pritchard-Grim House (034-0003) on the property of the Hoge family was utilized by Union artillery as a high ground position during the First and Second Battles of Kernstown. Parts of this property retain ruins and foundations relating to 18th century habitation and land use.

Further to the south of the project area is the J. D. Ewing House also known as the Ewing Farm which was established during the Reconstruction Period shortly before 1880. It is a well-preserved balloon framed farmhouse with surviving outbuildings. Close to this is the Salem Methodist Church and associated cemetery established in 1913. It should be noted that the current Opequon Presbyterian Church north of the APE is of late 19th c. construction but is built close to the original footprint of the 1736 and 1790 iterations. The associated cemetery of the Opequon Presbyterian Church holds some of the earliest surviving grave markers west of the Blue Ridge Mountains. Many of these early markers were not imported but are made from locally quarried limestone, sandstone, and shale. Robert Glass son of the immigrant was listed as having mason's tools in his last will and testament. This trade would have been useful in not only building such structures as Samuel Glass's Mill on the Opequon but may have been useful in the production of these local folk funeral markers. Two additional cemeteries associated with that church and the original 16 families, and their descendants can be found within half a mile of the APE. Opequon Cemetery No. 2 was in use by the 1760's and continued to be used throughout the 19th century, and Opequon Cemetery No. 4 which appears to have been established during the last decade of the 19th century.

Farther to the south is the extant remains of Fort Colvin, a French and Indian Fort that Nathaniel Cartmell II likely served in along with his being stationed in Winchester. It is not listed in the VDHR VCRIS system as it has gone through several hands over the past 20 years including VDHR, APVA, and the French and Indian War Preservation Society before being sold back to its original owner. The remaining above ground historic assets belong to the National Register-eligible Kernstown Battlefield 034-0007 with the defensive works along Sandy Ridge, the artillery emplacement at the Pritchard-Grim Farm, and numerous stone walls/ property boundaries used as defensive positions being listed.

3.6 Typical Cultural Resources Expected in the Project Area

In general, pre-contact Native American archeological resources are most likely to be found in upland well-drained areas that are within approximately 150-meters (492 feet) of a stable, permanent water source. There have been seven sites with pre-contact Native American components encountered within one mile of the project area, several occurring on landforms similar to the project area and with a similar proximity to a water source. The project area is relatively level and includes the headwaters of Hoge Run, a minor drainage. There is a high potential that pre-contact Native American deposits are present within the project area.

A review of previous archeological surveys within one mile of the project area, and an examination of historic documents and maps, indicates that historic period archeological resources, dating from the 18th through the early 20th centuries are could be found within the project area. In general, historic period archeological sites are most typically found within 100 meters (328 feet) of a historic roadway

or navigable waterway. Historic mapping from the mid-19th century onward shows that the project area was situated in an area between the large farms that comprised the area. Research conducted by Geier and Hofstra indicate that the project area falls within tracts patented by the mid-18th century. Apple Valley Road, which abuts the project area has existed in its current layout since prior to the Civil War.

Based upon the proximity of the project area to the battlefields of First and Second Kernstown, it is not unexpected for militaria to be encountered. Apple Valley Road was used to move troops for the battles but was not directly within the area where combat occurred. VCRIS records indicate that the looting of sites of military significance by metal detectorists. Accordingly, the probability of encountering large amounts of militaria is low due to easy access to the APE along Middle and Apple Valley Roads.

4.0 Research Design and Methods

4.1 Research Design

The Ottery Group conducted the Phase I archeological survey of the Apple Valley Road Tract as part of due diligence ahead of proposed development of the property. The purpose of the archeological survey was to locate previously unrecorded archeological sites within the property and, if they exist, to preliminarily assess their research potential based on the criteria for inclusion on the National Register of Historic Places (36 CFR 60).

The project included field investigations and archival research. Archival research was conducted to locate previously identified cultural resources in the surrounding area and to guide an assessment of the potential for locating undiscovered archeological sites within the impact areas associated with the planned industrial development. Field investigations consisted of shovel test pits across the development parcel. Shovel test pits were used to systematically collect artifacts and to use the locations and quantities recovered to identify the presence and location of historic or pre-contact Native American sites.

In addition to conventional subsurface testing, a metal detector survey was completed across part of the project area due to the proximity of the battlefield of First & Second Kernstown, a Civil War battle associated with the Shenandoah Campaign of the Confederate Army during the Civil War. Metal detection surveys are considered to be the most effective tool in identifying Civil War resources and are recommended methods to enhance convention Phase I survey methods (VDHR 2017).

4.2 Archival Research

Research was conducted online using the VDHR VCRIS cultural resources database. All cultural resources within one-mile radius of the site were compiled into spreadsheets. These resources included documented historic and archeological sites. Additional research was conducted using the Library of Congress online map database, the USGS National Map Viewer, historicaerials.com, and the Frederick County GIS application.

4.3 Field Methods

The Phase I archeological survey was conducted over the period of June 16th to July 27th, 2023. Testing was conducted using a 15-meter grid that conforms to state and county standards. The grid was established using a base point at the edge of Apple Valley Road as a starting datum (N39.143671, W-78.208874), with this central datum point of N6000 E3000 due the large size of the APE as well as to differentiate it from a previous field survey. The locations of individual STPs were determined using a Suunto KB-50 optical sighting compass to determine angle and pacing to determine distance. Each STP was marked with flagging tape and measured at least 45 centimeters (cm) in diameter and was excavated in levels that approximated the existing soil conditions. Excavation of the STPs was performed based on stratigraphic layers to a depth of ten centimeters into sterile soil or to the limits of hand excavation. The STPs were offset if necessary due to obstacles such as trees, roads, or debris and based on the discretion of the excavator. One hundred percent of excavated soil was sifted through ¼-inch wire mesh screen for cultural material. Artifacts, if present, were documented and collected in labeled bags according to their horizontal and vertical provenience for further processing. Shovel test pits were excavated to culturally sterile soils unless physical obstructions prevented excavation beyond the depth of the obstruction.

The metal detection survey was accomplished using a White's Sierra Madre, Tesoro Tejón, and Whites Coinmaster 2 with factory standard detector coils. The detectors were used in "all metal" mode with low discrimination and were ground-balanced at the site at the beginning of each day of metal detecting. The instruments can detect metal artifacts within approximately one foot from the ground surface. Targets

identified during metal detection were excavated with hand tools with assistance from a hand-held pinpointer. All excavated metal artifacts were identified in the field, recorded with a bag number in an inventory and with a general identification of the artifact, mapped, and collected. Locations of all collected artifacts were recorded with hand-held GPS. Artifacts were collected in polyvinyl bags marked with complete provenience information.

Field notes recorded the vertical location of recovered cultural material, soil stratigraphy, soil colors, and soil textures onto standardized STP forms using Munsell color charts and common soil texture nomenclature. After excavation and recording, all STPs were backfilled. Additionally, digital photography was used to document unusual or exceptional landforms, materials, or cultural features, as well as to provide overview documentation of the existing conditions of the project area at the time of survey.

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

4.4 Laboratory Methods

The general methodology for the processing of archeological material recovered from Phase I survey includes the cleaning, stabilization and cataloging of the artifact assemblage and associated records. In general, stable artifacts, such as ceramic, glass, and lithics were mechanically cleaned with water and dried. Heavily corroded metals were cleaned with a stiff brush to remove adhering soils and to expose diagnostic attributes. Artifact processing procedures conform to Virginia Department of Historic Resources State Collections Management Standards (VDHR 2011).

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

Historic artifacts were catalogued according to a functional analysis system modified from South's original functional groups (South 1977). In most cases, the original categories have been simplified and smaller groups have been merged into larger groups. Historic artifacts were classified using the following group designations: Domestic, Architectural, Clothing, Personal, Faunal, Floral, Fuel, Weaponry, Transportation, and Activities. Further, the artifacts were classified according to material, type, decoration, function, portion, and color. The Utilities category encompasses coal and its by-products and charcoal. A marker category also was used to identify recovered material which was determined to be modern material in the laboratory. Modern material was noted but not collected unless it occurred in situ with older cultural material.

Following analysis, artifacts were bagged in perforated, four-milliliter polypropylene bags labeled with provenience and project information and boxed in acid-free containers for long-term storage at an appropriate facility. The artifacts recovered during the survey are not considered to be candidates for conservation or permanent curation.

5.0 Results

The archeological survey of the Apple Valley Road Tract consisted of the excavation of 1,435 shovel test pits excavated at 15-meter intervals, with an additional 145 7.5-meter interval radial tests used to bound artifact concentrations within the 71.85-acre property. The purpose of the STP survey was to identify the presence of any cultural deposits within the property. Metal detection was conducted across areas where ground cover permitted, primarily in the northern portion of the project area and a central corridor extending north to south in the southern portion. The purpose of the metal detection was specifically to investigate the presence of Civil War-era artifacts associated with the 1864 Battle of Kernstown.

5.1 STP Testing

The STP grid was established using a fence corner at the northeastern corner of the project area as the datum, designated STP N6000 E3000 (Figure 5.1). The grid was set to an angle of 10 degrees west of north, following a sight line down the fence at the western property boundary. This was the longest continuous visible line and could be reestablished from multiple points to the south to avoid drift.

Terrain within the project area consisted of a relatively level upland terrace, with a central ridge running northeast-to-southwest through the project area and gently sloping northeast and southwest. In the southwestern portion of the APE a relict stream with a filled cave/ natural spring entrance was present. Outcroppings of the Beekmantown chert nodules weathering out of the exposed bedrock are present in the northern half of the project area. Evidence of quarrying for the extraction of foundation stones was evident on outcroppings in the center of the APE. The southern half of the APE can be characterized as hummocky karst topography with hydric soils bounded by small elevation rises with dryer ground and rocky and gravely soils. The southernmost regions of the APE are low lying marshland with hydric silt loam soils.

Vegetation varied across the project area, with open grassland at the northern end, multiple small open glades with borders of 1-2 meter-tall briars bounding low growing dense brush with cattle paths between the separate glades in the central portion of the property, and heavy brush in the southern end of the project area.

The soils encountered across the project area were relatively consistent. The typical soil profile consisted of a 10YR 4/4 silt loam eroded former plowzone above a 10YR 5/6 silt loam B horizon subsoil (Figure 5.2). The boundary between the plowzone and subsoil horizons is marked by a lag of gravel and cobbles comprised of angular dolostone of the Beekmantown Group. In the lower elevations of the project area proximal to the stream drainage, the soils often exhibited hydric profiles. Hydric profiles, marked by the presence of water, leached soils, and precipitated mineralization, were observed in 330 STPs. The profiles were generally shallow, with 913 STPs within the project area encountering subsoil at depths of 11-20cm below ground surface. Another 313 STPs extended to depths of between 21 and 30cm. Only 40 of the STPs encountered a soil change at deeper than 30cm.

A total of 197 STPs contained 18th-20th century and pre-contact Native American artifacts. The distribution of these positive STPs can be seen in Figure 5.1. Historic period artifacts were found in one concentrated area, with some outliers spread along the springhead to the south of the primary cluster. The bulk of the positive STPs (n=157) were concentrated in five areas. The five artifact concentrations were designated sites 44FK1076 to 44FK1080. Artifact clusters that contained only chert shatter, i.e. no flakes or other artifacts, were not designated archeological sites, as the shatter may have been inadvertently produced by plowing or animal hooves and not indicative of cultural activity.

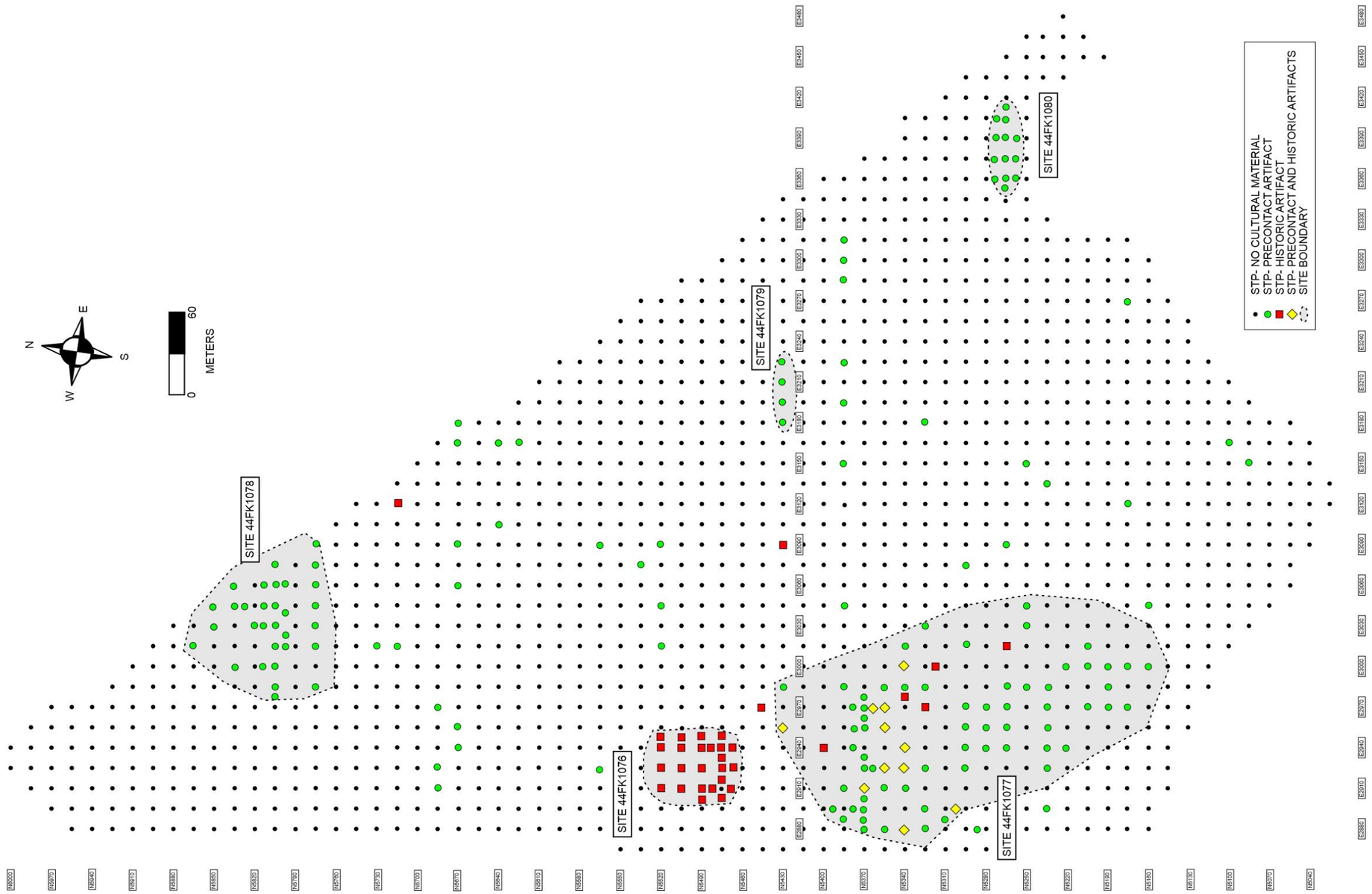


Figure 5.1: Location of Archeological Testing.

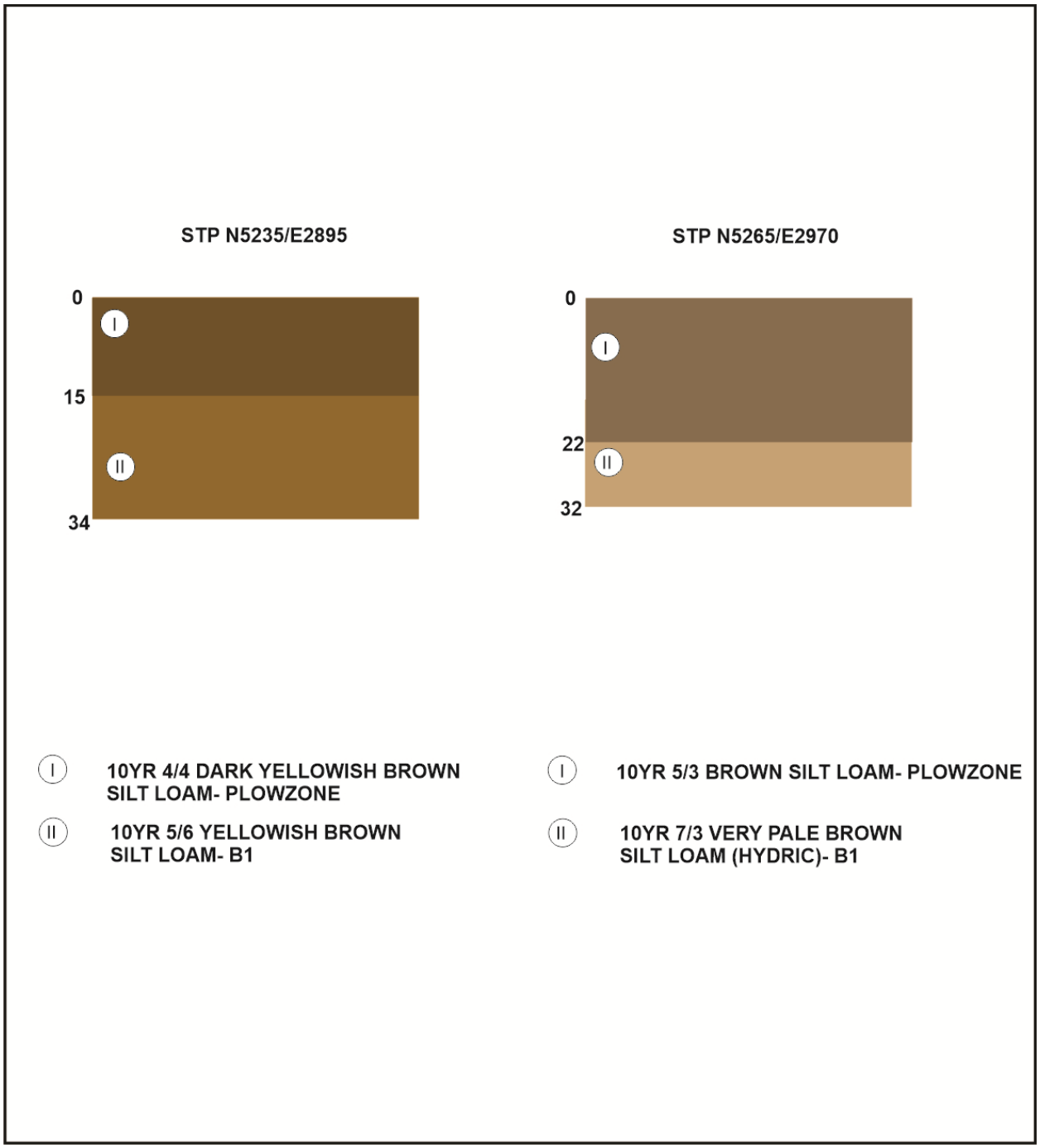


Figure 5.2: Representative STP Profiles.

Site 44FK1076 covers a roughly circular area measuring 55m-x-50m (Figure 5.1). Within this area, 23 of 29 STPs contained cultural material, including 11 baseline STPs and 12 radial STPs. A total of 204 artifacts were recovered from STP testing, with an additional 73 encountered during metal detection (Table 5.1).

The recovered material indicates a house site. A wide variety of diagnostic ceramics present shows that the period of occupation was likely between 1750 and 1830. Several artifacts recovered have a terminal use date of the end of the first quarter of the 19th century. Additional Colonial-era artifacts including blown window pane and olive green wine bottle fragments were found (Figure 5.3). Both hand-wrought and machine-cut nails were encountered, indicating that the site was being improved until after 1810. There is negligible presence of later cultural material that would indicate a continuation of occupation into the late 19th or 20th century. Only one pre-contact artifact was recovered, a secondary flake made of the local Beekmantown chert.

Site 44FK1076 may be the home of three generations of the Glass family. David Glass (1728-1775) purchased the land that includes the project area in 1749. Upon his death, it was passed to his son, David Glass II (1746- after 1789) and possibly David Glass II's son John (1831-?) after that. A fenceline with remnants of a fieldstone wall adjacent to site appears to be part of a property boundary aligning to the metes and bounds of the 1749 purchase. Little is known of this branch of the much more famous Glass family, descendants of which still live adjacent to the property today. It is thought that John Glass, the grandson, may have moved out of the Opequon Creek drainage as so many pioneers did to the Kentucky or Ohio frontiers. As John left no heirs his property may have reverted into the family or been sold in the 1850s.

Table 5.1: Artifacts recovered from Site 44FK1076.

Group	Category	Artifact	Count	Start Date	End Date
Kitchen	Ceramics				
		Creamware- Undecorated	8	1760	1810
		Pearlware- Undecorated	16	1780	1830
		Pearlware- Polychrome	3	1790	1815
		Pearlware- Feather-Edged	2	1790	1815
		Pearlware- Transfer Printed	1	1790	1815
		Redware- Lead Glazed	62	1750	1900
		Redware- Plain	63	1750	1900
		Redware- Other	3	1750	1900
		Buckley	5	1750	1790
		Astbury	1	1750	1790
		Manganese Mottled Ware	2	1750	1820
		Whiteware- Undecorated	3	1820	2000+
		Whiteware- Transfer Printed	1	1820	2000+
		Chinese Export Porcelain	2	1750	1810
		Gray Bodied Domestic Stoneware	1	1730	1930
		English Brown Stoneware	1	1750	1830
		Buff Bodied Stoneware	1	1750	1830
	Faunal				
		Oyster	3	n.a.	n.a.
		Burnt Bone/ Tooth	1	n.a.	n.a.
	Glass				
		Lead Glass Stemware	2	1750	1870
		Medicine Bottle	4	1760	1820
		Olive Vessel Glass- Free Blown	1	1750	1830

Group	Category	Artifact	Count	Start Date	End Date
Architectural					
	Ceramic				
		Brick (not wire cut)	33	1700	1880
		Mortar	10	n.a.	n.a.
	Glass				
		Window Pane (cylinder)	6	1750	1870
	Metal				
		Hand-forged Nail	16	1750	1850
		Machine-cut Nail	7	1810	1880
Activities					
	Metal	Cast iron kettle fragment	6	1760	1870
		Dowry chest/ linen chest lock plate (iron)	1	1750	1850
		Wire	1	1870	2000+
Miscellaneous					
	Lithic	Chert Secondary Flake	1	n.a.	n.a.
	TOTAL		**230**		

Figure 5.3: Selected historic period artifacts from Site 44FK1076.

Site 44FK1077 is a large multi-component site measuring 240m-x-165m (Figure 5.1). The site was much less concentrated than site 44FK1076, and included 79 positive STPs out of 182. A total of 62 baseline and 17 radial STPs contained cultural material. A total of 168 artifacts were recovered from the site, an average of 2.04 artifacts per positive STP and an overall density of 0.92 artifacts per STP within the site boundary (Tables 5.2 and 5.3). Five STPs contained only historic period artifacts while 63 contained exclusively pre-contact lithic artifacts. A total of 11 STPs contained both.

The majority of the artifacts were pre-contact Native American lithic debitage (Table 5.2). Of the 145 pre-contact artifacts present, 94 consisted of angular shatter from the locally-occurring chert. A total of 41 chert flakes were recovered, including 1 primary and 40 secondary flakes. Six fire cracked rock (FCR) indicate a potential hearth or remnant of lithic material extraction. One core was also present, also composed of local chert.

One lithic tool was recovered from Site 44FK1077. It is a broken or use-worn projectile point refashioned into a hafted scraper. The contracting stem is consistent with Late Archaic and Early Woodland point types (Figure 5.4). Two additional diagnostic artifacts were recovered from the site, both Native American ceramic fragments. One heavily carbonized small sherd is a sand-tempered ceramic with a bright orange paste, possibly Accokeek. The other is a hard fired ceramic with a micaceous paste similar to Moyaone. The pre-contact component is interpreted as a resource extraction site. With the large quantity of debitage present, it would appear that lithic extraction is the primary function, although the overall lack of primary flakes present is inconsistent with quarrying activity. The presence of the springhead makes the location favorable for a hunting camp or the harvesting of plant resources that would be found in that environment.

The historic component of Site 44FK1077 consists of 23 artifacts from 16 STPs (Table 5.3). Of these, 9 were ceramics of varieties recovered from Site 44FK1076, lead glazed redware and green feather-edged pearlware, and one was a machine-cut nail. The artifacts were found near the springhead and may represent an outbuilding associated with the domestic occupation at Site 44FK1076, possibly a springhouse. Three brick fragments and two fragments of mold-blown bottle glass may also be associated as there are no other known structures on the property. Seven artifacts, 6 fragments of barbed wire and a fence staple are associated with the current land use. One piece of 20th century floor tile is an outlier that does not fit in with the assemblage.

Table 5.2: Pre-Contact Artifacts Recovered from Site 44FK1077.

Category	Artifact	Count
Debitage	Chert shatter	94
	Chert secondary flake	41
	Chert Core	1
	Hafted Scraper	1
	Early Woodland Ceramic	1
	Late Woodland Ceramic	1
	FCR	6
TOTAL		**145**

Table 5.3: Historic Period Artifacts Recovered from Site 44FK1077.

Group	Category	Artifact	Count	Start Date	End Date
Kitchen	Ceramics				
		Pearlware- Feather-Edged	3	1790	1815
		Redware- Lead Glazed	6	1750	1900
	Glass				
		Bottle Glass- Mold Blown	2	1700	1850
Architectural					
	Ceramic				
		Brick (not wire cut)	3	1700	1880
		Floor Tile	1	1900	2000+
	Metal				
		Machine-cut Nail	1	1790	1880
Activities					
	Metal	Barbed Wire	6	1870	2000+
		Fence Staple	1	1870	2000+
	TOTAL		**230**		

Figure 5.4: Selected pre-contact artifacts from Site 44FK1077.

Site 44FK1078 is a large scatter of lithic artifacts measuring 90m-x-110m located in the northeastern part of the project area, extending off the project area into Apple Valley Road (Figure 5.1). A total of 35 positive STPs, 26 baseline STPs and 9 radial STPs together yielded 74 lithic artifacts (Table 5.4). The 2.1 artifacts per positive STP is similar to Site 44FK1077. No historic period artifacts were present. The artifact assemblage yielded high quantities of chert shatter (n=31) and secondary flakes (n-22), and two primary flakes, one chert and one quartzite. Nearly 25% of the artifacts from the site were FCR. One tested cobble was also found. None of the artifacts collected from Site 44FK1078 were temporally diagnostic. Given the presence of rock outcrops on the property, the site function is presumed to be lithic extraction.

Table 5.4: Artifacts recovered from Site 44FK1078.

Category	Artifact	Count
Debitage	Chert shatter	31
	Chert primary flake	1
	Chert secondary flake	22
	Quartzite secondary flake	1
	Tested Cobble	1
	FCR	18
TOTAL		**74**

Site 44FK1079 is the smallest of the sites encountered within the project area (Figure 5.1). It measures 15m-x-60m and consists of four consecutive positive STPs. The site yielded 7 lithic artifacts: 3 chert shatter and 4 chert secondary flakes. No temporally artifacts were recovered. No historic period artifacts were present. The site is a nondiagnostic lithic scatter.

Table 5.5: Artifacts recovered from Site 44FK1079.

Category	Artifact	Count
Debitage	Chert Shatter	3
	Chert Secondary Flake	4
TOTAL		**7**

Site 44FK1080 is a moderate sized scatter of lithic artifacts recovered from the north side of the artificial pond (Figure 5.1). The site measures 30m-x-90m and contained 13 positive STPs, including 4 baseline and 9 radial STPs. The site yielded 28 lithic artifacts: 15 chert shatter, 6 chert secondary flakes, 5 FCR, 1 tested cobble, and one potential nutting stone. No temporally diagnostic artifacts were recovered. No historic period artifacts were present. The site is interpreted as a resource procurement site. The presence of a nutting stone may indicate the processing of vegetable fibers harvested from the drainage.

Table 5.6: Artifacts recovered from Site 44FK1080.

Category	Artifact	Count
Debitage	Chert Shatter	15
	Chert Secondary Flake	6
	Nutting Stone	1
	Tested Cobble	1
	FCR	5
TOTAL		**28**

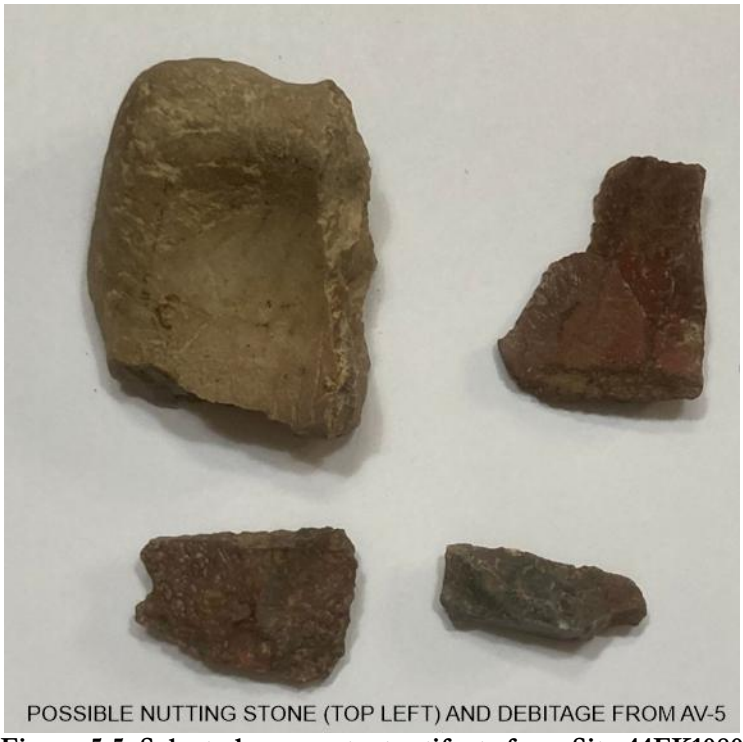


Figure 5.5: Selected pre-contact artifacts from Site 44FK1080.

5.2 Metal Detection

Following the STP survey, a systematic metal detection survey was conducted within all areas of the APE that was clear enough of vegetation to undertake this part of the survey. The metal detector survey was conducted in order to determine whether resources associated with the Battlefields of First and Second Kernstown were present within the project area. Maps of troop placement and movement during the battle (Figure 3.2) do not indicate that the project area was part of the field of war, although there appears to have been pickets along historic fence lines just to the north, including one on the property directly north of the project area and the property directly west of the project area may have been used by the Union troops (Figure 3.2). While they are effective guides to interpret general movements, battlefields are chaotic situations. The presence of artifacts is the most accurate determination of whether the battle extended into the project area. Historic accounts do mention the movement of both Confederate and Union troops across the project area.

Metal detection was conducted within the field that borders on Virginia Route 37, Middle Road, and Apple Valley Road. Historic maps indicate that the modern property lines were likely the same, as a fence line and Apple Valley Road and Middle Road are shown on the 1885 map that matches the current edge of the project area (Figure 3.4). It is likely that any battle-related activity would be encountered in this location if present within the project area as this was the closest Union picket at Sandy Ridge to the project area. Similarly, the open areas along Apple Valley Road where Confederate troops may have been mustered through were also survey.

Metal detector survey was oriented to the STP grid. Transects were examined every 15m, with a sweep 2m wide. Once the grid was completed in a north to south direction along each transect transects were run in between the preceding STP transect and the next.

Figure 5.6: Results of metal detector survey.

A total of seven targets, areas where metal objects were identified, were present, yielding 43 artifacts (Figure 5.4, Table 5.7). The collected material is indicative of farming activity through the 19th and 20th centuries, evidenced by tractor drawn plow elements and horse furniture as well as more modern mechanical parts. A cluster of beer cans was in the north field along the ridge as well as another adjacent to the springhead on the property. Tractor parts and a horse harness buckle were located adjacent to Virginia Route 37 across from the historic Fullerton farm complex. An iron harness ring and a broken 20th century cast steel plow blade were recovered at the edge of the historic homestead site in a small area that had been plowed, this is located down an access road off Apple Valley presently used by the tenant cattle rancher to move livestock. The broken plow tip was located within 25 meters of one of the numerous dolostone outcrops across the majority of the project area.

Table 5.7: Results of metal detector survey.

Northing	Easting	Description
39.14182	78.20775	Cluster of aluminum cans
39.14166	78.20789	Cluster of aluminum cans
39.14116	78.20173	Cast steel/ nondiagnostic
39.14086	78.20798	Cast steel plow part (tip broken off)
39.14028	78.20832	Iron harness ring
39.13906	78.20806	Aluminum beer can
39.13761	78.20787	Coca Cola aluminum can
39.13677	78.20714	Iron horse harness buckle (late 19th to early 20th century)
39.13675	78.20712	Steel tractor part (20th century)

No Civil War-era artifacts were encountered during the metal detector survey. The current tenant of the property, who has collected the property with a local metal detecting/relic hunting club, reported finding multiple artifacts, including a cluster of Confederate Block I and C buttons from the northern end of the property as well as numerous George II coins, George III coins, and pewter and cast copper alloy buttons from the vicinity of Site 44FK1076. In his opinion, they had "picked this place clean."

Particular care was taken in the areas that had previously yielded artifacts to ensure 100% coverage. No additional material was recovered from the area where the military artifacts were recovered. Several hits were encountered within the boundaries of Site 44FK1076 (Figure 5.4, Table 3.8). The investigation of the 11 targets resulted in the recovery of 73 artifacts, many of which were non-ferrous artifacts found while searching for the metal hits, including manganese mottled ware, Buckley ware, creamware, pearlware, and 18th century porcelain. The systematic metal detector survey in this area produced 7 cast iron 18th or early 19th century pot or kettle fragments, as well as hand-forged and early cut nails. These artifacts are represented in the artifact tables for Site 44FK1076 in Table 5.1.

Table 5.8: Metal detection results within Site 44FK1076.

Latitude	Longitude	Metal Object	Other Artifacts Collected	Date Range
39.13942	78.20866	Cast iron fragment	1 Creamware, 2 Pearlware (1 early polychrome), 2 Lead glaze redware, 4 unglazed redware.	1770-1850
39.13953	78.20865	Hand-forged nail	2 Lead glazed redware fragments	1735-1850
39.13941	78.20863	Cast iron fragment	1 Pearlware, 1 Lead glazed redware, 1 Transfer pearlware, 1 Fcr	1790-1830
39.13964	78.20865	Hand-forged nail	1 Creamware, 2 Lead glazed redware, 1 Mottled tan stoneware, 1 Late 18th c. wine	1770-1820

Latitude	Longitude	Metal Object	Other Artifacts Collected	Date Range
			glass, 2 18th c. Porcelain (lead overglaze possible English)	
39.13924	78.20824	Cast iron fragment	3 Lead glazed redware, 1 Unglazed redware	1735-1850
39.13947	78.20872	Cast iron fragment	2 Buckley redware, 1 Astbury redware, 2 Brick fragments, 2 Oyster fragments, 1 Burnt bone fragment, 2 18th Century wine bottle, 1 Creamware	1740-1850
39.13969	78.20856	Cast iron pot fragment	1 Aqua glass medicine bottle fragment	1760-1790
39.13968	78.20966	1 Early Machine-cut Nail, 1 Hand-forged nail	2 Creamware, 2 Pearlware, 2 Lead glaze mottled manganese redware, 1 Grey bodied stoneware, 3 brick fragments, 5 mortar fragments, 1 window glass fragment (thin blue), 1 Oyster shell	1740-1850
39.13969	78.20851	2 Wrought iron nails	NA	1740-1850
39.13952	78.20869	1 Hand-forged nail, 1 Cast iron kettle fragment	1 Buckley type redware, 1 Lead glazed redware, 1 Unglazed redware	1735-1850
39.13974	78. 20850	Possible 18th c. linen/ dowry chest lockplate cover	3 Unglazed redware	1735-1850

5.3 Discussion

This historic period assemblage from Site 44FK1076 has a chronological range from 1750 to 1880. No machine-made glass was recovered during any part of the survey indicating a 18th century start date to the historic occupation of the site. The bulk of the artifacts recovered have a date range from 1770 to 1830. The earliest historic artifacts could date as early as 1740 or around the time that Kernstown was established. Cast iron pots and kettles began to be manufactured just a few miles southwest of the APE after the French and Indian War. It is thought that this site represents the establishment of a farmstead shortly after the French and Indian War and was abandoned just before or after the American Civil War with no later contamination or dumping on the site. The APE shows very little evidence of agriculture in the form of wheat cultivation, but as the name of the road, Apple Valley implies this area was historically linked to orchards and grazing herding animals.

Four pre-contact Native American sites are present within the project area. The Native American artifact assemblage included 394 artifacts composed of two different materials. The project area is situated atop numerous outcrops of the Beekmantown chert. Of the 394 pre-contact Native American Artifacts 317 are chert shatter consistent with source material testing, 61 represent secondary flakes made of the local chert with only one primary flake of this material identified. The lack of primary stage debitage is likely due to the Beekmantown chert being mostly tabularly bedded in the host Beekmantown dolostone with round nodules being uncommon. Hammerstones recovered within the APE are comprised of rounded quartzite cobbles from further away in the Opequon Creek drainage and appear to be brought into the area. Flakes of quartzite were uncommon within the APE with one primary and one secondary flake recovered. Two fragments of Native American ceramic were encountered during the survey. Although one was too small to reliably identify, the color of the paste and sand inclusions in the temper suggest an Early Woodland Accokeek ceramic, while the larger hard-pasted sherd with micaceous sand in the temper is similar to the Late Woodland Moyaone ceramic. The only flaked tool recovered was a reworked projectile point fashioned into a hafted scraper. The original tool was either broken or use-worn. The contracting stem of the original tool is still intact, suggesting a Late Archaic or Early Woodland date. The interpreted function of the pre-contact

sites is the extraction of lithic material from the outcrops present within the project area or the wetland plants that would have been present in the vicinity of the drainage.

6.0 Conclusions and Recommendations

The Ottery Group conducted an archeological survey of the 71.85-acre Apple Valley Road Tract, which is planned for future development. The archeological survey was conducted by Winchester Gateway, LLC, during development planning. A total of 1,580 STPs were excavated during the archeological survey. The testing resulted in 197 positive test pits; 144 positive shovel test pits of chert debitage and tool fragments associated with pre-contact Native American land use and 53 positive test pits containing historic period artifacts dating from the mid-18th through 20th centuries. A total of five archeological sites were identified on the property during the Phase I survey. These were designated 44FK1076 to 44FK1080.

A metal detection survey was conducted within the project area due to the proximity of the National Register-eligible Kernstown Battlefield (034-0007) which was expanded to include the project area in 2011. The scope of the metal detector survey was limited due to the brushy conditions. A total of 7 metal objects were recovered from 11 targets, with 20th and 21st century aluminum beverage cans noted but not collected. No military artifacts were found, although local residents described collecting Civil War material from the property in the past.

Supplemental metal detecting conducted within the boundaries of Site 44FK1076 resulted in the recovery of 73 additional artifacts from the 18th and 19th century occupation of the site.

6.1 Recommendations

Site 44FK1076 is a dense cluster of 18th and 19th century domestic artifacts, possibly associated with the David Glass, Sr. homestead. Glass purchased the property in 1749 and appears to have remained in the family for three generations, until approximately 1850. The site is relatively intact and does not contain later 20th century materials. A wide variety of ceramics recovered from the site suggests a long duration of habitation, and the potential for encountering intact features is high. Metal detection within the site resulted in the recovery of additional artifacts. A **Phase II investigation is recommended to establish the National Register eligibility of the site.**

Site 44FK1077 is a large moderately dense scatter of pre-contact Native American lithic artifacts with a light scatter of 18th to 19th century domestic artifacts focused around a springhead. The majority of the lithic artifacts recovered consist of local Beekmantown chert shatter. The site yielded one lithic tool, a nondiagnostic hafted scraper. Two fragments of unidentified pre-contact ceramic were also recovered. The pre-contact component is interpreted as a repeated use during the Woodland period for lithic extraction. The historic materials are likely associated with the more concentrated site 44FK1076 directly to the north of it and may represent a springhouse or other outbuilding. The ephemeral nature of the site suggests that intact cultural deposits are unlikely. **Based upon the presence of Native American tools and ceramics as well as 18th century material culture,** a **Phase II investigation is recommended to establish the National Register eligibility of the site.**

Site 44FK1078 is a low density scatter of pre-contact lithic material similar to Site 44FK1077. No tools or diagnostic artifacts were recovered from the site. The site is interpreted as a lithic extraction site with a long duration or repeated use. **The site is not considered to meet the criteria as a significant archeological resource and no additional testing is recommended.**

Site 44FK1079 is a small scatter of pre-contact lithic material consisting of seven artifacts. No tools or diagnostic artifacts were recovered. If the site was not identified in proximity to sites 44FK1077 and 44FK1078, no site function would be possible due to the limited size and artifacts. It is likely that the site is a

resource extraction site. **The site is not considered to meet the National Register criteria for research potential and no additional testing is recommended.**

Site 44FK1080 is a cluster of pre-contact lithic artifacts found on the north of the cattle pond, and along the original spring running through the property. The site contained a moderate density of artifacts, none of which are chronologically diagnostic. The artifact assemblage is consistent with the other Native American sites within the project area. The only anomalous artifact was a possible nutting stone, which suggests that the site may be more than a short-term resource extraction camp. **The site is not considered to be a significant archeological resource and no additional testing is recommended.**

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Appendix A:

Artifact Catalog

STP CATALOG

Site	N	E	Radial	Description
	5085	3150		fcr/ 1 flake
	5100	3165		shatter
44FK1077	5160	3000		shatter
	5160	3045		shatter
44FK1077	5175	2970		shatter
44FK1077	5175	3000		shatter/ 1 flake
	5175	3120		1 flake
	5175	3270		1 flake
44FK1077	5190	2970		shatter
44FK1077	5190	2985		shatter
44FK1077	5190	3000		shatter/ 1 flake
44FK1077	5205	2970		shatter
44FK1077	5205	3000		shatter/ 1 flake
44FK1077	5205	3000		shatter/ 1 flake
44FK1077	5205	3015		shatter
44FK1077	5220	2940		1 flake
44FK1077	5220	3000		shatter
	5235	2895		fcr/ shatter
44FK1077	5235	2925		shatter

Site	N	E	Radial	Description
44FK1077	5235	2940		shatter/ 1 flake
44FK1077	5235	2970		shatter/ 1 flake
44FK1077	5235	2985		shatter
	5235	3135		shatter
	5235	2955a		shatter
	5235	2955b		shatter
44FK1077	5250	2985		shatter/ 1 flake
44FK1077	5250	3030		shatter
44FK1077	5250	3045		shatter
	5250	3150		1 flake
44FK1080	5257.5	3360	R	1 Fcr, 1 flint shatter, 1 flint flake
44FK1080	5257.5	3375	R	1 Thermaly altered quatrzite worked cobble
44FK1080	5257.5	3390	R	4 flint shatter
44FK1077	5265	2940		shatter
44FK1077	5265	2955		1 flake
44FK1077	5265	2970		shatter
44FK1077	5265	2985		shatter
44FK1077	5265	3015		barbed wire
	5265	3090		1 flake
44FK1080	5265	3345		hearth slag/ 1 flake
44FK1080	5265	3352.5	R	1 Fcr
44FK1080	5265	3352.5	R	3 flint shatter
44FK1080	5265	3360		cupstone/ 1 flake
44FK1080	5265	3375		fcr/ shatter
44FK1080	5265	3390		shatter
44FK1080	5265	3412.5	R	1 flint flake

Site	N	E	Radial	Description
44FK1080	5272.5	3390	R	1 flint shatter, 2 flint flakes
44FK1080	5272.5	3405	R	3 flint shatter
44FK1080	5277.5	3375	R	1 flint shatter, 2 Fcr
44FK1077	5280	2940		barded wire
44FK1077	5280	2955		shatter
44FK1077	5280	2970		shatter/ 1 flake
44FK1077	5295	2925		shatter/ 1 flake
44FK1077	5295	2940		shatter
44FK1077	5295	2955		shatter
44FK1077	5295	2970		shatter/ 1 flake
44FK1077	5295	3015		shatter/ 1 flake
	5295	3075		hammerstone/ 1 flake
44FK1077	5302.5	2895	R	1 Large iron staple, 1 chert flake
44FK1077	5310	2887.5	R	3 flint shatter
44FK1077	5317.5	3000	R	Barbed wire
44FK1077	5325	2880		1 flake
44FK1077	5325	2895		shatter/ 1 flake
44FK1077	5325	2925		1 flake/ 1 worked core
44FK1077	5325	2970		barded wire
44FK1077	5325	2985		shatter/ 1 flake
44FK1077	5325	3030		shatter
	5325	3180		shatter
44FK1077	5340	2880		1 cut nail/ shatter
44FK1077	5340	2910		1 great flake
44FK1077	5340	2925		shatter/ 1 flake
44FK1077	5340	2925		2 flakes

Site	N	E	Radial	Description
44FK1077	5340	2925		3 glazed redware/ shatter/ fcr
44FK1077	5340	2940		1 glass/ shatter/ 1 flake
44FK1077	5340	2977.5	R	Barbed wire
44FK1077	5340	3000		1 flake/ 1 glass/ barbed wire
44FK1077	5340	3015		shatter/ 1 flake
44FK1077	5355	2880		shatter
44FK1077	5355	2910		fcr/ 1 flake
44FK1077	5355	2925		shatter/ 1 flake
44FK1077	5355	2925		shatter/ 3 pearlware (green featheredge) fragments/ 1 flake
44FK1077	5355	2955		shater/ 1 redware fragment
44FK1077	5355	2970		1 lead glazed redware fragment/ 2 flakes/ shatter
44FK1077	5355	2985		1 flake
44FK1077	5362.5	2925	R	1 flint shatter, 1 flint flake
44FK1077	5362.5	2970	R	1 Lead glazed redware, 5 shatter
44FK1077	5370	2880		1 flake/ 1 prehistoric ceramic fragment
44FK1077	5370	2885		shatter
44FK1077	5370	2887.5	R	3 Fcr, 1 20th c. floor tile, 1 Flint flake
44FK1077	5370	2902.5	R	4 flint shatter
44FK1077	5370	2910		shatter/ 1 lead glazed redware fragment
44FK1077	5370	2925		shatter/ 1 flake
44FK1077	5370	2932.5	R	4 flint shatter
44FK1077	5370	2955		1 flake
44FK1077	5370	2962.5	R	4 flint shatter, 1 flint flake
44FK1077	5370	2970		shatter
44FK1077	5370	2977.5	R	9 flint shatter
44FK1077	5370	2977.5	R	4 flint shatter, 1 Stalactite, 1 flint flake

Site	N	E	Radial	Description
44FK1077	5377.5	2895	R	2 flint shatter
44FK1077	5377.5	2925	R	1 flint shatter, 1 flint flake
44FK1077	5377.5	2940	R	3 flint shatter
44FK1077	5377.5	2955	R	4 flint shatter, 1 flint flake
44FK1077	5385	2887.5	R	1 Fcr, 1 cobble
44FK1077	5385	2910		shatter
44FK1077	5385	2985		shatter/ 1 flake
	5385	3045		shatter/ 1 flake
	5385	3150		shatter
	5385	3195		shatter/ 1 flake
	5385	3225		hammerstone/ 1 flake
	5385	3285		shatter
	5385	3300		shatter/ 1 flake
	5385	3315		shatter
44FK1077	5392.5	2895	R	3 flint shatter
44FK1077	5400	2940		1 lead glazed redware fragment
44FK1077	5430	2955		3 brick fragments/ shatter
44FK1077	5430	2985		Prehistoric ceramic/ 1 flake
	5430	3090		1 aqua inkwell glass fragment
44FK1079	5430	3180		shatter/ 1 flake
44FK1079	5430	3195		shatter/ 1 flake
44FK1079	5430	3210		1 flake
44FK1079	5430	3225		shatter/ 1 flake
	5445	2970		1 creamware fragment
44FK1076	5467.5	2910	R	English saltglazed stoneware
44FK1076	5467.5	2925	R	1 Unglazed redware

Site	N	E	Radial	Description
44FK1076	5475	2902.5	R	1 Lead glazed redware, 1 unglazed redware, 1 Wrought iron nail
44FK1076	5475	2917.5	R	2 Lead glazed redware, 4 Unglazed redware, 1 Pearlware
44FK1076	5475	2925		1 pearlware fragment/ 1 pipestem fragment/ 3 lead glazed redware fragments/ 7 unglazed redware fragments/ 2 brick fragments
44FK1076	5475	2932.5	R	1 Buckley type redware, 2 Unglazed redware, 2 Pearlware (1 early polychrome), 1 Creamware
44FK1076	5475	2940		1 aqua glass fragment/ 1 glazed redware fragment/ 3 unglazed redware fragments
44FK1076	5475	2947.5	R	2 Buckley type redware, 2 Lead glazed redware, 1 unglazed redware, 1 quartz flake
44FK1076	5482.5	2910	R	1 Wrought nail, 1 Cut nail, 7 Lead glazed redware, 2 Unglazed redware, 1 mortar, 1 18th c. medicine bottle glass, 1 Pearlware
44FK1076	5482.5	2940	R	1 Lead glazed redware, 1 unglazed redware, 1 burnt bone
44FK1076	5490	2910		2 wrought nails/ 6 lead glazed redware fragments/ 2 unglazed redware fragments/ 2 pieces of pearlware/ 1 creamware fragment/ 1 cylinder window glass fragment
44FK1076	5490	2925		1 pearlware fragment/ 1 cut nail/ 3 redware fragments, animal tooth root
44FK1076	5490	2940		1 glazed redware fragment/ 1 unglazed redware fragment/ 1 creamware fragment
44FK1076	5497.5	2910	R	7 Brick, 2 Hearth slag, 3 Wrought iron nails, 1 Cut nail, 3 Pearlware (2 Green featheredge), 1 Lead glazed redware, 1 Cow tooth fragment
44FK1076	5497.5	2925	R	1 Wrought nail, 1 Cut nail, 2 burnt bone, 7 Unglazed redware, 8 Lead glazed redware (Redware rimsherd, copy of stoneware bottle), 2 Whiteware, 3 brick, 1 Late blue polychrome pearlware, 1 Cylinder window glass
44FK1076	5497.5	2940	R	2 Lead glazed redware, 3 Unglazed redware
44FK1076	5505	2910		1 wrought nail/ 3 lead glazed redware fragments/ 6 unglazed redware fragments/ 1 white ware fragment/ 2 wine glass fragments/ 2 cylinder window glass fragments/ 4 brick fragments/ 2 mortar fragments
44FK1076	5505	2925		1 transfer print fragment/ 1 pearlware fragment/ 3 unglazed redware fragments/ 1 aqua glass fragment/ 2 cut nails/ 5 brick fragments/ 1 slag/ 2 mortar fragments.
44FK1076	5505	2940		4 pearlware fragments/ 6 lead glazed redware fragments/ 7 unglazed redware fragments/ 1 cylinder window glass fragment/ 4 brick frgmnts
	5505	2997.5	R	1 Unglazed redware, 1 stalactite
44FK1076	5520	2910		2 brick frgmts.

Site	N	E	Radial	Description
44FK1076	5520	2925		brick frgmnt.
44FK1076	5520	2940		freeblown aqua bottle base fragment (1750-1800, Hume)/ 4 pieces lead glazed redware/ 1 piece bailing wire/ 1 pig tooth
	5520	3015		shatter/ 1 flake
	5520	3045		shatter
	5520	3090		shatter/ 1 flake
44FK1076	5527.5	2947.5	R	3 Flat iron fragments, 3 Lead glazed redware fragments, 3 Unglazed redware fragments
	5535	3075		shatter/ 1 flake
	5565	2925		1 flake
	5565	3090		shatter/ 1 flake
	5625	3165		shatter
	5640	3105		1 flake
	5640	3165		1 flake
	5670	2940		worked core
	5670	2950		shatter
	5670	3060		shatter
	5670	3090		shater/ 1 flake
	5670	3165		shatter
	5670	3180		shatter
	5685	2910		1 flake
	5685	2925		shatter
	5685	2970		fcr/ shatter
	5715	3015		1 flake
	5715	3180		plastic/ stoneware/ whiteware
	5730	3015		shatter/ 1 flake
44FK1078	5775	2985		fcr/ shatter

Site	N	E	Radial	Description
44FK1078	5775	3015		fcr/ shatter
44FK1078	5775	3030		fcr/ shatter
44FK1078	5775	3045		shatter/ 1 flake
44FK1078	5775	3060		fcr/ shatter
44FK1078	5775	3075		shatter
44FK1078	5775	3090		fcr/ shatter
44FK1078	5797.5	3015	R	1 flint flake
44FK1078	5797.5	3022.5	R	1 Thermaly altered worked quartzite cobble/ 2 flint shatter
44FK1078	5797.5	3037.5	R	1 flint shatter
44FK1078	5797.5	3060	R	1 flint shatter, 1 quartzite flake
44FK1078	5805	2985		shatter/ 1 flake
44FK1078	5805	2992.5	R	1 River cobble fcr
44FK1078	5805	3000		fcr/ shatter/ 1 flake
44FK1078	5805	3015		shatter/ 1 flake
44FK1078	5805	3030		fcr/ shatter/ 1 flake
44FK1078	5805	3030		fcr/ lithic collected from RW's stp on surface
44FK1078	5805	3045		fcr/ possible flakes
44FK1078	5805	3060		fcr/ 1 flake
44FK1078	5805	3075		fcr/ shatter/ 1 flake
44FK1078	5805	3090		fcr/ 1 flake
44FK1078	5812.5	3000	R	4 flint shatter, 1 flint flake
44FK1078	5812.5	3045	R	2 flint shatter, 1 quartzite cobble fcr, 3 flint flakes
44FK1078	5817.5	3030	R	2 flint shatter
44FK1078	5820	3030		shatter
44FK1078	5827.5	3045	R	1 flint cobble primary flake
44FK1078	5835	3000		fcr/ 1 flake

Site	N	E	Radial	Description
44FK1078	5835	3045		fcr/ shatter
44FK1078	5835	3060		fcr/ 1 flake
44FK1078	5835	3075		fcr/ shatter
44FK1078	5835	3090		flake
44FK1078	5850	3030		fcr/ 1 flake
44FK1078	5850	3045		fcr/ 1 flake
44FK1078	5850	3075		fcr/ 1 flake
44FK1078	5865	3015		fcr/ 1 flake

Appendix B:

Archeological Site Forms

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1076

Snapshot

Date Generated: January 29, 2024

Site Name:	Glass Family Homestead
Site Classification:	Terrestrial, open air
Year(s):	1751 - 1789, 1790 - 1829, 1830 - 1860
Site Type(s):	Farmstead
Other DHR ID:	No Data
Temporary Designation:	No Data

Site Evaluation Status

Locational Information

USGS Quad:	WINCHESTER
County/Independent City:	Frederick (County)
Physiographic Province:	Valley and Ridge
Elevation:	805 feet
Aspect:	Facing Southeast
Drainage:	Potomac
Slope:	2-6%
Acreage:	0.730
Landform:	Ridge
Ownership Status:	Private
Government Entity Name:	No Data

Site Components

Component 1

Category:	Domestic
Site Type:	Farmstead
Cultural Affiliation:	Euro-American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)
Start Year:	1750
End Year:	1830
Comments:	Site AV-1 covers a roughly circular area measuring 55m-x-50m (Figure 5.1). Within this area, 23 of 29 STPs contained cultural material, including 11 baseline STPs and 12 radial STPs. A total of 204 artifacts were recovered from STP testing, with an additional 73 encountered during metal detection (Table 5.1). The recovered material indicates a house site. A wide variety of diagnostic ceramics present shows that the period of occupation was likely between 1750 and 1830. Several artifacts recovered have a terminal use date of the end of the first quarter of the 19th century. Additional Colonial-era artifacts including blown window pane and olive green wine bottle fragments were found (Figure 5.3). Both hand-wrought and machine-cut nails were encountered, indicating that the site was being improved until after 1810. There is negligible presence of later cultural material that would indicate a continuation of occupation into the late 19th or 20th century. Only one pre-contact artifact was recovered, a secondary flake made of the local Beekmantown chert. Potentially associated with multiple generations of the Glass family

Bibliographic Information

Bibliography:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia. Conducted for Winchester Gateway, LLC.

Informant Data:

No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1076

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Jay Lunze- crew chief
Lyle Torp- principal investigator
Karl Franz- archeologist

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: The Ottery Group

Investigator: Lyle Torp

Survey Date: 6/16/2023

Survey Description:

Phase I archeological survey of a 71.85-acre tract conducted prior to development of the property. The property falls within the NR-eligible Kernstown Battlefield (2011 expansion). 1580 STPs were excavated at 15-meter and close intervals. Metal detection was conducted across open portions of the property. 197 positive STPs including 144 with local chert debitage. Five sites were identified during the survey.

Current Land Use	Date of Use	Comments
Pasture	7/21/2023	former pasture, overgrown, vacant since approximately 2009

Threats to Resource: Development, Erosion, Neglect

Site Conditions: Unknown Portion of Site Destroyed

Survey Strategies: Metal Detection, Subsurface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

The recovered material indicates a house site. A wide variety of diagnostic ceramics present shows that the period of occupation was likely between 1750 and 1830. Several artifacts recovered have a terminal use date of the end of the first quarter of the 19th century. Additional Colonial-era artifacts including blown window pane and olive green wine bottle fragments were found (Figure 5.3). Both hand-wrought and machine-cut nails were encountered, indicating that the site was being improved until after 1810. There is negligible presence of later cultural material that would indicate a continuation of occupation into the late 19th or 20th century. Only one pre-contact artifact was recovered, a secondary flake made of the local Beekmantown chert.

Site AV-1 may be the home of three generations of the Glass family. David Glass (1728-1775) purchased the land that includes the project area in 1749. Upon his death, it was passed to his son, David Glass II (1746- after 1789) and possibly David Glass II's son John (1831-?) after that. A fenceline with remnants of a fieldstone wall adjacent to site appears to be part of a property boundary aligning to the metes and bounds of the 1749 purchase. Little is known of this branch of the much more famous Glass family, descendants of which still live adjacent to the property today. It is thought that John Glass, the grandson, may have moved out of the Opequon Creek drainage as so many pioneers did to the Kentucky or Ohio frontiers. As John left no heirs his property may have reverted into the family or been sold in the 1850s.

Creamware- Undecorated8
Pearlware- Undecorated16
Pearlware- Polychrome3
Pearlware- Feather-Edged2
Pearlware- Transfer Printed1
Redware- Lead Glazed62
Redware- Plain63
Redware- Other3
Buckley5
Astbury1
Manganese Mottled Ware2
Whiteware- Undecorated3
Whiteware- Transfer Printed1
Chinese Export Porcelain2
Gray Bodied Domestic Stoneware1
English Brown Stoneware1
Buff Bodied Stoneware1
Lead Glass Stemware2
Medicine Bottle4
Olive Vessel Glass- Free Blown1
Brick (not wire cut)33
Mortar10
Hand-forged Nail16
Machine-cut Nail7
Window Pane (cylinder)6
Chert Secondary Flake1

Summary of Specimens Observed, Not Collected:

No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1076

Current Curation Repository:	The Ottery Group, Silver Spring, MD
Permanent Curation Repository:	Artifacts to be returned to landowner
Field Notes:	Yes
Field Notes Repository:	The Ottery Group, Silver Spring, MD
Photographic Media:	Digital
Survey Reports:	Yes
Survey Report Information:	Jay Lunze, Karl Franz, and Lyle Torp (2023) Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia
Survey Report Repository:	VCRIS
DHR Library Reference Number:	No Data
Significance Statement:	Site AV-1 is a dense cluster of 18th and 19th century domestic artifacts, possibly associated with the David Glass, Sr. homestead. Glass purchased the property in 1749 and appears to have remained in the family for three generations, until approximately 1850. The site is relatively intact and does not contain later 20th century materials. A wide variety of ceramics recovered from the site suggests a long duration of habitation, and the potential for encountering intact features is high. Metal detection within the site resulted in the recovery of additional artifacts. A Phase II investigation is recommended to establish the National Register eligibility of the site.
Surveyor's Eligibility Recommendations:	Recommended for Further Survey
Surveyor's NR Criteria Recommendations:	No Data
Surveyor's NR Criteria Considerations:	No Data

Archaeological site data is protected under the Archaeological Resource Protection Act (ARPA 1979).

Page: 3 of 3

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1077

Snapshot

Date Generated: January 29, 2024

Site Name:	No Data
Site Classification:	Terrestrial, open air
Year(s):	, 3000 - 1201 B.C.E, 1200 B.C.E. - 299 C.E, 1000 - 1606, 1751 - 1789, 1790 - 1829, 1830 - 1860
Site Type(s):	Lithic procurement site, Outbuilding
Other DHR ID:	No Data
Temporary Designation:	No Data

Site Evaluation Status

Locational Information

USGS Quad:	WINCHESTER
County/Independent City:	Frederick (County)
Physiographic Province:	Valley and Ridge
Elevation:	795 feet
Aspect:	Facing Southeast
Drainage:	Potomac
Slope:	2-6%
Acreage:	5.460
Landform:	Ridge
Ownership Status:	Private
Government Entity Name:	No Data

Site Components

Component 1

Category:	Industry/Processing/Extraction
Site Type:	Lithic procurement site
Cultural Affiliation:	Native American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Late Woodland (1000 - 1606), Pre-Contact
Start Year:	No Data
End Year:	No Data
Comments:	142 lithic artifacts shatter (94), primary flakes (1), secondary flakes (40), FCR (6), contracting stemmed point (1) possible Accokeek sherd (1) possible Moyaone sherd (1)

Component 2

Category:	Subsistence/Agriculture
Site Type:	Outbuilding
Cultural Affiliation:	Euro-American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)
Start Year:	1750
End Year:	1830
Comments:	possible springhouse associated with the domestic occupation immediately to the north. Feather-edged pearlware and lead glaze redware are similar to what was recovered from the adjacent site. Historic scatter is concentrated at a springhead. Some later material recovered (barbed wire, fence staple) is associated with the 20th century use as pasture rather than the earlier farmstead.

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1077

Bibliographic Information

Bibliography:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia. Conducted for Winchester Gateway, LLC.

Informant Data:

No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1077

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Jay Lunze- crew chief
Lyle Torp- principal investigator
Karl Franz- archeologist

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: The Ottery Group

Investigator: Lyle Torp

Survey Date: 6/16/2023

Survey Description:

Phase I archeological survey of a 71.85-acre tract conducted prior to development of the property. The property falls within the NR-eligible Kernstown Battlefield (2011 expansion). 1580 STPs were excavated at 15-meter and close intervals. Metal detection was conducted across open portions of the property. 197 positive STPs including 144 with local chert debitage. Five sites were identified during the survey.

Current Land Use	Date of Use	Comments
Pasture	7/21/2023	Overgrown pasture, appears to have been last used in 2009 based on aerial photos

Threats to Resource: Development, Erosion

Site Conditions: Unknown Portion of Site Destroyed

Survey Strategies: Metal Detection, Subsurface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

A total of 168 artifacts were recovered from the site, an average of 2.04 artifacts per positive STP and an overall density of 0.92 artifacts per STP within the site boundary (Tables 5.2 and 5.3). Five STPs contained only historic period artifacts while 63 contained exclusively pre-contact lithic artifacts. A total of 11 STPs contained both.

The majority of the artifacts were pre-contact Native American lithic debitage (Table 5.2). Of the 145 pre-contact artifacts present, 94 consisted of angular shatter from the locally-occurring chert. A total of 41 chert flakes were recovered, including 1 primary and 40 secondary flakes. Six fire cracked rock (FCR) indicate a potential hearth or remnant of lithic material extraction. One core was also present, also composed of local chert.

One lithic tool was recovered from Site AV-2. It is a broken or use-worn projectile point refashioned into a hafted scraper. The contracting stem is consistent with Late Archaic and Early Woodland point types (Figure 5.4). Two additional diagnostic artifacts were recovered from the site, both Native American ceramic fragments. One heavily carbonized small sherd is a sand-tempered ceramic with a bright orange paste, possibly Accokeek. The other is a hard fired ceramic with a micaceous paste similar to Moyaone. The pre-contact component is interpreted as a resource extraction site. With the large quantity of debitage present, it would appear that lithic extraction is the primary function, although the overall lack of primary flakes present is inconsistent with quarrying activity. The presence of the springhead makes the location favorable for a hunting camp or the harvesting of plant resources that would be found in that environment.

The historic component of Site AV-2 consists of 23 artifacts from 16 STPs (Table 5.3). Of these, 9 were ceramics of varieties recovered from Site AV-1, lead glazed redware and green feather-edged pearlware, and one was a machine-cut nail. The artifacts were found near the springhead and may represent an outbuilding associated with the domestic occupation at Site AV-1, possibly a springhouse. Three brick fragments and two fragments of mold-blown bottle glass may also be associated as there are no other known structures on the property. Seven artifacts, 6 fragments of barbed wire and a fence staple are associated with the current land use. One piece of 20th century floor tile is an outlier that does not fit in with the assemblage.

Chert shatter94
Chert secondary flake41
Chert Core1
Hafted Scraper1
Early Woodland Ceramic1
Late Woodland Ceramic1
FCR6
Pearlware- Feather-Edged3
Redware- Lead Glazed6
Bottle Glass- Mold Blown2
Brick (not wire cut)3
Floor Tile1
Machine-cut Nail1
Barbed Wire6
Fence Staple1

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: The Ottery Group, Silver Spring, MD

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1077

Permanent Curation Repository:	Artifacts to be returned to landowner
Field Notes:	Yes
Field Notes Repository:	The Ottery Group, Silver Spring, MD
Photographic Media:	Digital
Survey Reports:	Yes
Survey Report Information:	Jay Lunze, Karl Franz, and Lyle Torp (2023) Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia
Survey Report Repository:	VCRIS
DHR Library Reference Number:	No Data
Significance Statement:	Site AV-2 is a large moderately dense scatter of pre-contact Native American lithic artifacts with a light scatter of 18th to 19th century domestic artifacts focused around a springhead. The majority of the lithic artifacts recovered consist of local Beekmantown chert shatter. The site yielded one lithic tool, a nondiagnostic hafted scraper. Two fragments of unidentified pre-contact ceramic were also recovered. The pre-contact component is interpreted as a repeated use during the Woodland period for lithic extraction. The historic materials are likely associated with the more concentrated site AV-1 directly to the north of it and may represent a springhouse or other outbuilding. The ephemeral nature of the site suggests that intact cultural deposits are unlikely. Based upon the presence of Native American tools and ceramics as well as 18th century material culture, a Phase II investigation is recommended to establish the National Register eligibility of the site.
Surveyor's Eligibility Recommendations:	Recommended for Further Survey
Surveyor's NR Criteria Recommendations:	No Data
Surveyor's NR Criteria Considerations:	No Data

Archaeological site data is protected under the Archaeological Resource Protection Act (ARPA 1979).

Page: 4 of 4

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1078

Snapshot

Date Generated: January 29, 2024

Site Name:	No Data
Site Classification:	Terrestrial, open air
Year(s):	No Data
Site Type(s):	Lithic procurement site
Other DHR ID:	No Data
Temporary Designation:	No Data

Site Evaluation Status

Locational Information

USGS Quad:	WINCHESTER
County/Independent City:	Frederick (County)
Physiographic Province:	Valley and Ridge
Elevation:	820 feet
Aspect:	Facing South
Drainage:	Potomac
Slope:	2-6%
Acreage:	1.670
Landform:	Ridge
Ownership Status:	Private
Government Entity Name:	No Data

Site Components

Component 1

Category:	Industry/Processing/Extraction
Site Type:	Lithic procurement site
Cultural Affiliation:	Native American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Pre-Contact
Start Year:	No Data
End Year:	No Data
Comments:	74 lithics from 35 positive STPs chert shatter (32), chert primary flake (1), chert secondary flake (22), quartzite secondary flake (1), FCR (18) no diagnostic artifacts

Bibliographic Information

Bibliography:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia. Conducted for Winchester Gateway, LLC.

Informant Data:

No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1078

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Jay Lunze- crew chief
Lyle Torp- principal investigator
Karl Franz- archeologist

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: The Ottery Group

Investigator: Lyle Torp

Survey Date: 6/16/2023

Survey Description:

Phase I archeological survey of a 71.85-acre tract conducted prior to development of the property. The property falls within the NR-eligible Kernstown Battlefield (2011 expansion). 1580 STPs were excavated at 15-meter and close intervals. Metal detection was conducted across open portions of the property. 197 positive STPs including 144 with local chert debitage. Five sites were identified during the survey.

Current Land Use	Date of Use	Comments
Pasture	7/21/2023	*No Data*

Threats to Resource: Development, Erosion

Site Conditions: Unknown Portion of Site Destroyed

Survey Strategies: Metal Detection, Subsurface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

Site AV-3 is a large scatter of lithic artifacts measuring 90m-x-110m located in the northeastern part of the project area, extending off the project area into Apple Valley Road (Figure 5.1). A total of 35 positive STPs, 26 baseline STPs and 9 radial STPs together yielded 74 lithic artifacts (Table 5.4). The 2.1 artifacts per positive STP is similar to Site AV-2. No historic period artifacts were present. The artifact assemblage yielded high quantities of chert shatter (n=31) and secondary flakes (n-22), and two primary flakes, one chert and one quartzite. Nearly 25% of the artifacts from the site were FCR. One tested cobble was also found.
None of the artifacts collected from Site AV-3 were temporally diagnostic. Given the presence of rock outcrops on the property, the site function is presumed to be lithic extraction.

Chert shatter31
Chert primary flake1
Chert secondary flake22
Quartzite secondary flake1
Tested Cobble1
FCR18

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: The Ottery Group, Silver Spring, MD

Permanent Curation Repository: Artifacts to be returned to landowner

Field Notes: Yes

Field Notes Repository: The Ottery Group, Silver Spring, MD

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia

Survey Report Repository: VCRIS

DHR Library Reference Number: No Data

Significance Statement: Site AV-3 is a low density scatter of pre-contact lithic material similar to Site AV-2. No tools or diagnostic artifacts were recovered from the site. The site is interpreted as a lithic extraction site with a long duration or repeated use. The site is not considered to meet the criteria as a significant archeological resource and no additional testing is recommended.

Surveyor's Eligibility Recommendations: Recommended Not Eligible

Surveyor's NR Criteria Recommendations: No Data

Surveyor's NR Criteria Considerations: No Data

Archaeological site data is protected under the Archaeological Resource Protection Act (ARPA 1979).

Page: 2 of 2

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1079

Snapshot

Date Generated: January 29, 2024

Site Name:	No Data
Site Classification:	Terrestrial, open air
Year(s):	No Data
Site Type(s):	Lithic scatter
Other DHR ID:	No Data
Temporary Designation:	No Data

Site Evaluation Status

Locational Information

USGS Quad:	WINCHESTER
County/Independent City:	Frederick (County)
Physiographic Province:	Valley and Ridge
Elevation:	785 feet
Aspect:	Facing South
Drainage:	Potomac
Slope:	2-6%
Acreage:	0.140
Landform:	Terrace
Ownership Status:	Private
Government Entity Name:	No Data

Site Components

Component 1

Category:	Industry/Processing/Extraction
Site Type:	Lithic scatter
Cultural Affiliation:	Native American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Pre-Contact
Start Year:	No Data
End Year:	No Data
Comments:	seven artifacts all from local chert recovered from 4 STPs. Artifacts consist of 4 secondary flakes and 3 shatter. Site is located at the edge of a spring.

Bibliographic Information

Bibliography:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia. Conducted for Winchester Gateway, LLC

Informant Data:

No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1079

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Jay Lunze- crew chief
Lyle Torp- principal investigator
Karl Franz- archeologist

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: The Ottery Group

Investigator: Lyle Torp

Survey Date: 6/16/2023

Survey Description:

Phase I archeological survey of a 71.85-acre tract conducted prior to development of the property. The property falls within the NR-eligible Kernstown Battlefield (2011 expansion). 1580 STPs were excavated at 15-meter and close intervals. Metal detection was conducted across open portions of the property. 197 positive STPs including 144 with local chert debitage. Five sites were identified during the survey.

Current Land Use	Date of Use	Comments
Pasture	7/21/2023	overgrown pasture, last used in 2009 based on aerial photos

Threats to Resource: Development, Erosion

Site Conditions: Unknown Portion of Site Destroyed

Survey Strategies: Metal Detection, Subsurface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

Site AV-4 is the smallest of the sites encountered within the project area (Figure 5.1). It measures 15m-x-60m and consists of four consecutive positive STPs. The site yielded 7 lithic artifacts: 3 chert shatter and 4 chert secondary flakes. No temporally artifacts were recovered. No historic period artifacts were present. The site is a nondiagnostic lithic scatter.

Chert Shatter3
Chert Secondary Flake4

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: The Ottery Group, Silver Spring, MD

Permanent Curation Repository: artifacts to be returned to landowner

Field Notes: Yes

Field Notes Repository: The Ottery Group, Silver Spring, MD

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia

Survey Report Repository: VCRIS

DHR Library Reference Number: No Data

Significance Statement: Site AV-4 is a small scatter of pre-contact lithic material consisting of seven artifacts. No tools or diagnostic artifacts were recovered. If the site was not identified in proximity to sites AV-2 and AV-3, no site function would be possible due to the limited size and artifacts. It is likely that the site is a resource extraction site. The site is not considered to meet the National Register criteria for research potential and no additional testing is recommended.

Surveyor's Eligibility Recommendations: Recommended Not Eligible

Surveyor's NR Criteria Recommendations: No Data

Surveyor's NR Criteria Considerations: No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1080

Snapshot

Date Generated: January 29, 2024

Site Name:	No Data
Site Classification:	Terrestrial, open air
Year(s):	No Data
Site Type(s):	Other
Other DHR ID:	No Data
Temporary Designation:	No Data

Site Evaluation Status

Locational Information

USGS Quad:	WINCHESTER
County/Independent City:	Frederick (County)
Physiographic Province:	Valley and Ridge
Elevation:	780 feet
Aspect:	Facing Southeast
Drainage:	Potomac
Slope:	2-6%
Acreage:	0.190
Landform:	Terrace
Ownership Status:	Private
Government Entity Name:	No Data

Site Components

Component 1

Category:	Industry/Processing/Extraction
Site Type:	Other
Cultural Affiliation:	Native American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Pre-Contact
Start Year:	No Data
End Year:	No Data
Comments:	Site AV-5 is a moderate sized scatter of lithic artifacts recovered from the north side of a dammed spring. The site measures 30m-x-90m and contained 13 positive STPs, including 4 baseline and 9 radial STPs. The site yielded 28 lithic artifacts: 15 chert shatter, 6 chert secondary flakes, 5 FCR, 1 tested cobble, and one potential nutting stone. No temporally diagnostic artifacts were recovered. No historic period artifacts were present. The site is interpreted as a resource procurement site. The presence of a nutting stone may indicate the processing of vegetable fibers harvested from the drainage.

Bibliographic Information

Bibliography:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Appel Valley Road Tract, Winchester, Frederick County, Virginia. Conducted for Winchester Gateway, LLC.

Informant Data:

No Data

Archaeological site data is protected under the Archaeological Resource Protection Act (ARPA 1979).

Page: 1 of 2

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1080

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Jay Lunze- crew chief
Lyle Torp- principal investigator
Karl Franz- archeologist

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: The Ottery Group

Investigator: Lyle Torp

Survey Date: 6/16/2023

Survey Description:

Phase I archeological survey of a 71.85-acre tract conducted prior to development of the property. The property falls within the NR-eligible Kernstown Battlefield (2011 expansion). 1580 STPs were excavated at 15-meter and close intervals. Metal detection was conducted across open portions of the property. 197 positive STPs including 144 with local chert debitage. Five sites were identified during the survey.

Current Land Use	Date of Use	Comments
Pasture	7/21/2023	overgrown pasture last used in 2009 based on aerial photos

Threats to Resource: Development, Erosion

Site Conditions: Unknown Portion of Site Destroyed

Survey Strategies: Metal Detection, Subsurface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

Site AV-5 is a moderate sized scatter of lithic artifacts recovered from the north side of the artificial pond (Figure 5.1). The site measures 30m-x-90m and contained 13 positive STPs, including 4 baseline and 9 radial STPs. The site yielded 28 lithic artifacts: 15 chert shatter, 6 chert secondary flakes, 5 FCR, 1 tested cobble, and one potential nutting stone. No temporally diagnostic artifacts were recovered. No historic period artifacts were present. The site is interpreted as a resource procurement site. The presence of a nutting stone may indicate the processing of vegetable fibers harvested from the drainage.

Chert Shatter15
Chert Secondary Flake6
Nutting Stone1
Tested Cobble1
FCR5

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: The Ottery Group, Silver Spring, MD

Permanent Curation Repository: Artifacts to be returned to landowner

Field Notes: Yes

Field Notes Repository: The Ottery Group, Silver Spring, MD

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia

Survey Report Repository: VCRIS

DHR Library Reference Number: No Data

Significance Statement: Site AV-5 is a cluster of pre-contact lithic artifacts found on the north of the cattle pond, and along the original spring running through the property. The site contained a moderate density of artifacts, none of which are chronologically diagnostic. The artifact assemblage is consistent with the other Native American sites within the project area. The only anomalous artifact was a possible nutting stone, which suggests that the site may be more than a short-term resource extraction camp. The site is not considered to be a significant archeological resource and no additional testing is recommended.

Surveyor's Eligibility Recommendations: Recommended Not Eligible

Surveyor's NR Criteria Recommendations: No Data

Surveyor's NR Criteria Considerations: No Data

Appendix C:

Qualifications of Investigators

LYLE C. TORP, RPA
Managing Director

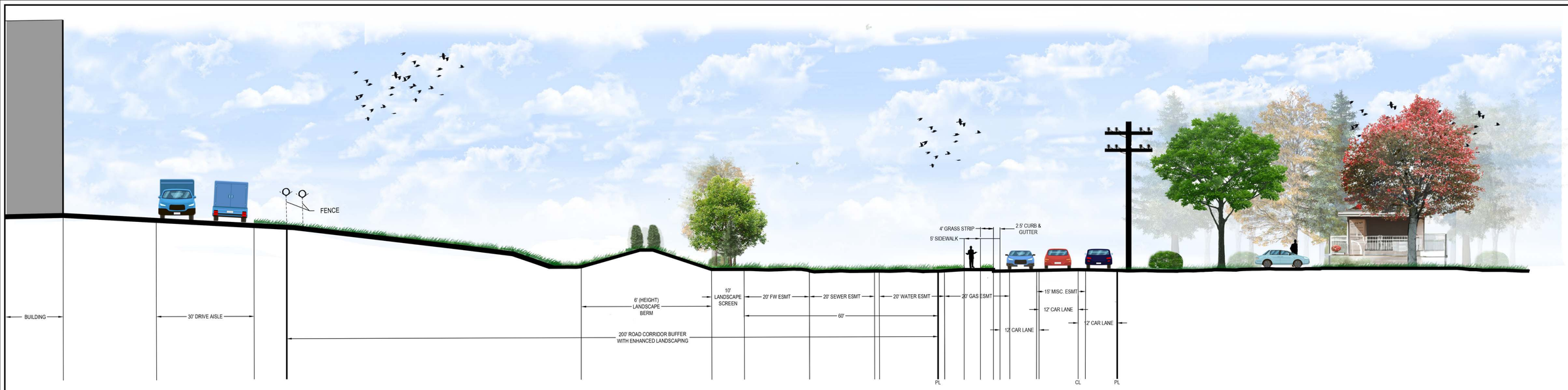
Lyle C. Torp consults on issues related to compliance with Section 106 of the National Historic Preservation Act (NHPA), directs the preparation of environmental assessments under the National Environmental Policy Act (NEPA), and performs a variety of services related to archeological and historical assessments and historic preservation planning. He has extensive experience performing all phase of cultural resource investigations, and has served as Principal Investigator on numerous compliance-related projects throughout the country. Mr. Torp is fully-qualified under the Secretary of the Interior's Standards for Archeology and Historic Preservation at 36 CFR 61, and is certified in archeology by the RPA. Mr. Torp is a past President of the Council for Maryland Archeology (CfMA), and has served two terms on the Board of Directors for the American Cultural Resources Association (ACRA). Since 1998, Mr. Torp has directed the operations of a consulting firm with a staff of cultural resource and environmental professionals. In this capacity he has augmented his prior work experience in conducting ESAs, natural resource planning, and other environmental services with a diverse professional staff serving clients throughout the United States. Lyle is an Instructor in the Cultural Heritage Resource Management (CHRM) Program at the University of Maryland.

KARL FRANZ, RA
Archeologist

Karl Franz is an Archeologist with The Ottery Group. He is certified in archeology by the RPA. He holds a bachelors degree from Saint Mary's College of Maryland (1991). Mr. Franz has been an archeologist in the Middle Atlantic region 35 years, with experience in all levels of effort at historic and pre-contact Native American sites in 20 states, with a focus in the Mid-Atlantic and Northeast Regions of the United States. He has directed archeological projects for a variety of public, private, and government clients for purposes that range from compliance-driven to academic research studies and is equally proficient in pre-contact Native American and historical period site excavation and interpretation. In addition to project management and laboratory direction duties, Mr. Franz has authored over 200 cultural resources technical reports in his career. He has been employed by the Ottery Group for the last 19 years.

JAY LUNZE, MA
Crew Chief

Jay Lunze is an Archeologist with The Ottery Group. She holds a masters degree in maritime archeology from the University of Southern Denmark (2011). Ms. Lunze has 20 years of experience in the fields of archaeology, museum studies, and heritage management. She has worked as a museum educator and docent at the Jamestown Yorktown Foundation as well as a docent and security guard at the Virginia Museum of Fine Art. Throughout this time, she contributed to the publication of the transcribed and annotated journal of George Washington's journey to Barbados. Since 2018, she has been active in CRM field archaeology in the Mid-Atlantic.



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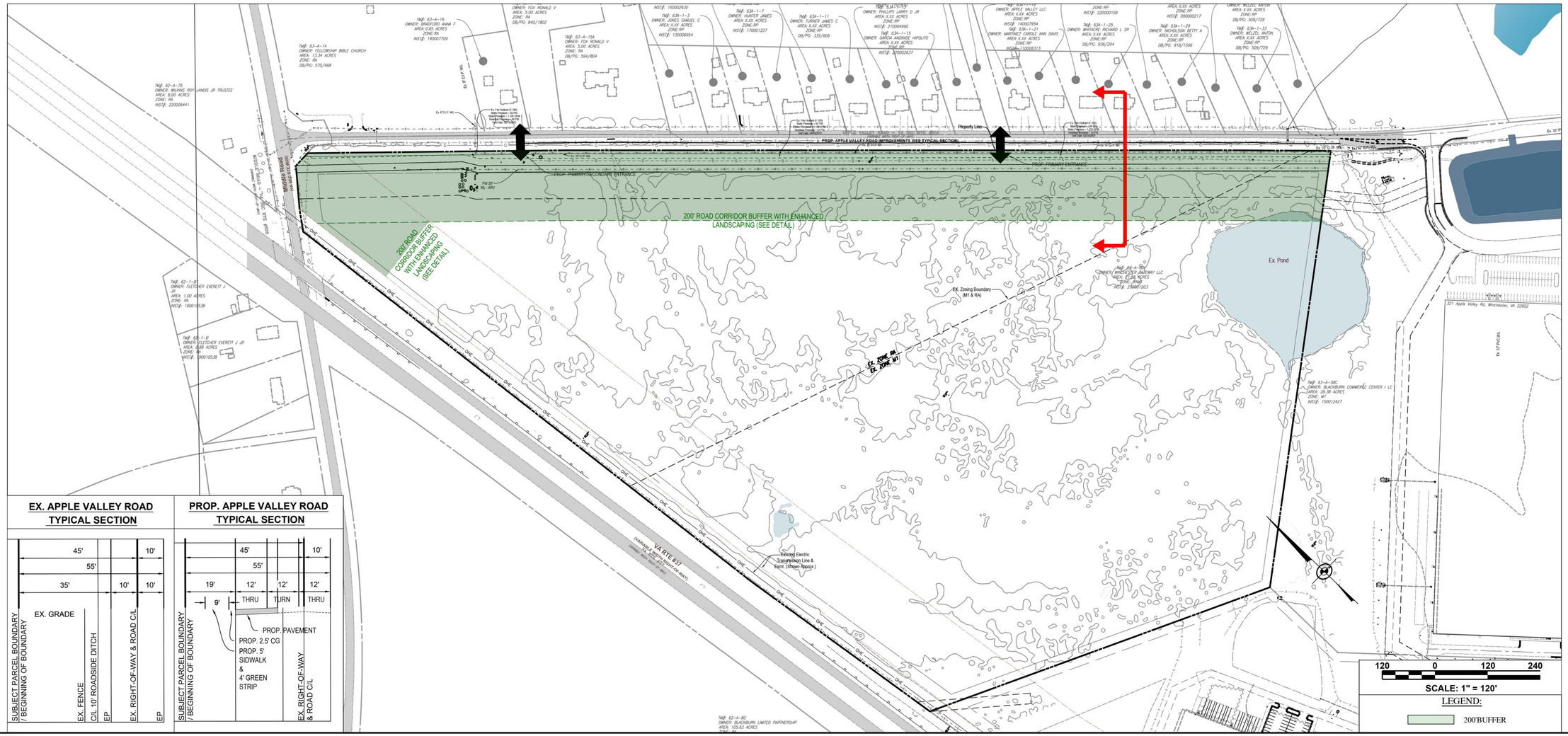


EX. APPLE VALLEY ROAD TYPICAL SECTION

PROP. APPLE VALLEY ROAD TYPICAL SECTION

151 Windy Hill Lane
Winchester, Virginia 22602
Telephone: (540) 662-4185
Fax: (540) 722-9528
www.greenwayeng.com

GREENWAY ENGINEERING

PROUDLY SERVING VIRGINIA & WEST VIRGINIA
OFFICES IN: WINCHESTER, VA & MARTINSBURG, WV

ROAD WIDENING ILLUSTRATIVE EXHIBIT

WINCHESTER GATEWAY

BACK CREEK MAGISTERIAL DISTRICT
FREDERICK COUNTY, VIRGINIA

DATE: MAR 14,2024

SCALE: AS SHOWN

DESIGNED BY: EJG / RLK

FILE NO. 0036E

SHEET 1 OF 1

APPLE VALLEY ROAD ~ VA SEC RTE #652

SEE DETAIL BELOW

PROPOSED
LANDSCAPE BUFFER

SUBSTATION

DATA CENTER 1
MAX BLDG HT:60'

DATA CENTER 2
MAX BLDG HT:60'

DATA CENTER 3
MAX BLDG HT:60'

SWM/BMP

MIDDLE ROAD ~ VA SEC RTE #628

VA RTE #37 N

VA RTE #37 S

TYPICAL BUFFER DETAIL

SCALE 1:20

45145 RESEARCH PLACE
ASHBURN, VIRGINIA 20147
TELEPHONE (703) 328-9788
FACSIMILE (703) 328-9789
WWW.GREENWAYENG.COM

FND 1971
GREENWAY
ENGINEERING

PROUDLY SERVING VIRGINIA & WEST VIRGINIA
OFFICES IN ASHBURN, VA, WINCHESTER, VA, & MARTINSBURG, WV

WINCHESTER GATEWAY PHASE 1

CUP SKETCH PLAN

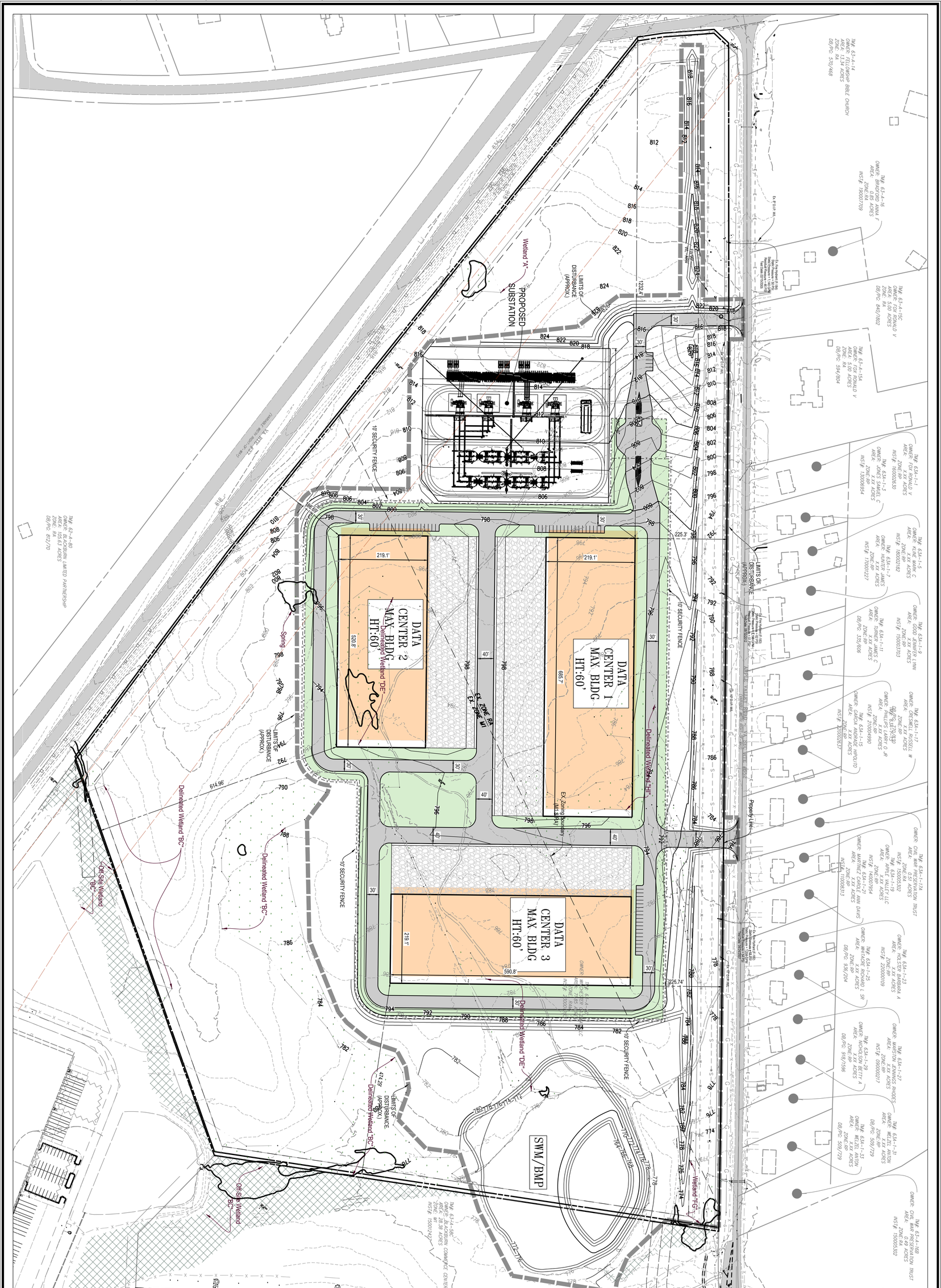
FREDERICK COUNTY, VIRGINIA

DATE: 2025-12-16

C.I.= 2'

SCALE: 1"=100'

SHEET
1
OF
1



WINCHESTER GATEWAY PHASE 1

CUP SKETCH PLAN

FREDERICK COUNTY, VIRGINIA

SHEET 1 OF 1

SCALE: 1"=100'

C.I.= N/A

DATE: 2025-11-06

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45145 RESEARCH PLACE
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PROUDLY SERVING VIRGINIA & WEST VIRGINIA
OFFICES IN: ASHBURN, VA; WINCHESTER, VA; & MARTINSBURG, WV

View 2

(Proposed)

From House on Kings Highway

10 Years Growth

View 3

(Proposed)

Proposed Main Entrance
Along Kings Highway at Entry

10 Years Growth

View 8

(Proposed)

Along Bloomsbury Road
(Proposed Berms / Landscaping)

10 Years Growth

PHASE I ARCHEOLOGICAL SURVEY OF THE APPLE VALLEY ROAD TRACT, WINCHESTER, FREDERICK COUNTY, VIRGINIA

FINAL REPORT

Prepared For:

Winchester Gateway, LLC
15 South King St.
Leesburg, VA 20175

Prepared By:

THE OTTERY GROUP
P.O. Box 4265
Silver Spring, Maryland 20914

Jay Lunze, Karl Franz
Lyle Torp (Principal Investigator)

August 2023

Executive Summary

This report presents the findings of a Phase I archeological survey of the Apple Valley Road development tract in Winchester, Frederick County, Virginia. Winchester Gateway plans to develop two parcels of undeveloped land totaling 71.85 acres. At the time of survey, no specific land usage has been determined for the development of the parcel.

The Phase I archeological survey of the Apple Valley Road Tract was conducted as part of the due diligence prior to the pending development of the property. Depending on the development of the property that occurs, the development will likely come under review of the Historic Resources Advisory Board (HRAB), which advises the Frederick County Planning Commission on potential impacts to known historic and archeological resources, or the Virginia Department of Historic Resources (VDHR), which would be required based upon permits that may be required for development.

Archeological fieldwork for the Phase I survey consisted of the excavation of 1,580 shovel test pits across the proposed development tract. Archeological testing was conducted at 15-meter intervals, supplemented with close interval testing around clusters of positive test pits. The testing resulted in 197 positive test pits; 144 positive STPs containing chert debitage and tool fragments associated with pre-contact Native American land use and 53 positive STPs containing historic period artifacts dating from the mid-18th through 20th centuries. A total of five archeological sites were identified on the property during the Phase I survey. These were designated 44FK1076 to 44FK1080.

The Apple Valley Road Tract falls within the boundaries of the National Register-eligible Kernstown Battlefield (034-0007) which was expanded to include the project area in 2011. A metal detection survey was conducted across all areas of the APE where vegetation permitted. A total of 7 metal objects were recovered from 11 targets, with 20th and 21st century aluminum beverage cans noted but not collected. No potential military artifacts were found, although local residents described collecting Civil War material from the property in the past. No members of the local community were willing to bring in their finds for photography and cataloging.

Site 44FK1076 is a dense cluster of 18th and 19th century domestic artifacts, possibly associated with the David Glass, Sr. homestead. Glass purchased the property in 1749 and appears to have remained in the family for three generations, until approximately 1850. The site is relatively intact and does not contain later 20th century materials. A wide variety of ceramics recovered from the site suggests a long duration of habitation, and the potential for encountering intact features is high. Metal detection within the site resulted in the recovery of additional artifacts. A **Phase II investigation is recommended to establish the National Register eligibility of the site.**

Site 44FK1077 is a large moderately dense scatter of pre-contact Native American lithic artifacts with a light scatter of 18th to 19th century domestic artifacts at a springhead. The majority of the lithic artifacts recovered consist of local Beekmantown chert shatter. The site yielded one lithic tool, a nondiagnostic hafted scraper. Two fragments of unidentified pre-contact ceramic were also recovered. The pre-contact component is interpreted as a repeated use Woodland period lithic extraction site. The historic materials are likely associated with the more concentrated site 44FK1076 directly to the north of it and may represent a springhouse or other outbuilding. The ephemeral nature of the site suggests that intact cultural deposits are unlikely. **Based upon the presence of Native American tools and ceramics as well as 18th century material culture,** a **Phase II investigation is recommended to establish the National Register eligibility of the site.**

Site 44FK1078 is a low density scatter of pre-contact lithic material similar to Site 44FK1077. No tools or diagnostic artifacts were recovered from the site. The site is interpreted as a repeated use lithic extraction site. **The site is not considered to represent a significant archeological resource and no additional testing is recommended.**

Site 44FK1079 is a small scatter of pre-contact lithic material consisting of seven artifacts. No tools or diagnostic artifacts were recovered. It is likely that the site is a resource extraction site. **The site is not considered a significant archeological resource and no additional testing is recommended.**

Site 44FK1080 is a cluster of pre-contact lithic artifacts found on the north of an artificial pond and along the original spring running through the property. The site contained a moderate density of artifacts, none of which are chronologically diagnostic. The artifact assemblage is consistent with the other sites within the project area. The only anomalous artifact was a possible nutting stone, which suggests that the site may be more than a temporary resource extraction camp. **The site is not considered to meet the criteria for significance and no additional testing is recommended.**

Table of Contents

List of Figures

List of Tables

Appendices

1.0 Introduction

The Ottery Group conducted a Phase I archeological survey of the Apple Valley Road Tract in Frederick County, Virginia. The project area comprises 71.85 acres of former agricultural land southwest of the City of Winchester. The Phase I archeological survey of the Apple Valley Road property was conducted prior to the pending development of the property. The planned development will be subject to review by the Historic Resources Advisory Board (HRAB), which advises the Frederick County Planning Commission on potential impacts to known historic and archeological resources, or the Virginia Department of Historic Resources (VDHR), which would be required based upon the need for state or federal permits for the planned development.

The Phase I archeological survey consisted of background research, field survey, artifact processing and cataloging, and report preparation. Fieldwork was conducted between June 16th and July 21, 2023. The archeological survey consisted of the excavation of 1,435 shovel test pits excavated at 15-meter intervals, with an additional 145 7.5-meter interval radial tests used to bound artifact concentrations.

Subsequent metal detector survey was conducted within all accessible areas within the project area to determine the presence of material culture associated with the National Register-eligible Kernstown Battlefield.

The methods for completing this Phase I archeological survey follow the recommended approach in the *Guidelines for Conducting Historic Resources Survey in Virginia* (VDHR 2017). The metal detector survey was conducted in accordance with the VDHR guidelines for specialized testing of military sites (VDHR 2017:45-47). All technical staff assigned to this project meet the *Secretary of the Interior's Professional Standards for Archaeology* (36 CFR 61).

The following chapters discuss the environmental and cultural conditions and backgrounds of the project area and Frederick County. The report also details the field and laboratory methods as well as the results of the archeological survey. The last chapter summarizes the survey work performed and provides a conclusion on the identified cultural resources and future research potential within the project area.

2.0 Project Area Location and Description

The Apple Valley Road Tract is situated along a corridor of shipping warehouses located at the junction of Virginia Route 37 and Interstate 81 outside of the City of Winchester, Virginia. The project area is accessible via Middle Road (Route 628) on the north and by Apple Valley Road (Route 652) on the east (Figure 2.1). Apple Valley Road continues southeast until it intersects Route 11/Main Street/Valley Pike, the primary road through the region prior to the construction of Interstate 81 and the main north-south route across the Shenandoah Valley.

The Area of Potential Effects (APE) for the planned development is drawn to include the maximum extend of impacts by potential development. Because there are no development schematics, the APE for the archeological survey includes the entire property. Archeological survey was conducted across the entirety of both parcels within the development tract.

Terrain within the project area consists of an upland ridge running through the center of the project area, with terrain gently sloping to the north-east and south-west. Outcroppings associated with the Beekmantown Group geologic unit appear across the whole of the northern half of the property, with chert nodules weathering out of the exposed bedrock. The southern half of the APE is characterized as hummocky karst topography with hydric soils bounded by small elevation rises of dryer ground.

The project area is situated within the Great Valley subprovince of the Valley and Ridge physiographic province. The Great Valley is a continuous basin that extends along the eastern edge of the Appalachian Mountains through several states. It is characterized by broad valleys, meandering streams, and rolling hills bounded by steeply sloping ridges (Bailey 1999).

The APE ranges in elevation from 839 to 781 ft. above sea level. The landscape surrounding the APE is part of the Opequon Creek drainage and is comprised of an eroded karst topography, this includes at least one disappearing stream which runs underground throughout the southernmost part of the APE before emerging to become Hoge Run to the Southeast, this drains into the Opequon Creek proper 1.5 miles south of the APE. The Opequon Creek comes closest to the APE on its western boundary being just under a mile away. As mentioned previously, a spring head drains into the disappearing stream that connects to Hoge Run along the western boundary of the APE with the low ridge making a drainage boundary. The disappearing stream reappears at the southeastern most corner of the APE and a large cattle pond has been created at this location as a catchment basin (Figure 2.1).

The United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey maps four different upland soils within the project area (Figure 2.2). The soils are characterized as well-drained soils found in upland settings; ridges, interfluves, and mountain slopes (NRCS 2023). These soils belong to the Frederick-Poplimento series. The most common soil is the Oaklet silt loam, 7-15% slopes, which covers approximately 60% of the project area in its southern expanse. The other soils, the Frederick-Poplimento very rocky loam, 2-7% slopes, and Frederick-Poplimento loam, 2-7% slopes, each account for approximately 15% of the project area respectively. A small area along the northern edge of State Route 37 is comprised of soils of the Swimley silt loam, 2-7% slopes and makes up the remainder of the APE.

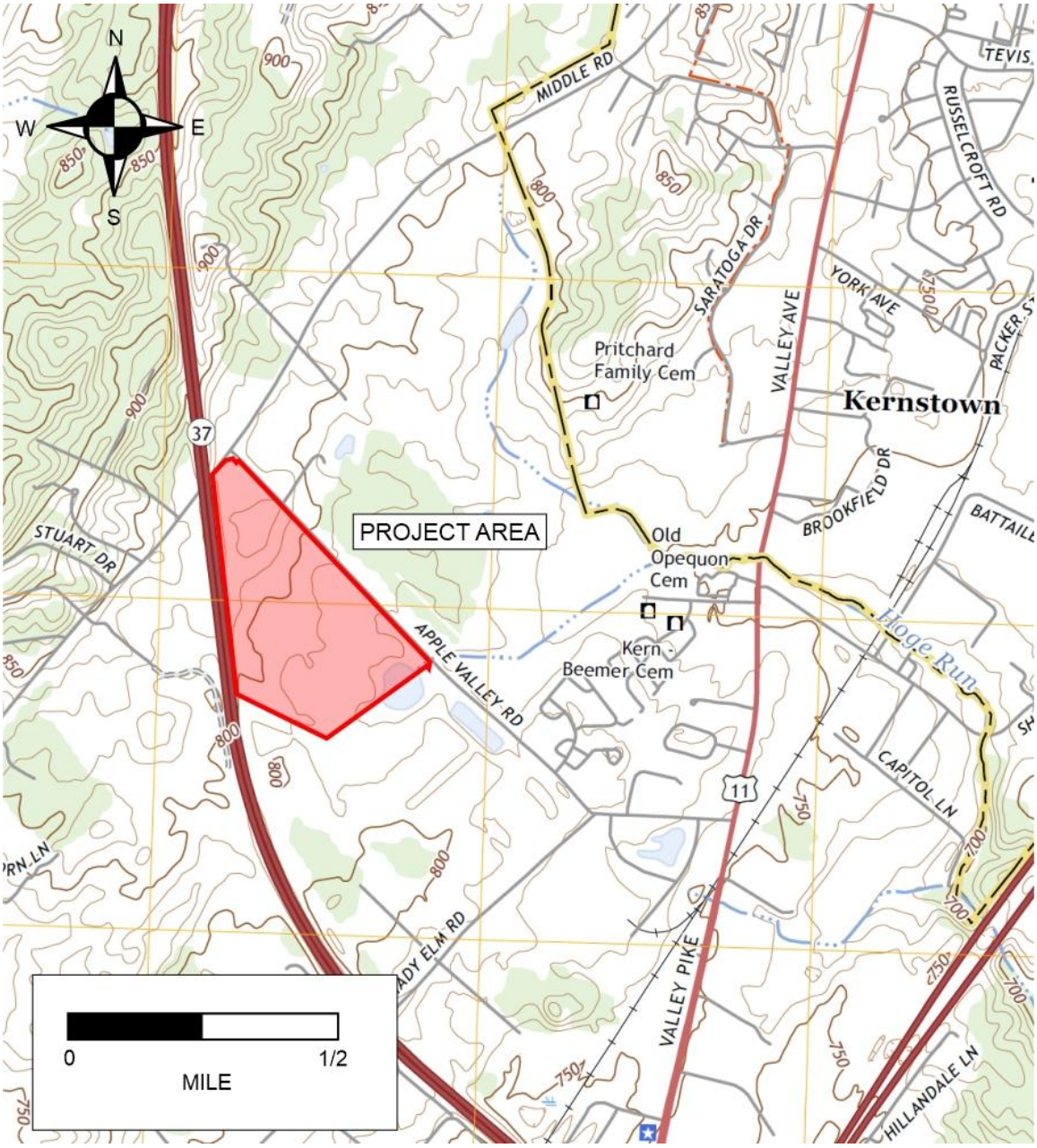
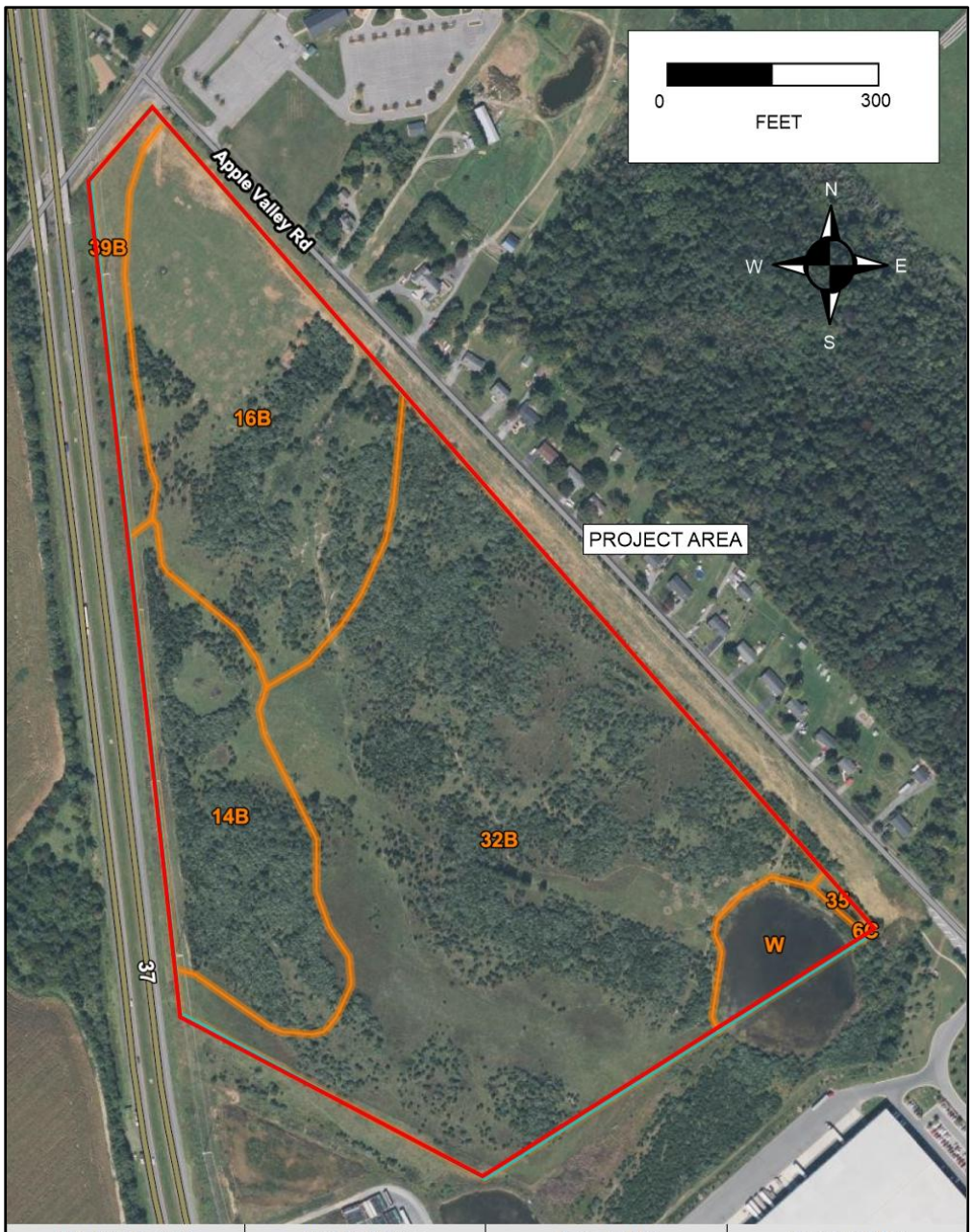


Figure 2.1: Location of the project area on the 2022 USGS Winchester, VA quadrangle map.



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6C	Carbo-Oaklet, very rocky silt loams, 2 to 15 percent slopes	0.0	0.0%
14B	Frederick-Poplimento loams, 2 to 7 percent slopes	9.4	14.1%
16B	Frederick-Poplimento, very rocky loams, 2 to 7 percent slopes	15.4	23.1%
32B	Oaklet silt loam, 2 to 7 percent slopes	37.8	56.6%
35	Pagebrook silty clay loam	0.1	0.2%
39B	Swimley silt loam, 2 to 7 percent slopes	1.8	2.7%
W	Water	2.1	3.2%

Figure 2.2: Soils within the project area.

Figure 2.3: Terrain and vegetation in the west central portion of the project area.

Figure 2.4: Spring in the southern portion of the project area.

Figure 2.5: Filled sinkhole near the artificial pond.

Figure 2.6: Pile of demolished split rail fence at a former property boundary within the project area.

Figure 2.7: Outcropping of chert nodules within the host Beekmantown dolostone.

3.0 Environmental and Historical Background

3.1 Environmental Context

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

3.1.1 Paleo-Climate

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

The last glacial episode reached its peak at approximately 18,000 BP. The glaciation occurring at the terminal Pleistocene had profound effects upon the climate of the Middle Atlantic region. The climate during this time was cool and wet; average temperatures were several degrees lower than present (Carbone 1976). Surface runoff from the retreating glaciers and heavy precipitation resulted in numerous upland bogs and poorly drained lowlands (Custer and Wallace 1982). A relatively open forest dominated by spruce and pine was the predominant vegetative cover. Moist climatic conditions during this episode promoted the development of uplands and increased wetland areas associated with stream drainages. These vegetation communities would have provided unique sets of resources and unique resource distributions for Paleoindian and Early Archaic populations.

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

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

The warmer and drier climatic conditions resulted in the draining of bogs and pocosins, which decreased the number of water sources available across the landscape.

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

3.1.2 Modern Climate, Flora, and Fauna

Frederick County is located in the middle latitudes with prevailing winds generally flowing from northwest to southeast. These conditions provide for a continental climate with well-defined annual seasons. Temperatures in Frederick County vary from an average daily high temperature of 41.7 degrees Fahrenheit (°F) in January to 86.6°F in July. An average of 38.43 inches of precipitation falls over the course of a year, with highest amounts in June and July. There is an average annual snowfall of 27.8 inches (Holmes and Wagner 1987).

3.2 Pre-contact Cultural Sequence

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

There are three general pre-contact Native Americans cultural traditions recognized in the Mid-Atlantic region: Paleoindian, Archaic, and Woodland. Originally developed as cultural historical units primarily intended to classify temporal and spatial site attributes, these traditions are defined by diagnostic artifact forms and assemblages. In more recent years, this scheme has been modified to emphasize cultural adaptations to changing ecological conditions.

3.2.1 Paleoindian Period

The Paleoindian period (ca. 12,000-6,500 BP) represents human occupation and utilization of the lands representing a tundra-like environment following the retreat of the Wisconsin glaciers circa 11,000 B.C. (Dent 1995). Classical models of Paleoindian traditions propose a hunting and foraging subsistence pattern focused on extinct megafauna, pursued by highly mobile, opportunistic populations organized as bands composed of multiple family groups.

These models, largely derived from Paleoindian sites identified west of the Appalachian chain, have proved to be not directly applicable to eastern North America, where direct association between Paleoindian artifacts and extinct megafauna has not been identified. There is also material evidence to support the hypothesis that Eastern Paleoindian populations exploited of a wider range of resources, perhaps most notably the findings at the Shawnee-Minisink site along the Delaware River in the Upper Delaware Valley (McNett 1985). Thus, Paleoindian populations were mobile, frequently changing location throughout the year within a territory in order to utilize available resources. Gardner's research at the Flint Run Complex in the Shenandoah Valley in Virginia (Gardner 1974, 1977, 1979) has identified several types of sites organized around the base camp, which was the main focus of habitation by aggregate bands. Base camps tend to have heterogeneous artifact assemblages, in contrast to smaller special purpose sites that were occupied by smaller groups for shorter periods of time to make use of seasonally available resources. Base camps were tied to

quarry sites where high-quality cryptocrystalline lithic materials were extracted for stone tool manufacture (Gardner 1977, Goodyear 1979). Gardner (1974) and others (Witthoft 1953) have also proposed that upland settings were utilized as they offered a vantage point from which to observe migrating animals. Smaller camps and special use sites radiate from the base camps in varying distances.

Gardner (1974) notes that Paleoindians placed an emphasis on hunting, although it is most likely that exploitation of available floral resources were also a critical component of Paleoindian subsistence strategies. In many areas, Paleoindian sites are associated with large Pleistocene megafauna such as mammoth and mastodon, however, Gardner (1980) notes that the hunting economy probably focused on deer, elk, and possibly caribou. Diagnostic projectile point forms include (from earliest to latest) Clovis, Mid-Paleo, and Dalton-Hardaway. Although the Thunderbird site is located in nearby Warren County, no archeological sites with Paleoindian components have been recorded in Frederick County.

3.2.2 Archaic Period

The Archaic Period (8,500-3,000 BP) spans a great amount of time and substantial cultural change in the eastern United States, and is traditionally divided into three subperiods: Early, Middle, and Late. Generally, the Archaic Period refers to pre-ceramic sites associated with nomadic hunter-gatherer populations that occupied the emerging Holocene deciduous forests. This was considered distinct from the Paleoindian period that was characterized by highly mobile hunters reliant on big game for their livelihood. Warmer and drier climatic conditions at the onset of the Holocene resulted in a more varied floral and faunal resource base and resulted in cultural adaptations during the Archaic period. Settlement patterns were seasonally oriented, and groups were still semi-nomadic, with a subsistence base focused on hunting and gathering. An increase in population density appears to have resulted in both a larger number of sites and an increase in site revisitation, especially during the Late Archaic. In all probability, the geographical range of individual populations during the Archaic was smaller and more seasonally defined compared with the range of human groups during the Paleoindian period. There is evidence of increased trade between distant groups, such as the rise in the quantity in eastern sites of rhyolite quarried from the Catoctin Mountains in Maryland and Uwharrie Mountains in North Carolina.

Research over the last two decades has revealed that the transition between the Paleoindian and Early Archaic was not as great as previously thought. The transition to the Archaic appears to have been more gradual and characterized by exploitation of an increasingly broad range of local resources and decreasing mobility.

The Early Archaic sub-period (8,500-7,500 BP) is viewed as a continuation of the earlier Paleoindian lifeways, with an emphasis on the use of cryptocrystalline lithic materials for tool making. Lithic technology, however, shifted to a variety of corner-notched types, including Hardway, Palmer and Kirk, as well as bifurcate-base types such as Lecroy during the transition to the Middle Archaic period (Dent 1995). This shift in projectile point form may indicate diversification within the system of production, as economies shifted from a concentration on hunting deer and other large game to more diverse faunal exploitative patterns focused on smaller game. By the end of this sub-period, less emphasis is placed upon high-quality cryptocrystalline stone, suggesting that the settlement system based on quarry-related base camps became less important. A total of 16 sites with specified Early Archaic components have been recorded in Frederick County.

The Middle Archaic (7,500-5,000 BP) is cited as a time when hunting and gathering groups began to develop a subsistence strategy that incorporated a diverse array of seasonally available resources. This is indicated by the addition of specialized plant processing tools in Middle Archaic assemblages.

A wider variety of projectile point styles is evidenced during this time; however, the use of cryptocrystalline stone for tool production is nearly abandoned. Diagnostic artifacts include Stanley, Morrow Mountain, Guilford, and Halifax point types. Tool kits are seen as becoming increasingly diversified during this period, with many more ground- and rough-stone implements (Dent 1995). The focus of settlement is at seasonally occupied base camps located on the floodplains of major drainages where seed plants could be exploited. Hunting and limited-use sites are located in the uplands, along lower-order streams and near lithic sources, and adjacent to interior swamps and swampy floodplains of low order drainages. A total of 20 sites with specified Middle Archaic components have been recorded in Frederick County.

The Late Archaic sub-period (5,000-3,000 BP) is characterized by cultures that made efficient use of their local environments, and as a result, there is an increased degree of regional distinction that is visible in the archeological record. During this time semi-sedentary settlement systems expanded, possibly as a result of greater aridity that tethered groups to critical resources, or an increase in population that resulted in territorial circumscription. A total of 48 sites with specified Late Archaic components have been recorded in Frederick County, more than any other pre-contact time period.

Increased use of riverine and estuarine resources is evident. The development of estuaries throughout the Coastal Plain from the continued rise in sea levels resulted in the increased distribution of crabs and oysters and extensive seasonal runs of anadromous fish. Steatite bowls are introduced into the technology inventory. The majority of projectile points representative of this time period consist of side-notched and stemmed varieties, which are typically manufactured from quartz.

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

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

3.2.3 Woodland Period

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

The Early Woodland period represents a continuation of trends begun during the Middle and Late Archaic periods towards increased exploitation of local resources and decreased mobility. The increased productivity of coastal and estuarine resources resulted from the stabilization of sea levels; marshes developed and estuarine areas rapidly became places on the landscape in which fish, waterfowl, and shellfish could be easily exploited. Floodplains are increasingly the focus of plant harvesting. A total of 26 sites with specified Early Woodland components have been recorded in Frederick County.

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

During the Middle Woodland (300 B.C.-A.D. 900) sub-period, villages grew in size and became more permanent. Handsman and McNett (1974:26) have suggested that there was a greater reliance on horticulture resulting from an increasing population. Diagnostic artifacts include Popes Creek ceramics that are more frequent in the Coastal Plain, and Albermarle wares which are more common in the Piedmont, as well as shell-tempered Mockley wares. A total of 19 sites with specified Middle Woodland components have been recorded in Frederick County.

Sedentism and subsistence based on food production were solidly established by the Late Woodland (A.D. 900-1,600). Large, permanent villages were located on the floodplains of major rivers. By A.D. 1,350, there is evidence of stockaded villages, suggesting extensive warfare throughout the Middle Atlantic region. Shell-tempered Townsend series ceramics are predominant in Late Woodland assemblages, while crushed-rock-tempered Potomac Creek wares are prevalent in the Inner Coastal Plain to the Fall Line zone. Triangular projectile points are typical of this period. A total of 26 sites with specified Late Woodland components have been recorded in Frederick County.

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

At the time of European arrival into the Chesapeake region, the Piedmont area of northern Virginia was inhabited by the Manahoacs, a tribe or confederacy of Siouan-speaking people first encountered by Captain John Smith (Haynes 1990; Barbour 1986II:175). The area around Leesburg appears to have been the center of overlapping culture groups, defined primarily by linguistic characteristics. Algonquian speaking groups occupied much of the land on both sides of the Potomac River up to the Fall Line. Jennings (1978) claims that Iroquoian speaking Susquehannocks were primarily located north of Leesburg, and similar accounts (e.g., Hudson 1976) note that Iroquoian or Siouan speaking groups probably inhabited what is now the Leesburg area. However, as European settlements began encroaching into former Indian lands, many of these original inhabitants left the area or were ravaged by diseases for which they had no resistance.

3.3 Historic Background

Prior to its establishment in 1738, Frederick County was initially part of a five million acre tract called the Northern Neck of Virginia Proprietary that was granted in 1649 to seven noblemen by King Charles II of England. The county was named after Frederick, the father of King George II, of England, or possibly after the town of Winchester, originally name Fredericktown upon its founding in 1732 (Holmes and Wagner 1987). Winchester was founded on part of 140,000 acres of land

secured by Jost Hite and Robert McKay, who settled there with 16 families that they brought with them.

The first European permanent colonial settlements in what became Frederick County began between 1725 and 1730, although the area had been visited by trappers, traders, hunters and explorers since at least the 1670s. Settlers moved into this area from neighboring colonies of Maryland and Pennsylvania, and also New Jersey, following the major Indian Path down the Shenandoah Valley. During this time, the primary motivation for settling here was the presence of fertile land which was used for growing grains and raising livestock. The terrain and lack of a reliable transportation network made the area unsuitable to the production of tobacco. The many creeks had mills built along them to transfer grain crops to flour and fruit to cider and alcohol, which were longer lasting, easier to transport to the coastal cities, and more profitable than fresh produce. The 1809 Charles Varle map of Frederick, Berkeley, Jefferson Counties shows multiple mills on Opequon Creek south of Winchester and Kernstown as well as distilleries and blacksmithing establishment to the north in Winchester (Figure 3.1).

During the 18th century there were few major roads crossing overland. The Indian Path was widened and improved and became the Great Wagon Road during the mid-18th century, spurring increased settlement. Small communities developed along the road including Winchester, Kernstown, Stevens City, Middletown, Woodstock, and Strasburg most of which were founded in the period of 1730-1770. Frederick County was organized in 1738 as a reflection of the increasing population shifts. Kernstown, which is the location of the APE was originally founded by Jost Hite who purchased forty thousand acres from John Van Meter in 1731. In 1735, Jost Hite settled large portions of this land along the upper Opequon Creek along the Great Wagon Road/ Valley Turnpike. The families who bought properties within or adjoining the APE were the Glasses, Cartmells, Woods, Vances, and Hoges all of whom purchased land from Hite from 1735 to 1742.

The area that makes up this settlement founded by the 16 families who would establish the Opequon Presbyterian Church the year of their arrival had a rich prehistory with many of the 19th historical works covering it mentioning that it had been referred to as the Shawnee Hills or Shawnee Springs, vestiges of these place names still survive on modern roads in the area today. Historical accounts also mention that ancient monuments in the form of mounds and burials were also present, as well as a substantial village just north of Winchester. Raiding parties of Delaware and Catawba were frequent in the area up until the French and Indian War. Historical accounts, especially of the Glasses, whose ancestor purchased at least 920 acres from Jost Hite in 1736 indicate that their homes were palisaded and had defensive slits cut in the shutters. Many of the second generation of the settlers of Kernstown and the Opequon Presbyterian Church would serve as militiamen and serve in various forts of the frontier, some having seen conflicts in Ireland and Germany before arriving to the frontier.

Winchester, established within 2 years of Kernstown and largest of the settlements, was important to the area during the French and Indian War. Col. James Wood who had property on the edge of the APE purchased a large area of land and laid off streets even before the town was officially recognized in 1758. Fort Loudoun in Winchester was constructed in 1756 to protect the frontier community. The fort had barrack space for 450 and was the largest of the frontier fortifications. It was besieged in 1760 during an offshoot of the French and Indian War, resulting in the surrender of English troops. Raids on Winchester and Kernstown would continue in the area until 1766. Joseph Martin's 1836 *A Comprehensive Gazetteer of Virginia and the District of Columbia* showed the population of Winchester, the closest town to Kernstown, is included as 3,620 residents with a wide variety of businesses, schools, and churches. Kernstown would contribute to Winchesters growth by providing the raw agricultural goods which would be processed as well as being an important shipping hub for the products of the many water mills along Opequon Creek.

Figure 3.1: Approximate location of the project area on the 1809 Charles Varle *Map of Frederick, Berkeley, and Jefferson Counties in the State of Virginia.*

Kernstown would be established as an official town by an act of the Virginia Assembly in 1799 and named after Adam Kern Jr. whose father had bought land just south of Winchester in 1765 along the Great Wagon Rd. Kernstown as a district stretched from Hoge's Tavern on the south at the intersection of the Great Wagon Road and the Opequon Creek to the North of the Opequon Presbyterian Church at the properties owned by the Kern family. In the early 1830's the railroad was built through the Shenandoah Valley adjacent to the original Great Wagon Road passing beside Kernstown. This infrastructure improvement allowed for the more profitable movement of processed agricultural goods from Kernstown to Winchester and external markets. For the first three generations the 16 families who came with Jost Hite intermarried and kept their lands in ever smaller divided portions amongst their families. During the early 19th century these families who had prospered in the area would use Winchester as a steppingstone to move out into the Ohio, Kentucky, and Tennessee frontiers. While many of the founding families can still be found within the boundaries of Kernstown, throughout the early 19th century and especially after the Civil War as Kernstown became more peripheral to Winchester those families began to sell their farms to people from farther afield.

Two Civil War battles were fought adjacent to the APE and both Confederate and Union Soldiers likely camped within its boundaries. These two battles at Kernstown were part of the strategic control of the Shenandoah Valley and its resources by the Confederacy as well the Union Army's attempts to disrupt this resource network at the same time protecting Maryland, Pennsylvania, and Washington D. C. from assault. As part of Maj. General Stonewall Jacksonson's early Valley Campaign he was ordered by General Johnston to prevent three separate Union forces from reinforcing McClellan's movements on Richmond. During this time 17,000 troops under his command kept 52,000 Union troops from reaching the Piedmont. Col. Turner Ashby, the Commander of the 7th Virginia Cavalry under General Jackson on skirmished with the Federal outpost on the southern edges of Winchester on March 22nd, 1862. He falsely reported to General Jackson that these troops were on the move to support over divisions in the Piedmont. With direct orders from General Johnston General Jackson's hand was forced and he moved his troops to engage the Union Army to hold them at Winchester.

General James Shields 8,000 men in their fortified positions awoke on the morning of March 23rd to see Col. Turner Ashby's cavalry return along with Confederate artillery. The Confederate forces staged their battle line roughly 700 meters northeast of the Area of Potential Effects and opened fire on General James Shields Union divisions at 9 am. Col. Ashby was unable to flank the Union forces from their entrenched positions around Pritchard's farm just northwest of Opequon Presbyterian Church on the northern edge of Kernstown. General Jackson at this time had gathered his troops and was riding north from Strasburg, arriving in the vicinity of Kernstown shortly before 3 pm. The confederates attempted to flank the Union forces at Sandy Ridge to the northeast of the project area but were pushed back by heavy artillery fire from Pritchard's farm and Union reinforcements from Winchester. Running low on ammunition, the 3,700 Confederate forces retreated from the field. The Confederate casualties numbered 740 killed while the Union army lost nearly 500 of the 7,200 troops they had committed to the battle. The First Battle of Kernstown was one of Stonewall Jackson's two major defeats, but because of the battle, the Union command chose to keep Winchester reinforced, reuiring troops that could have been otherwise used for the campaigns in the Piedmont. Figure 3.2 illustrates the position of the First Battle of Kernstown to the project area.

The entire Shenandoah Valley would be a battleground throughout the American Civil War with both Union and Confederate victories. Late in the War during 1864 Kernstown would once again be host to another battle caused by poor intelligence, this time on the Union side. The Second Battle of

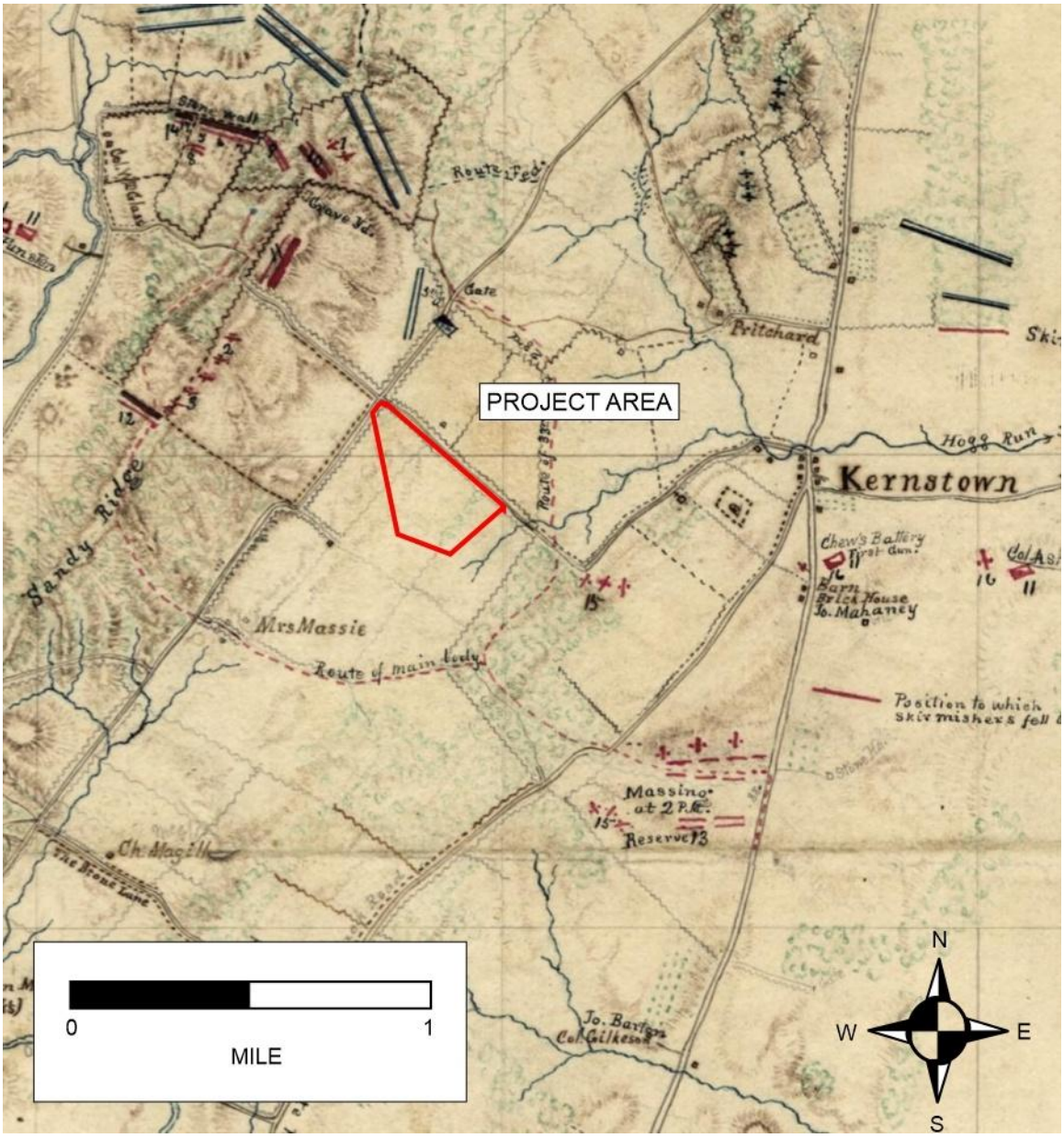


Figure 3.2: Location of the Area of Potential Effects on the Hotchkiss Map of the Battle of Kernstown, Sunday, 23 March, 1862.

Kernstown would happen late in the American Civil War after a series of defeats which resulted in the loss of valuable territory for the Confederacy. The motivations for the battle were much the same as the first, that was to keep Union troops from entering the theatre of war in the Piedmont. The commander of the overall Confederate forces in the Shenandoah Valley had fallen to General Jubal Early who had suffered a strategic defeat at the Battle of Rutherford's Farm on July 20th, 1864. The Union commander in the area General Horatio Wright after this battle assumed incorrectly that General Early and his forces would retreat out of the Shenandoah Valley and dispatched a large portion of his veteran forces from West Virginia and Virginia to support the sieges of Richmond and Petersburg. This left the bulk of Wrights forces under General George Crook with only 13,000 infantry, cavalry, and artillery men in the Shenandoah Valley. General Early learned of these events from prisoners taken during cavalry skirmishes after the Battle of Rutherford's Farm and with clear

orders from General Robert E. Lee was tasked with holding the remaining forces in the Shenandoah Valley.

Early on the morning of July 24th, 1864 General Early began marching his troops up the Valley Turnpike towards Winchester. General Early was confident his forces, which numbered 16,000 could overpower General Crook's. Col. Joseph Thoburn's held the position on Sandy Ridge and Col. James Mulligan's Artillery with new 10-pound Parrott rifles were stationed at Pritchard's Farm establishing his line of battle along the same high ground that was so successful for the Union Army during the First Battle of Kernstown. This included the digging of rough defensive works on the hill at Pritchard's Farm. Due to a lack of cavalry available, the eastern flank of General Crook's position was weakened with only a small contingent under Col. Jacob Higgins to hold the flat area east of Kernstown and the Valley Turnpike. By about 8 am on the morning of the 24th heavy skirmishing began as Confederate cavalry under Col. William Jackson assaulted Sandy Ridge much as at the beginning of the First Battle of Kernstown. The bulk of this offensive took place along Sandy Ridge and Middle Road just adjacent to the APE. This was followed up by Confederate infantry troops under Col. Stephen Ramseux assaulting Sandy Ridge moving down Middle Road and across the Northern edge of the APE. This cavalry and infantry skirmishing was held back along Sandy Ridge by Mulligan's troops.

The Confederate forces used their knowledge of the terrain around Kernstown to their advantage, using ravines and low elevation areas to covertly move troops into position along General Crook's weak east flank many of which are in the southern part of the APE. General Mulligan knowing the weakness of the line of battle at this point dispatched the 54 Pennsylvania Infantry to reinforce this part of his line. The confederate assault of was intense enough that Mulligan's infantry under Col. Thomas Harris were pushed back from their advance positions all the way back to Pritchard's Farm. At this time in the battle Col. Mulligan sent an urgent plea to General Crook for more reinforcements to shore up his weak east flank. Mulligan sent a brigade under Col. Rutherford B. Hayes and an additional artillery battery to bolster the Union defenses. At this point in the Battle General Crook left the safety of Winchester and went to the front lines to manage the offensive directly. General Crook decided to take decisive action and pushed a counter offensive. He had Thoburn, Mulligan, and Hayes leave their stable positions and advance on the larger Confederate force.

This choice would lead to the Union defeat at the Second Batlle of Kernstown. Confederate General Wharton had skillfully taken up position along Crook's weak east flank by moving his troops through the project area. Wharton's troops under General Breckinridge pushed Hayes's forces back. At the same time Ramseux's Confederate division assaulted the Union troops along Middle Road and Sandy Ridge weakened their forces there. By early afternoon the Union positions around Kernstown had been completed surrounded by the Confederate line, which by 1 pm. spread over 4 miles. The Confederate forces at this time put all their strength on the northwest and south flanks of the Union forces. The confederate forces had been bolstered by the arrival of Maj. General Robert Rodes along the Unions eastern flank along with a contingent of 12 artillery pieces under Maj. William McLaughlin. Around 3 pm the Union forces under Mulligan and Hayes attempted another advance on the Confederate positions but were pushed back by overwhelming fire from the Confederate forces to the stone walls of the Opequon Presbyterian Church. By 4 pm General Crook issued the orders for a general retreat resulting in a Confederate victory.

In the post-Civil War period, Frederick County continued much as it had prior to the war. For the first decade, population of the County remained largely unchanged, with gradual increases through the end of the 19th century.

At the end of the 19th century there was a shift from grain-livestock agriculture to an orchard-livestock agricultural model (Geier and Hofstra 1991). The transition was mostly complete by 1930. During this period, small family farming plots were commonly consolidated to enable large scale production in competition with the growing number of commercial farms. By 1958, the majority of the agricultural properties in the vicinity of the project area are orchards.

3.3.1 Tract History

The project area is situated within the historic boundaries of the town of Kernstown established as a community in 1736. The earliest maps to show detail of the vicinity of the project area, including the 1809 Varle Map do not show any structures within the project area. Later maps, including the 1862 Hotchkiss *Map of the First Battle of Kernstown,* show a road and a possible structure on the southern side of the project area. The town of Kernstown was established by 16 families who bought land either from Jost Hite, John Van Meter, or Lord Fairfax and established the Opequon Presbyterian Church in 1735. Hofstra and Geier in their 1996 work *Beyond the Great Blue Mountain: Historical Archaeology and 18th Century Settlement in Virginia West of the Blue Ridge* through careful research established the property boundaries of many of these families during the 18th century. The land ownership either within the project area or just adjacent to it during this period fell into three families: the Cartmells, Glasses, and Hoges (Figure 3.3).

Nathaniel Cartmell, known as Nathaniel Cartmell of England, was born sometime in the third quarter of the 17th century in Westmoreland England and immigrated to New Jersey with his family in 1724. Nathaniel of England apparently died before 1735 and it is one of his eldest sons and his

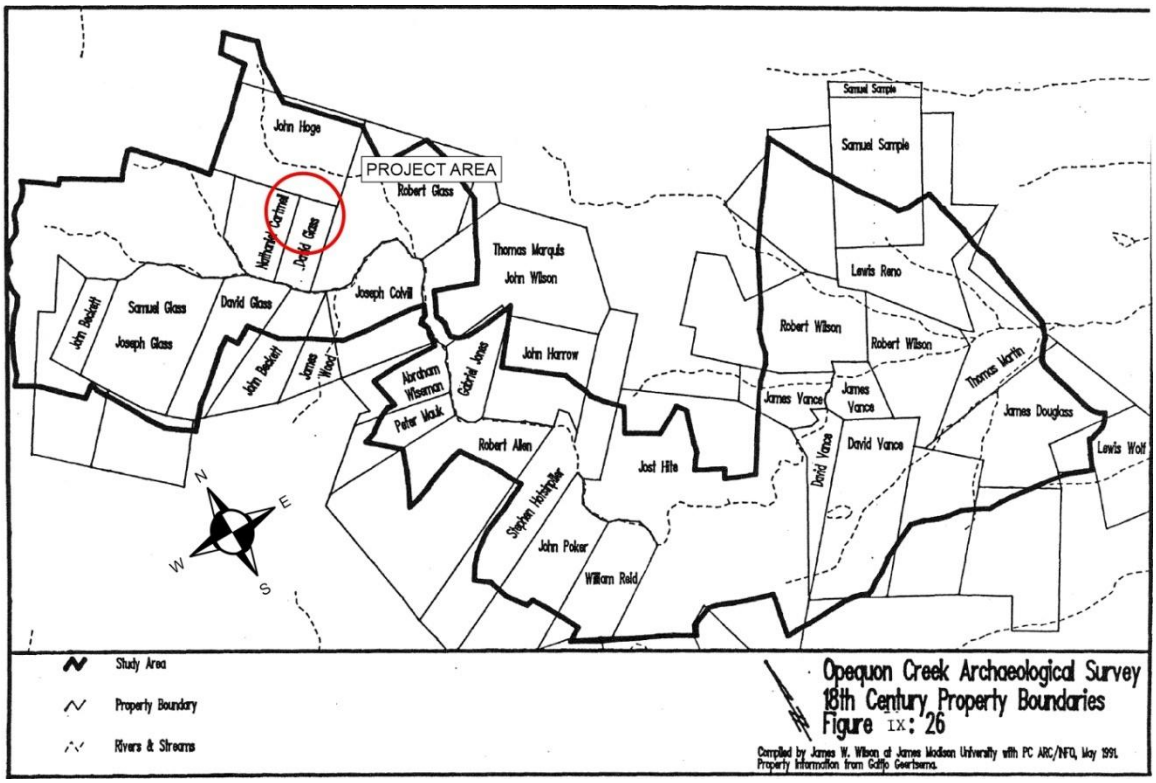


Figure 3.3: 18th century land grants which formed the basis of the project area.

widow who have appeared to have had a significant property south of the Opequon Creek. The survey of the purchase of land took almost two years to complete as the widow and her children did not arrive until 1737. The Cartmells built large estate houses on many of their properties including Homespun, Cloverdale, and Greenfield Farm. Nathaniel I also purchased other smaller tracts for his children, but there is little record of residences on those properties. Much of the Cartmell property boundaries were in dispute during the 18th century due to the family not officially leaving the parcels in wills and having land titles in their siblings or even cousins' names. The Cartmell family as a whole were farmers, millers, blacksmiths, and soldiers during both the French and Indian War and the American Revolutionary War.

The next family who may have owned portions of the center and eastern portion of the project area were the Glasses. Samuel Glass the Immigrant and his wife Mary Gamble immigrated from County Down Ireland in 1735. Samuel was born in 1660 and was already of a respectable age when arriving in the Opequon drainage in 1736. He brought with him his children and in some cases his grandchildren. There is some dispute over the amount of land he initially purchased with early accounts stating 1,600 acres and later works stating 920, this is likely due to the fact he purchased 900+ acres south of the Opequon, but also held 700 acres north of the Opequon. The land was purchased from both Jost Hite and Lord Fairfax. Prior to his death in 1767, he willed his sons several portions of his land holdings. Samuel Glass the Immigrant's three sons all have properties which were adjacent to or within the APE. Samuel Glass sold his eldest son John 250 acres from his original purchase in 1749. John never resided on this property though and may have rented it to others as he remained with his family at Beverly Manor, after his death his other properties were broken up between his 11 children. Samuel Glass sold to his son Joeseph 250 acres in 1751, much of this property was divided upon his death in 1794 by his 13 children. Robert David, another one of Samuel Glass's sons, purchased his own property to the northeast of the APE, this property was dispersed largely to his 13 children upon his death in 1797. David Glass likely owned a portion of the property that makes up the APE which he purchased from his father in 1749. His two sons inherited his estate upon his death in 1775. The Glasses married into many neighboring families including the Cartmells, Hoges, Woods, Becketts, and Vances.

William Hoge immigrated from Scotland in 1682 having been born in 1660 and met his wife Barbara Hume on that voyage. William Hoge was the son of Sir James Hoge of Scotland and his future wife was the daughter of Sir James Hume. They had both journeyed from Scotland on the Ship Caledonia to Perth Amboy New Jersey. Barbara's parents died on the voyage and William attended her for the remainder of the voyage until they were married in 1695. William was a tailor by profession but also served on the board of a trading company established by Governor Berkely. In 1688 he served a session in the House of Deputies of the New Jersey Assembly. In 1689 he moved to present day Delaware. In 1710 he purchased 1,000 acres in Chester County Pennsylvania and moved his family there until 1729. The acreage of William's estate on the branch of the Opequon Creek that still bears his name has been in dispute since historians of the 19th century. His property was "vast" compared to his neighbors. All of his children were prosperous as farmers, investors in mills, and running Hogue's Ordinary the local tavern at the intersection crossing the Opequon Creek and the Great Wagon Road/ Valley Turnpike. William Hoge's grandson John II, the son of John, would later move onto this property and establish a farm at the same time becoming Opequon Presbyterian Church's first permanent minister. This property would later be broken up and sold, with the northern portion being sold to the Pritchard family, who established Pritchard's Farm, a prominent defensive feature during the First and Second Battles of Kernstown during the Civil War.

There is a break in the land ownership records for the area of the APE during the second to third quarter of the nineteenth century. The 1885 D.J. Lake and Company *Atlas of Frederick County, Virginia* contains a map of the Shawnee District for which Kernstown is well illustrated at that time

(Figure3.4). That map shows the ownership of the property by the Fullerton family, descendants of Dr. Humphrey Fullerton who had served in the Continental Army during the American Revolutionary War. Aerial photographs from the mid-20th century show that the property remained much as it appeared in 1885, with cleared fields that are likely used for pasture (Figure 3.5). The pattern of land ownership appears to have continued into the 1970s, when Virginia Route 37 was constructed through the farm. Aerial photographs from 1982 and later show increasingly encroaching brush, likely showing the abandonment of the farmhouse on the southern site of the highway. The fields within the project area remain well maintained and actively used as pasture until 2006. Beginning in 2008, aerial photographs show scrub brush overtaking the southern fields, with only the northern field still in use until the present day.

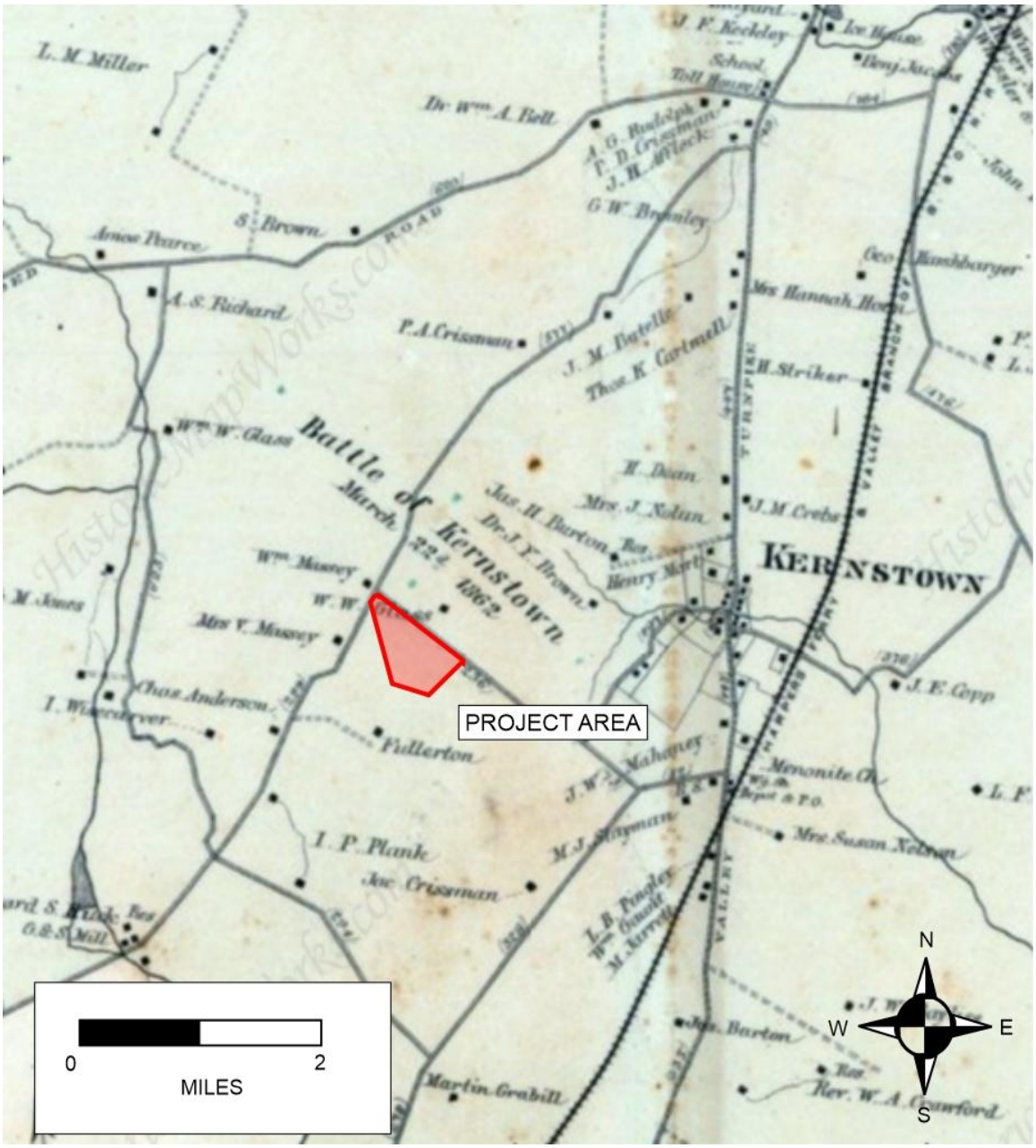


Figure 3.4: Location of the project area on the 1885 D.J. Lake and Company *Atlas of Frederick County, Virginia*.

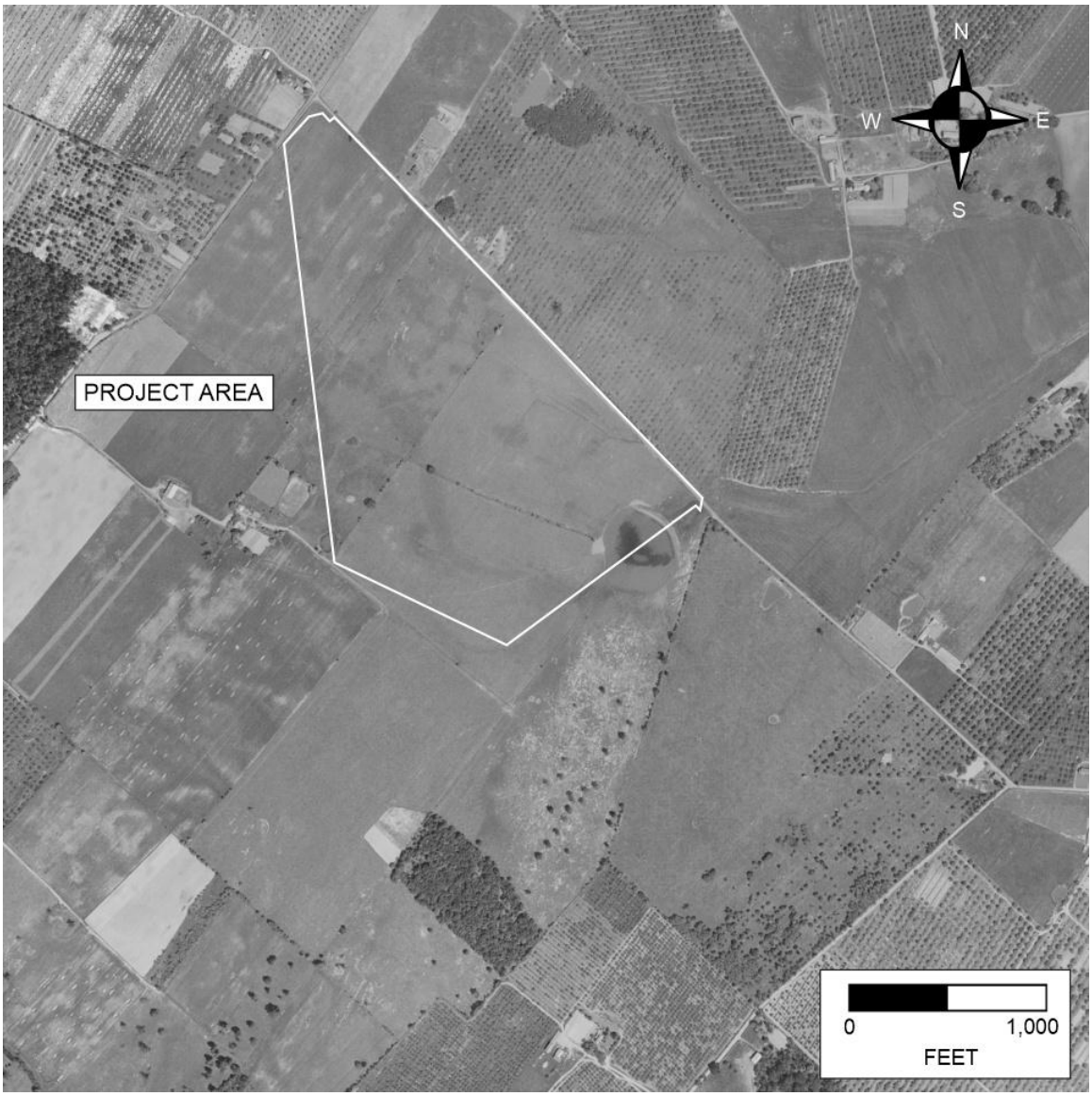


Figure 3.5: Location of the project area on a 1958 aerial photograph.

3.4 Previous Surveys

Previous archeological work in the vicinity of the project area was reviewed using the Virginia Cultural Resources Information System (VCRIS) maintained by the VDHR. The database indicates that there are no previously identified archeological sites within the APE and that the project area has not been the subject of any professional archeological investigation. Surrounding the APE is the protected National Register-eligible Kernstown Battlefield (034-0007). While numerous studies have focused on the historical and architectural history of Kernstown and its affiliated battlefield, only two large scale archaeological surveys have been conducted (Gallucci et al. 1992; Geier and Hofstra 1991). These investigations examined the Kernstown Battlefield as well as early settlement patterns along the Opequon Creek. More recent field observations of threatened site have been investigated by Robert Jolley of VDHR, but full reports on this data is presently unavailable on VCRIS.

There are a total of 22 previously identified sites within one mile of the project area (Table 3.1). The majority of the sites (n=15) date to the historic period while multi-component sites that include pre-contact Native American artifacts are uncommon (n=1). Native American sites are present within the search area (n=6) and are mostly comprised of small lithic scatters. Four of the sites are identified as Civil War encampments and or defensive positions associated with the First/Second Battles of Kernstown. The non-Civil War sites are generally farmsteads or outbuildings dating to the mid-18th through 20th century, as well as property boundaries in the form of stone walls and tree lines (witness trees). Other sites include a French and Indian War Fort and two 18th-19th century cemeteries associated with the Opequon Presbyterian Church. All of the pre-contact Native American sites in the vicinity of the project area are low density lithic scatters and most did not yield diagnostic artifacts that would allow the sites to be placed within a chronological sequence. Two of the pre-contact Native American sites had material consistent with Archaic to Early Woodland material culture.

Table 3.1: Previously recorded archeological sites within one mile of the project area.

Site Number	Description	Report Reference
44FK0025	P: Surface Lithic Scatter/ Nondiagnostic	Thunderbird Arch. Assoc. 1979
44FK0026	P: Archaic & Woodland Lithic Scatter H: Historic Ceramic Scatter	WMCAR 1980
44FK0027	P: Archaic Lithic Scatter	Thunderbird Arch. Assoc. 1979
44FK0029	H: Late 18th C. Home & Millsite	VDOT-Lyle Browning 1981
44FK0178	H: 18th or 19th Century Farm	JMU-WHITLEY 1991
44FK0181	P: Archaic & Woodland Lithic Scatter	JMU 1991
44FK0183	P: Lithic Scatter/ Nondiagnostic	JMU-WOOD 1991
44FK0188	H: 18th Century Stone Wall (Glass Family)	JMU-WOOD 1991
44FK0202	H: 18th Century Homesite (Colvill Family)	JMU-HOFSTRA 1991
44FK0228	H: Witness Tree/ Property Boundary	JMU-Opequon Arch. Survey 1991
44FK0232	H: 18th Century Stone Wall	JMU-Opequon Arch. Survey 1991
44FK0233	H: Union Defensive Earthwork	JMU-Opequon Arch. Survey 1991
44FK0266	P: Lithic Scatter/ Nondiagnostic	JMU-Opequon Arch. Survey 1991
44FK0267	P: Lithic Scatter/ Nondiagnostic	JMU-Opequon Arch. Survey 1991
44FK0272	H: Fenceline/ Union Defensive Position	JMU-Opequon Arch. Survey 1991
44FK0544	H: Union Cavalry Encampment	JRIA-JOLLEY 1998
44FK0592	H: French & Indian War Fort Colvin	DHR-JOLLEY 2002-2014
44FK0650	H: Civil War Encampment	DHR-JOLLEY 2007
44FK0651	H: Union Encampment	DHR-JOLLEY 2007
44FK0803	H: 1736 & 1790 Opequon Presbyterian Church	DHR-JOLLEY 2016
44FK1016	H: Opequon Burial Ground No. 2	DHR-JOLLEY 2020
44FK1017	H: Opequon Burial Ground No. 4	DHR-JOLLEY 2021

3.5 Above-Ground Resources

There are few surviving above-ground historic resources within half a mile of the project area. A search of VCRIS returned seven historic structures, primarily related to Kernstown Battlefield or 19th century or later domestic structures. The only standing 18th century structure within this radius is the homesite of the Wilson Family, who built this structure in around 1740. This site is known interchangeably in historical accounts as Stony Lonesome as well as the Wilson-Magill-Madagan House (034-0027). To the North of the APE is the Pritchard-Grim House (034-0003) on the property of the Hoge family was utilized by Union artillery as a high ground position during the First and Second Battles of Kernstown. Parts of this property retain ruins and foundations relating to 18th century habitation and land use.

Further to the south of the project area is the J. D. Ewing House also known as the Ewing Farm which was established during the Reconstruction Period shortly before 1880. It is a well-preserved balloon framed farmhouse with surviving outbuildings. Close to this is the Salem Methodist Church and associated cemetery established in 1913. It should be noted that the current Opequon Presbyterian Church north of the APE is of late 19th c. construction but is built close to the original footprint of the 1736 and 1790 iterations. The associated cemetery of the Opequon Presbyterian Church holds some of the earliest surviving grave markers west of the Blue Ridge Mountains. Many of these early markers were not imported but are made from locally quarried limestone, sandstone, and shale. Robert Glass son of the immigrant was listed as having mason's tools in his last will and testament. This trade would have been useful in not only building such structures as Samuel Glass's Mill on the Opequon but may have been useful in the production of these local folk funeral markers. Two additional cemeteries associated with that church and the original 16 families, and their descendants can be found within half a mile of the APE. Opequon Cemetery No. 2 was in use by the 1760's and continued to be used throughout the 19th century, and Opequon Cemetery No. 4 which appears to have been established during the last decade of the 19th century.

Farther to the south is the extant remains of Fort Colvin, a French and Indian Fort that Nathaniel Cartmell II likely served in along with his being stationed in Winchester. It is not listed in the VDHR VCRIS system as it has gone through several hands over the past 20 years including VDHR, APVA, and the French and Indian War Preservation Society before being sold back to its original owner. The remaining above ground historic assets belong to the National Register-eligible Kernstown Battlefield 034-0007 with the defensive works along Sandy Ridge, the artillery emplacement at the Pritchard-Grim Farm, and numerous stone walls/ property boundaries used as defensive positions being listed.

3.6 Typical Cultural Resources Expected in the Project Area

In general, pre-contact Native American archeological resources are most likely to be found in upland well-drained areas that are within approximately 150-meters (492 feet) of a stable, permanent water source. There have been seven sites with pre-contact Native American components encountered within one mile of the project area, several occurring on landforms similar to the project area and with a similar proximity to a water source. The project area is relatively level and includes the headwaters of Hoge Run, a minor drainage. There is a high potential that pre-contact Native American deposits are present within the project area.

A review of previous archeological surveys within one mile of the project area, and an examination of historic documents and maps, indicates that historic period archeological resources, dating from the 18th through the early 20th centuries are could be found within the project area. In general, historic period archeological sites are most typically found within 100 meters (328 feet) of a historic roadway

or navigable waterway. Historic mapping from the mid-19th century onward shows that the project area was situated in an area between the large farms that comprised the area. Research conducted by Geier and Hofstra indicate that the project area falls within tracts patented by the mid-18th century. Apple Valley Road, which abuts the project area has existed in its current layout since prior to the Civil War.

Based upon the proximity of the project area to the battlefields of First and Second Kernstown, it is not unexpected for militaria to be encountered. Apple Valley Road was used to move troops for the battles but was not directly within the area where combat occurred. VCRIS records indicate that the looting of sites of military significance by metal detectorists. Accordingly, the probability of encountering large amounts of militaria is low due to easy access to the APE along Middle and Apple Valley Roads.

4.0 Research Design and Methods

4.1 Research Design

The Ottery Group conducted the Phase I archeological survey of the Apple Valley Road Tract as part of due diligence ahead of proposed development of the property. The purpose of the archeological survey was to locate previously unrecorded archeological sites within the property and, if they exist, to preliminarily assess their research potential based on the criteria for inclusion on the National Register of Historic Places (36 CFR 60).

The project included field investigations and archival research. Archival research was conducted to locate previously identified cultural resources in the surrounding area and to guide an assessment of the potential for locating undiscovered archeological sites within the impact areas associated with the planned industrial development. Field investigations consisted of shovel test pits across the development parcel. Shovel test pits were used to systematically collect artifacts and to use the locations and quantities recovered to identify the presence and location of historic or pre-contact Native American sites.

In addition to conventional subsurface testing, a metal detector survey was completed across part of the project area due to the proximity of the battlefield of First & Second Kernstown, a Civil War battle associated with the Shenandoah Campaign of the Confederate Army during the Civil War. Metal detection surveys are considered to be the most effective tool in identifying Civil War resources and are recommended methods to enhance convention Phase I survey methods (VDHR 2017).

4.2 Archival Research

Research was conducted online using the VDHR VCRIS cultural resources database. All cultural resources within one-mile radius of the site were compiled into spreadsheets. These resources included documented historic and archeological sites. Additional research was conducted using the Library of Congress online map database, the USGS National Map Viewer, historicaerials.com, and the Frederick County GIS application.

4.3 Field Methods

The Phase I archeological survey was conducted over the period of June 16th to July 27th, 2023. Testing was conducted using a 15-meter grid that conforms to state and county standards. The grid was established using a base point at the edge of Apple Valley Road as a starting datum (N39.143671, W-78.208874), with this central datum point of N6000 E3000 due the large size of the APE as well as to differentiate it from a previous field survey. The locations of individual STPs were determined using a Suunto KB-50 optical sighting compass to determine angle and pacing to determine distance. Each STP was marked with flagging tape and measured at least 45 centimeters (cm) in diameter and was excavated in levels that approximated the existing soil conditions. Excavation of the STPs was performed based on stratigraphic layers to a depth of ten centimeters into sterile soil or to the limits of hand excavation. The STPs were offset if necessary due to obstacles such as trees, roads, or debris and based on the discretion of the excavator. One hundred percent of excavated soil was sifted through ¼-inch wire mesh screen for cultural material. Artifacts, if present, were documented and collected in labeled bags according to their horizontal and vertical provenience for further processing. Shovel test pits were excavated to culturally sterile soils unless physical obstructions prevented excavation beyond the depth of the obstruction.

The metal detection survey was accomplished using a White's Sierra Madre, Tesoro Tejón, and Whites Coinmaster 2 with factory standard detector coils. The detectors were used in "all metal" mode with low discrimination and were ground-balanced at the site at the beginning of each day of metal detecting. The instruments can detect metal artifacts within approximately one foot from the ground surface. Targets

identified during metal detection were excavated with hand tools with assistance from a hand-held pinpointer. All excavated metal artifacts were identified in the field, recorded with a bag number in an inventory and with a general identification of the artifact, mapped, and collected. Locations of all collected artifacts were recorded with hand-held GPS. Artifacts were collected in polyvinyl bags marked with complete provenience information.

Field notes recorded the vertical location of recovered cultural material, soil stratigraphy, soil colors, and soil textures onto standardized STP forms using Munsell color charts and common soil texture nomenclature. After excavation and recording, all STPs were backfilled. Additionally, digital photography was used to document unusual or exceptional landforms, materials, or cultural features, as well as to provide overview documentation of the existing conditions of the project area at the time of survey.

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

4.4 Laboratory Methods

The general methodology for the processing of archeological material recovered from Phase I survey includes the cleaning, stabilization and cataloging of the artifact assemblage and associated records. In general, stable artifacts, such as ceramic, glass, and lithics were mechanically cleaned with water and dried. Heavily corroded metals were cleaned with a stiff brush to remove adhering soils and to expose diagnostic attributes. Artifact processing procedures conform to Virginia Department of Historic Resources State Collections Management Standards (VDHR 2011).

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

Historic artifacts were catalogued according to a functional analysis system modified from South's original functional groups (South 1977). In most cases, the original categories have been simplified and smaller groups have been merged into larger groups. Historic artifacts were classified using the following group designations: Domestic, Architectural, Clothing, Personal, Faunal, Floral, Fuel, Weaponry, Transportation, and Activities. Further, the artifacts were classified according to material, type, decoration, function, portion, and color. The Utilities category encompasses coal and its by-products and charcoal. A marker category also was used to identify recovered material which was determined to be modern material in the laboratory. Modern material was noted but not collected unless it occurred in situ with older cultural material.

Following analysis, artifacts were bagged in perforated, four-milliliter polypropylene bags labeled with provenience and project information and boxed in acid-free containers for long-term storage at an appropriate facility. The artifacts recovered during the survey are not considered to be candidates for conservation or permanent curation.

5.0 Results

The archeological survey of the Apple Valley Road Tract consisted of the excavation of 1,435 shovel test pits excavated at 15-meter intervals, with an additional 145 7.5-meter interval radial tests used to bound artifact concentrations within the 71.85-acre property. The purpose of the STP survey was to identify the presence of any cultural deposits within the property. Metal detection was conducted across areas where ground cover permitted, primarily in the northern portion of the project area and a central corridor extending north to south in the southern portion. The purpose of the metal detection was specifically to investigate the presence of Civil War-era artifacts associated with the 1864 Battle of Kernstown.

5.1 STP Testing

The STP grid was established using a fence corner at the northeastern corner of the project area as the datum, designated STP N6000 E3000 (Figure 5.1). The grid was set to an angle of 10 degrees west of north, following a sight line down the fence at the western property boundary. This was the longest continuous visible line and could be reestablished from multiple points to the south to avoid drift.

Terrain within the project area consisted of a relatively level upland terrace, with a central ridge running northeast-to-southwest through the project area and gently sloping northeast and southwest. In the southwestern portion of the APE a relict stream with a filled cave/ natural spring entrance was present. Outcroppings of the Beekmantown chert nodules weathering out of the exposed bedrock are present in the northern half of the project area. Evidence of quarrying for the extraction of foundation stones was evident on outcroppings in the center of the APE. The southern half of the APE can be characterized as hummocky karst topography with hydric soils bounded by small elevation rises with dryer ground and rocky and gravely soils. The southernmost regions of the APE are low lying marshland with hydric silt loam soils.

Vegetation varied across the project area, with open grassland at the northern end, multiple small open glades with borders of 1-2 meter-tall briars bounding low growing dense brush with cattle paths between the separate glades in the central portion of the property, and heavy brush in the southern end of the project area.

The soils encountered across the project area were relatively consistent. The typical soil profile consisted of a 10YR 4/4 silt loam eroded former plowzone above a 10YR 5/6 silt loam B horizon subsoil (Figure 5.2). The boundary between the plowzone and subsoil horizons is marked by a lag of gravel and cobbles comprised of angular dolostone of the Beekmantown Group. In the lower elevations of the project area proximal to the stream drainage, the soils often exhibited hydric profiles. Hydric profiles, marked by the presence of water, leached soils, and precipitated mineralization, were observed in 330 STPs. The profiles were generally shallow, with 913 STPs within the project area encountering subsoil at depths of 11-20cm below ground surface. Another 313 STPs extended to depths of between 21 and 30cm. Only 40 of the STPs encountered a soil change at deeper than 30cm.

A total of 197 STPs contained 18th-20th century and pre-contact Native American artifacts. The distribution of these positive STPs can be seen in Figure 5.1. Historic period artifacts were found in one concentrated area, with some outliers spread along the springhead to the south of the primary cluster. The bulk of the positive STPs (n=157) were concentrated in five areas. The five artifact concentrations were designated sites 44FK1076 to 44FK1080. Artifact clusters that contained only chert shatter, i.e. no flakes or other artifacts, were not designated archeological sites, as the shatter may have been inadvertently produced by plowing or animal hooves and not indicative of cultural activity.

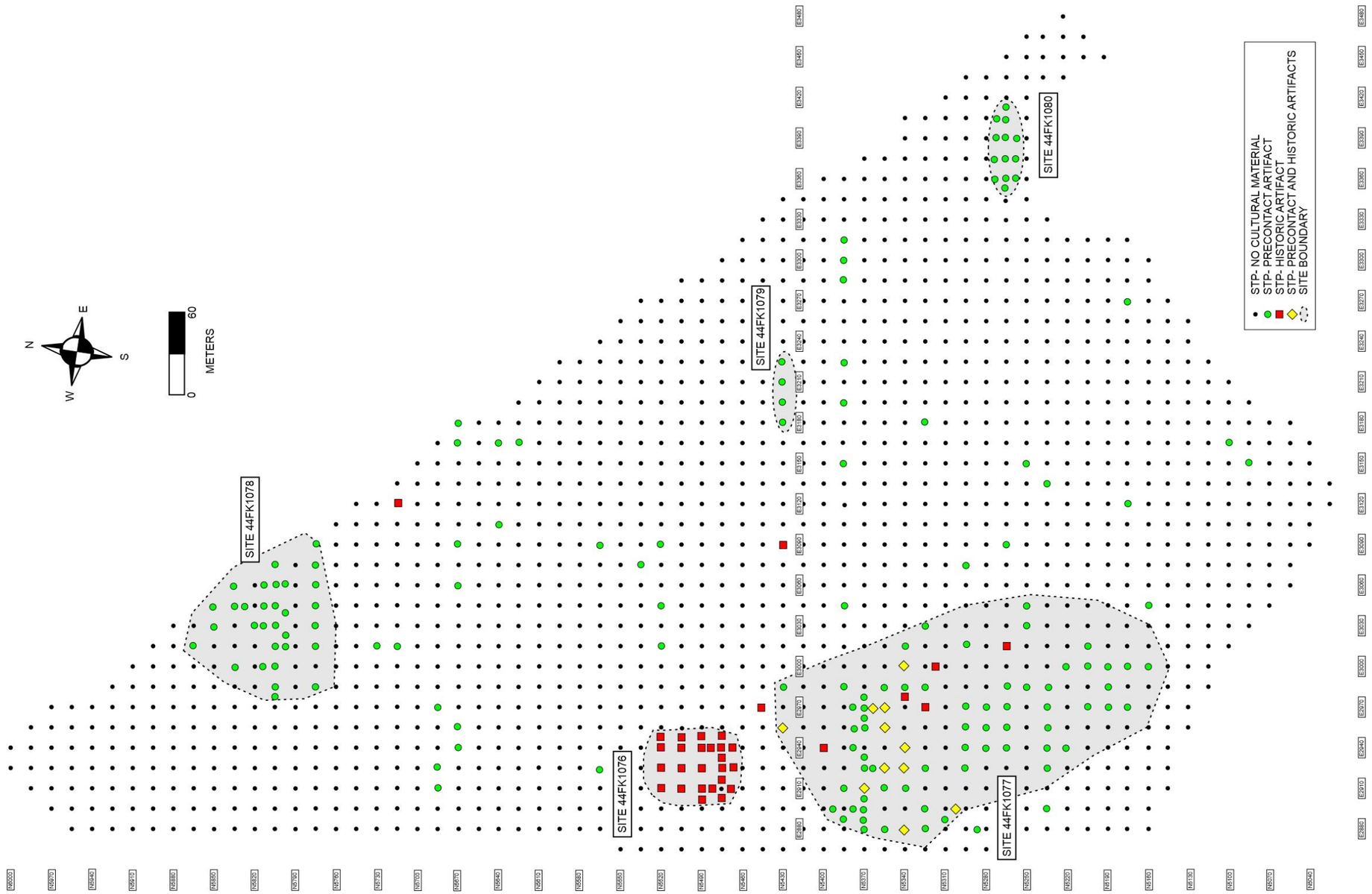


Figure 5.1: Location of Archeological Testing.

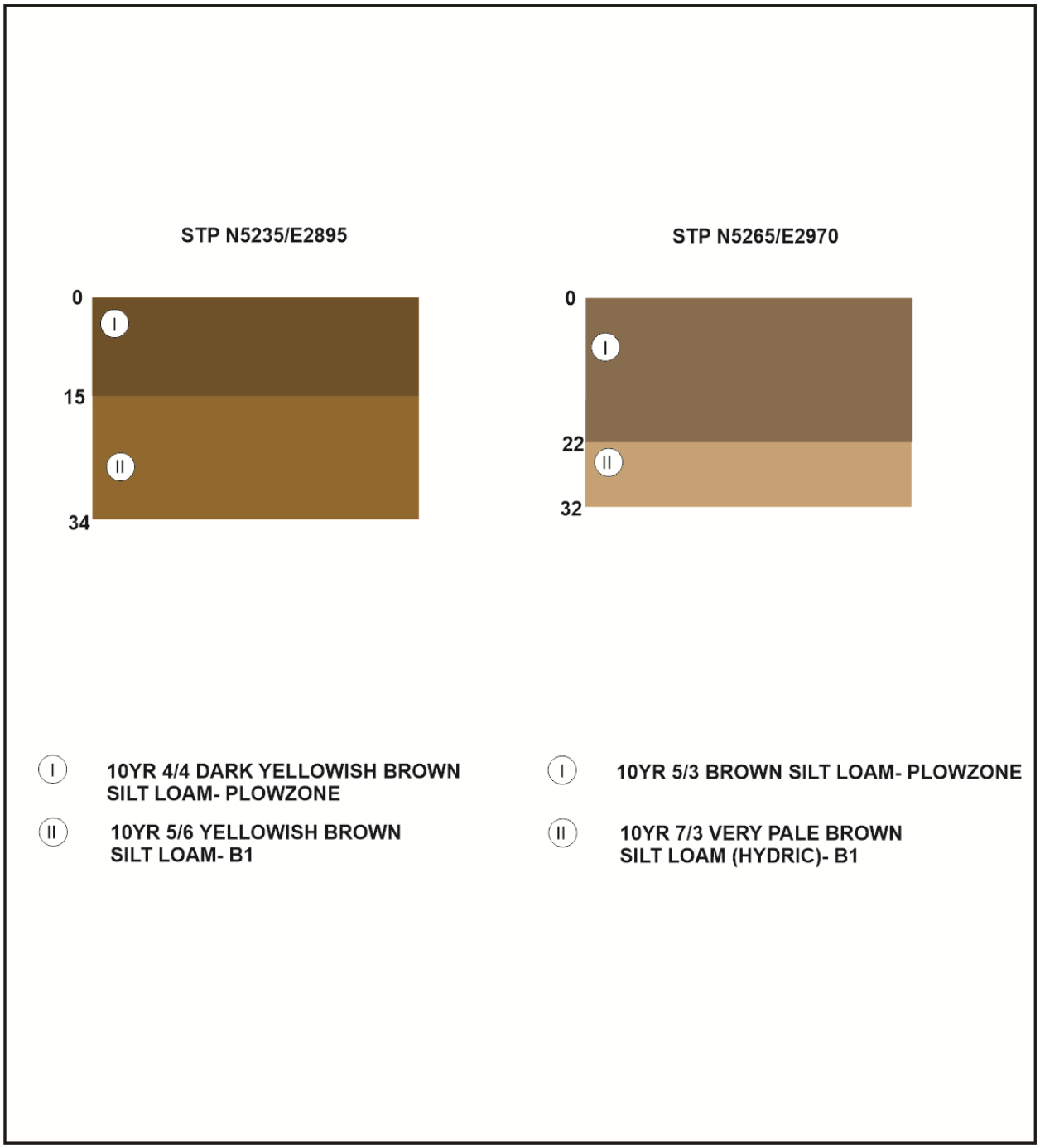


Figure 5.2: Representative STP Profiles.

Site 44FK1076 covers a roughly circular area measuring 55m-x-50m (Figure 5.1). Within this area, 23 of 29 STPs contained cultural material, including 11 baseline STPs and 12 radial STPs. A total of 204 artifacts were recovered from STP testing, with an additional 73 encountered during metal detection (Table 5.1).

The recovered material indicates a house site. A wide variety of diagnostic ceramics present shows that the period of occupation was likely between 1750 and 1830. Several artifacts recovered have a terminal use date of the end of the first quarter of the 19th century. Additional Colonial-era artifacts including blown window pane and olive green wine bottle fragments were found (Figure 5.3). Both hand-wrought and machine-cut nails were encountered, indicating that the site was being improved until after 1810. There is negligible presence of later cultural material that would indicate a continuation of occupation into the late 19th or 20th century. Only one pre-contact artifact was recovered, a secondary flake made of the local Beekmantown chert.

Site 44FK1076 may be the home of three generations of the Glass family. David Glass (1728-1775) purchased the land that includes the project area in 1749. Upon his death, it was passed to his son, David Glass II (1746- after 1789) and possibly David Glass II's son John (1831-?) after that. A fenceline with remnants of a fieldstone wall adjacent to site appears to be part of a property boundary aligning to the metes and bounds of the 1749 purchase. Little is known of this branch of the much more famous Glass family, descendants of which still live adjacent to the property today. It is thought that John Glass, the grandson, may have moved out of the Opequon Creek drainage as so many pioneers did to the Kentucky or Ohio frontiers. As John left no heirs his property may have reverted into the family or been sold in the 1850s.

Table 5.1: Artifacts recovered from Site 44FK1076.

Group	Category	Artifact	Count	Start Date	End Date
Kitchen	Ceramics				
		Creamware- Undecorated	8	1760	1810
		Pearlware- Undecorated	16	1780	1830
		Pearlware- Polychrome	3	1790	1815
		Pearlware- Feather-Edged	2	1790	1815
		Pearlware- Transfer Printed	1	1790	1815
		Redware- Lead Glazed	62	1750	1900
		Redware- Plain	63	1750	1900
		Redware- Other	3	1750	1900
		Buckley	5	1750	1790
		Astbury	1	1750	1790
		Manganese Mottled Ware	2	1750	1820
		Whiteware- Undecorated	3	1820	2000+
		Whiteware- Transfer Printed	1	1820	2000+
		Chinese Export Porcelain	2	1750	1810
		Gray Bodied Domestic Stoneware	1	1730	1930
		English Brown Stoneware	1	1750	1830
		Buff Bodied Stoneware	1	1750	1830
	Faunal				
		Oyster	3	n.a.	n.a.
		Burnt Bone/ Tooth	1	n.a.	n.a.
	Glass				
		Lead Glass Stemware	2	1750	1870
		Medicine Bottle	4	1760	1820
		Olive Vessel Glass- Free Blown	1	1750	1830

Group	Category	Artifact	Count	Start Date	End Date
Architectural					
	Ceramic				
		Brick (not wire cut)	33	1700	1880
		Mortar	10	n.a.	n.a.
	Glass				
		Window Pane (cylinder)	6	1750	1870
	Metal				
		Hand-forged Nail	16	1750	1850
		Machine-cut Nail	7	1810	1880
Activities					
	Metal	Cast iron kettle fragment	6	1760	1870
		Dowry chest/ linen chest lock plate (iron)	1	1750	1850
		Wire	1	1870	2000+
Miscellaneous					
	Lithic	Chert Secondary Flake	1	n.a.	n.a.
	TOTAL		**230**		

Figure 5.3: Selected historic period artifacts from Site 44FK1076.

Site 44FK1077 is a large multi-component site measuring 240m-x-165m (Figure 5.1). The site was much less concentrated than site 44FK1076, and included 79 positive STPs out of 182. A total of 62 baseline and 17 radial STPs contained cultural material. A total of 168 artifacts were recovered from the site, an average of 2.04 artifacts per positive STP and an overall density of 0.92 artifacts per STP within the site boundary (Tables 5.2 and 5.3). Five STPs contained only historic period artifacts while 63 contained exclusively pre-contact lithic artifacts. A total of 11 STPs contained both.

The majority of the artifacts were pre-contact Native American lithic debitage (Table 5.2). Of the 145 pre-contact artifacts present, 94 consisted of angular shatter from the locally-occurring chert. A total of 41 chert flakes were recovered, including 1 primary and 40 secondary flakes. Six fire cracked rock (FCR) indicate a potential hearth or remnant of lithic material extraction. One core was also present, also composed of local chert.

One lithic tool was recovered from Site 44FK1077. It is a broken or use-worn projectile point refashioned into a hafted scraper. The contracting stem is consistent with Late Archaic and Early Woodland point types (Figure 5.4). Two additional diagnostic artifacts were recovered from the site, both Native American ceramic fragments. One heavily carbonized small sherd is a sand-tempered ceramic with a bright orange paste, possibly Accokeek. The other is a hard fired ceramic with a micaceous paste similar to Moyaone. The pre-contact component is interpreted as a resource extraction site. With the large quantity of debitage present, it would appear that lithic extraction is the primary function, although the overall lack of primary flakes present is inconsistent with quarrying activity. The presence of the springhead makes the location favorable for a hunting camp or the harvesting of plant resources that would be found in that environment.

The historic component of Site 44FK1077 consists of 23 artifacts from 16 STPs (Table 5.3). Of these, 9 were ceramics of varieties recovered from Site 44FK1076, lead glazed redware and green feather-edged pearlware, and one was a machine-cut nail. The artifacts were found near the springhead and may represent an outbuilding associated with the domestic occupation at Site 44FK1076, possibly a springhouse. Three brick fragments and two fragments of mold-blown bottle glass may also be associated as there are no other known structures on the property. Seven artifacts, 6 fragments of barbed wire and a fence staple are associated with the current land use. One piece of 20th century floor tile is an outlier that does not fit in with the assemblage.

Table 5.2: Pre-Contact Artifacts Recovered from Site 44FK1077.

Category	Artifact	Count
Debitage	Chert shatter	94
	Chert secondary flake	41
	Chert Core	1
	Hafted Scraper	1
	Early Woodland Ceramic	1
	Late Woodland Ceramic	1
	FCR	6
TOTAL		**145**

Table 5.3: Historic Period Artifacts Recovered from Site 44FK1077.

Group	Category	Artifact	Count	Start Date	End Date
Kitchen	Ceramics				
		Pearlware- Feather-Edged	3	1790	1815
		Redware- Lead Glazed	6	1750	1900
	Glass				
		Bottle Glass- Mold Blown	2	1700	1850
Architectural					
	Ceramic				
		Brick (not wire cut)	3	1700	1880
		Floor Tile	1	1900	2000+
	Metal				
		Machine-cut Nail	1	1790	1880
Activities					
	Metal	Barbed Wire	6	1870	2000+
		Fence Staple	1	1870	2000+
	TOTAL		**230**		

Figure 5.4: Selected pre-contact artifacts from Site 44FK1077.

Site 44FK1078 is a large scatter of lithic artifacts measuring 90m-x-110m located in the northeastern part of the project area, extending off the project area into Apple Valley Road (Figure 5.1). A total of 35 positive STPs, 26 baseline STPs and 9 radial STPs together yielded 74 lithic artifacts (Table 5.4). The 2.1 artifacts per positive STP is similar to Site 44FK1077. No historic period artifacts were present. The artifact assemblage yielded high quantities of chert shatter (n=31) and secondary flakes (n-22), and two primary flakes, one chert and one quartzite. Nearly 25% of the artifacts from the site were FCR. One tested cobble was also found. None of the artifacts collected from Site 44FK1078 were temporally diagnostic. Given the presence of rock outcrops on the property, the site function is presumed to be lithic extraction.

Table 5.4: Artifacts recovered from Site 44FK1078.

Category	Artifact	Count
Debitage	Chert shatter	31
	Chert primary flake	1
	Chert secondary flake	22
	Quartzite secondary flake	1
	Tested Cobble	1
	FCR	18
TOTAL		**74**

Site 44FK1079 is the smallest of the sites encountered within the project area (Figure 5.1). It measures 15m-x-60m and consists of four consecutive positive STPs. The site yielded 7 lithic artifacts: 3 chert shatter and 4 chert secondary flakes. No temporally artifacts were recovered. No historic period artifacts were present. The site is a nondiagnostic lithic scatter.

Table 5.5: Artifacts recovered from Site 44FK1079.

Category	Artifact	Count
Debitage	Chert Shatter	3
	Chert Secondary Flake	4
TOTAL		**7**

Site 44FK1080 is a moderate sized scatter of lithic artifacts recovered from the north side of the artificial pond (Figure 5.1). The site measures 30m-x-90m and contained 13 positive STPs, including 4 baseline and 9 radial STPs. The site yielded 28 lithic artifacts: 15 chert shatter, 6 chert secondary flakes, 5 FCR, 1 tested cobble, and one potential nutting stone. No temporally diagnostic artifacts were recovered. No historic period artifacts were present. The site is interpreted as a resource procurement site. The presence of a nutting stone may indicate the processing of vegetable fibers harvested from the drainage.

Table 5.6: Artifacts recovered from Site 44FK1080.

Category	Artifact	Count
Debitage	Chert Shatter	15
	Chert Secondary Flake	6
	Nutting Stone	1
	Tested Cobble	1
	FCR	5
TOTAL		**28**

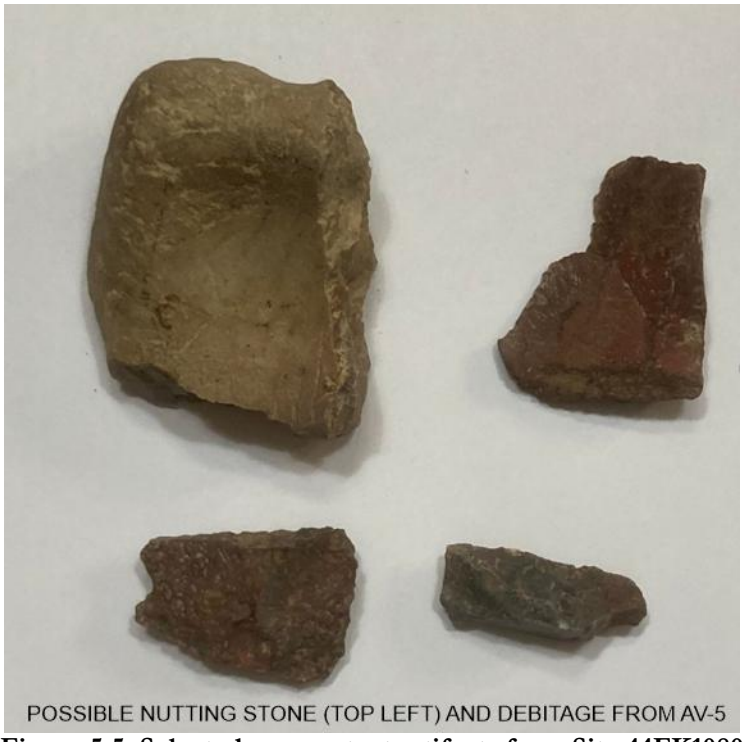


Figure 5.5: Selected pre-contact artifacts from Site 44FK1080.

5.2 Metal Detection

Following the STP survey, a systematic metal detection survey was conducted within all areas of the APE that was clear enough of vegetation to undertake this part of the survey. The metal detector survey was conducted in order to determine whether resources associated with the Battlefields of First and Second Kernstown were present within the project area. Maps of troop placement and movement during the battle (Figure 3.2) do not indicate that the project area was part of the field of war, although there appears to have been pickets along historic fence lines just to the north, including one on the property directly north of the project area and the property directly west of the project area may have been used by the Union troops (Figure 3.2). While they are effective guides to interpret general movements, battlefields are chaotic situations. The presence of artifacts is the most accurate determination of whether the battle extended into the project area. Historic accounts do mention the movement of both Confederate and Union troops across the project area.

Metal detection was conducted within the field that borders on Virginia Route 37, Middle Road, and Apple Valley Road. Historic maps indicate that the modern property lines were likely the same, as a fence line and Apple Valley Road and Middle Road are shown on the 1885 map that matches the current edge of the project area (Figure 3.4). It is likely that any battle-related activity would be encountered in this location if present within the project area as this was the closest Union picket at Sandy Ridge to the project area. Similarly, the open areas along Apple Valley Road where Confederate troops may have been mustered through were also survey.

Metal detector survey was oriented to the STP grid. Transects were examined every 15m, with a sweep 2m wide. Once the grid was completed in a north to south direction along each transect transects were run in between the preceding STP transect and the next.

Figure 5.6: Results of metal detector survey.

A total of seven targets, areas where metal objects were identified, were present, yielding 43 artifacts (Figure 5.4, Table 5.7). The collected material is indicative of farming activity through the 19th and 20th centuries, evidenced by tractor drawn plow elements and horse furniture as well as more modern mechanical parts. A cluster of beer cans was in the north field along the ridge as well as another adjacent to the springhead on the property. Tractor parts and a horse harness buckle were located adjacent to Virginia Route 37 across from the historic Fullerton farm complex. An iron harness ring and a broken 20th century cast steel plow blade were recovered at the edge of the historic homestead site in a small area that had been plowed, this is located down an access road off Apple Valley presently used by the tenant cattle rancher to move livestock. The broken plow tip was located within 25 meters of one of the numerous dolostone outcrops across the majority of the project area.

Table 5.7: Results of metal detector survey.

Northing	Easting	Description
39.14182	78.20775	Cluster of aluminum cans
39.14166	78.20789	Cluster of aluminum cans
39.14116	78.20173	Cast steel/ nondiagnostic
39.14086	78.20798	Cast steel plow part (tip broken off)
39.14028	78.20832	Iron harness ring
39.13906	78.20806	Aluminum beer can
39.13761	78.20787	Coca Cola aluminum can
39.13677	78.20714	Iron horse harness buckle (late 19th to early 20th century)
39.13675	78.20712	Steel tractor part (20th century)

No Civil War-era artifacts were encountered during the metal detector survey. The current tenant of the property, who has collected the property with a local metal detecting/relic hunting club, reported finding multiple artifacts, including a cluster of Confederate Block I and C buttons from the northern end of the property as well as numerous George II coins, George III coins, and pewter and cast copper alloy buttons from the vicinity of Site 44FK1076. In his opinion, they had "picked this place clean."

Particular care was taken in the areas that had previously yielded artifacts to ensure 100% coverage. No additional material was recovered from the area where the military artifacts were recovered. Several hits were encountered within the boundaries of Site 44FK1076 (Figure 5.4, Table 3.8). The investigation of the 11 targets resulted in the recovery of 73 artifacts, many of which were non-ferrous artifacts found while searching for the metal hits, including manganese mottled ware, Buckley ware, creamware, pearlware, and 18th century porcelain. The systematic metal detector survey in this area produced 7 cast iron 18th or early 19th century pot or kettle fragments, as well as hand-forged and early cut nails. These artifacts are represented in the artifact tables for Site 44FK1076 in Table 5.1.

Table 5.8: Metal detection results within Site 44FK1076.

Latitude	Longitude	Metal Object	Other Artifacts Collected	Date Range
39.13942	78.20866	Cast iron fragment	1 Creamware, 2 Pearlware (1 early polychrome), 2 Lead glaze redware, 4 unglazed redware.	1770-1850
39.13953	78.20865	Hand-forged nail	2 Lead glazed redware fragments	1735-1850
39.13941	78.20863	Cast iron fragment	1 Pearlware, 1 Lead glazed redware, 1 Transfer pearlware, 1 Fcr	1790-1830
39.13964	78.20865	Hand-forged nail	1 Creamware, 2 Lead glazed redware, 1 Mottled tan stoneware, 1 Late 18th c. wine	1770-1820

Latitude	Longitude	Metal Object	Other Artifacts Collected	Date Range
			glass, 2 18th c. Porcelain (lead overglaze possible English)	
39.13924	78.20824	Cast iron fragment	3 Lead glazed redware, 1 Unglazed redware	1735-1850
39.13947	78.20872	Cast iron fragment	2 Buckley redware, 1 Astbury redware, 2 Brick fragments, 2 Oyster fragments, 1 Burnt bone fragment, 2 18th Century wine bottle, 1 Creamware	1740-1850
39.13969	78.20856	Cast iron pot fragment	1 Aqua glass medicine bottle fragment	1760-1790
39.13968	78.20966	1 Early Machine-cut Nail, 1 Hand-forged nail	2 Creamware, 2 Pearlware, 2 Lead glaze mottled manganese redware, 1 Grey bodied stoneware, 3 brick fragments, 5 mortar fragments, 1 window glass fragment (thin blue), 1 Oyster shell	1740-1850
39.13969	78.20851	2 Wrought iron nails	NA	1740-1850
39.13952	78.20869	1 Hand-forged nail, 1 Cast iron kettle fragment	1 Buckley type redware, 1 Lead glazed redware, 1 Unglazed redware	1735-1850
39.13974	78. 20850	Possible 18th c. linen/ dowry chest lockplate cover	3 Unglazed redware	1735-1850

5.3 Discussion

This historic period assemblage from Site 44FK1076 has a chronological range from 1750 to 1880. No machine-made glass was recovered during any part of the survey indicating a 18th century start date to the historic occupation of the site. The bulk of the artifacts recovered have a date range from 1770 to 1830. The earliest historic artifacts could date as early as 1740 or around the time that Kernstown was established. Cast iron pots and kettles began to be manufactured just a few miles southwest of the APE after the French and Indian War. It is thought that this site represents the establishment of a farmstead shortly after the French and Indian War and was abandoned just before or after the American Civil War with no later contamination or dumping on the site. The APE shows very little evidence of agriculture in the form of wheat cultivation, but as the name of the road, Apple Valley implies this area was historically linked to orchards and grazing herding animals.

Four pre-contact Native American sites are present within the project area. The Native American artifact assemblage included 394 artifacts composed of two different materials. The project area is situated atop numerous outcrops of the Beekmantown chert. Of the 394 pre-contact Native American Artifacts 317 are chert shatter consistent with source material testing, 61 represent secondary flakes made of the local chert with only one primary flake of this material identified. The lack of primary stage debitage is likely due to the Beekmantown chert being mostly tabularly bedded in the host Beekmantown dolostone with round nodules being uncommon. Hammerstones recovered within the APE are comprised of rounded quartzite cobbles from further away in the Opequon Creek drainage and appear to be brought into the area. Flakes of quartzite were uncommon within the APE with one primary and one secondary flake recovered. Two fragments of Native American ceramic were encountered during the survey. Although one was too small to reliably identify, the color of the paste and sand inclusions in the temper suggest an Early Woodland Accokeek ceramic, while the larger hard-pasted sherd with micaceous sand in the temper is similar to the Late Woodland Moyaone ceramic. The only flaked tool recovered was a reworked projectile point fashioned into a hafted scraper. The original tool was either broken or use-worn. The contracting stem of the original tool is still intact, suggesting a Late Archaic or Early Woodland date. The interpreted function of the pre-contact

sites is the extraction of lithic material from the outcrops present within the project area or the wetland plants that would have been present in the vicinity of the drainage.

6.0 Conclusions and Recommendations

The Ottery Group conducted an archeological survey of the 71.85-acre Apple Valley Road Tract, which is planned for future development. The archeological survey was conducted by Winchester Gateway, LLC, during development planning. A total of 1,580 STPs were excavated during the archeological survey. The testing resulted in 197 positive test pits; 144 positive shovel test pits of chert debitage and tool fragments associated with pre-contact Native American land use and 53 positive test pits containing historic period artifacts dating from the mid-18th through 20th centuries. A total of five archeological sites were identified on the property during the Phase I survey. These were designated 44FK1076 to 44FK1080.

A metal detection survey was conducted within the project area due to the proximity of the National Register-eligible Kernstown Battlefield (034-0007) which was expanded to include the project area in 2011. The scope of the metal detector survey was limited due to the brushy conditions. A total of 7 metal objects were recovered from 11 targets, with 20th and 21st century aluminum beverage cans noted but not collected. No military artifacts were found, although local residents described collecting Civil War material from the property in the past.

Supplemental metal detecting conducted within the boundaries of Site 44FK1076 resulted in the recovery of 73 additional artifacts from the 18th and 19th century occupation of the site.

6.1 Recommendations

Site 44FK1076 is a dense cluster of 18th and 19th century domestic artifacts, possibly associated with the David Glass, Sr. homestead. Glass purchased the property in 1749 and appears to have remained in the family for three generations, until approximately 1850. The site is relatively intact and does not contain later 20th century materials. A wide variety of ceramics recovered from the site suggests a long duration of habitation, and the potential for encountering intact features is high. Metal detection within the site resulted in the recovery of additional artifacts. A **Phase II investigation is recommended to establish the National Register eligibility of the site.**

Site 44FK1077 is a large moderately dense scatter of pre-contact Native American lithic artifacts with a light scatter of 18th to 19th century domestic artifacts focused around a springhead. The majority of the lithic artifacts recovered consist of local Beekmantown chert shatter. The site yielded one lithic tool, a nondiagnostic hafted scraper. Two fragments of unidentified pre-contact ceramic were also recovered. The pre-contact component is interpreted as a repeated use during the Woodland period for lithic extraction. The historic materials are likely associated with the more concentrated site 44FK1076 directly to the north of it and may represent a springhouse or other outbuilding. The ephemeral nature of the site suggests that intact cultural deposits are unlikely. **Based upon the presence of Native American tools and ceramics as well as 18th century material culture,** a **Phase II investigation is recommended to establish the National Register eligibility of the site.**

Site 44FK1078 is a low density scatter of pre-contact lithic material similar to Site 44FK1077. No tools or diagnostic artifacts were recovered from the site. The site is interpreted as a lithic extraction site with a long duration or repeated use. **The site is not considered to meet the criteria as a significant archeological resource and no additional testing is recommended.**

Site 44FK1079 is a small scatter of pre-contact lithic material consisting of seven artifacts. No tools or diagnostic artifacts were recovered. If the site was not identified in proximity to sites 44FK1077 and 44FK1078, no site function would be possible due to the limited size and artifacts. It is likely that the site is a

resource extraction site. **The site is not considered to meet the National Register criteria for research potential and no additional testing is recommended.**

Site 44FK1080 is a cluster of pre-contact lithic artifacts found on the north of the cattle pond, and along the original spring running through the property. The site contained a moderate density of artifacts, none of which are chronologically diagnostic. The artifact assemblage is consistent with the other Native American sites within the project area. The only anomalous artifact was a possible nutting stone, which suggests that the site may be more than a short-term resource extraction camp. **The site is not considered to be a significant archeological resource and no additional testing is recommended.**

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Appendix A:

Artifact Catalog

STP CATALOG

Site	N	E	Radial	Description
	5085	3150		fcr/ 1 flake
	5100	3165		shatter
44FK1077	5160	3000		shatter
	5160	3045		shatter
44FK1077	5175	2970		shatter
44FK1077	5175	3000		shatter/ 1 flake
	5175	3120		1 flake
	5175	3270		1 flake
44FK1077	5190	2970		shatter
44FK1077	5190	2985		shatter
44FK1077	5190	3000		shatter/ 1 flake
44FK1077	5205	2970		shatter
44FK1077	5205	3000		shatter/ 1 flake
44FK1077	5205	3000		shatter/ 1 flake
44FK1077	5205	3015		shatter
44FK1077	5220	2940		1 flake
44FK1077	5220	3000		shatter
	5235	2895		fcr/ shatter
44FK1077	5235	2925		shatter

Site	N	E	Radial	Description
44FK1077	5235	2940		shatter/ 1 flake
44FK1077	5235	2970		shatter/ 1 flake
44FK1077	5235	2985		shatter
	5235	3135		shatter
	5235	2955a		shatter
	5235	2955b		shatter
44FK1077	5250	2985		shatter/ 1 flake
44FK1077	5250	3030		shatter
44FK1077	5250	3045		shatter
	5250	3150		1 flake
44FK1080	5257.5	3360	R	1 Fcr, 1 flint shatter, 1 flint flake
44FK1080	5257.5	3375	R	1 Thermaly altered quatrzite worked cobble
44FK1080	5257.5	3390	R	4 flint shatter
44FK1077	5265	2940		shatter
44FK1077	5265	2955		1 flake
44FK1077	5265	2970		shatter
44FK1077	5265	2985		shatter
44FK1077	5265	3015		barbed wire
	5265	3090		1 flake
44FK1080	5265	3345		hearth slag/ 1 flake
44FK1080	5265	3352.5	R	1 Fcr
44FK1080	5265	3352.5	R	3 flint shatter
44FK1080	5265	3360		cupstone/ 1 flake
44FK1080	5265	3375		fcr/ shatter
44FK1080	5265	3390		shatter
44FK1080	5265	3412.5	R	1 flint flake

Site	N	E	Radial	Description
44FK1080	5272.5	3390	R	1 flint shatter, 2 flint flakes
44FK1080	5272.5	3405	R	3 flint shatter
44FK1080	5277.5	3375	R	1 flint shatter, 2 Fcr
44FK1077	5280	2940		barded wire
44FK1077	5280	2955		shatter
44FK1077	5280	2970		shatter/ 1 flake
44FK1077	5295	2925		shatter/ 1 flake
44FK1077	5295	2940		shatter
44FK1077	5295	2955		shatter
44FK1077	5295	2970		shatter/ 1 flake
44FK1077	5295	3015		shatter/ 1 flake
	5295	3075		hammerstone/ 1 flake
44FK1077	5302.5	2895	R	1 Large iron staple, 1 chert flake
44FK1077	5310	2887.5	R	3 flint shatter
44FK1077	5317.5	3000	R	Barbed wire
44FK1077	5325	2880		1 flake
44FK1077	5325	2895		shatter/ 1 flake
44FK1077	5325	2925		1 flake/ 1 worked core
44FK1077	5325	2970		barded wire
44FK1077	5325	2985		shatter/ 1 flake
44FK1077	5325	3030		shatter
	5325	3180		shatter
44FK1077	5340	2880		1 cut nail/ shatter
44FK1077	5340	2910		1 great flake
44FK1077	5340	2925		shatter/ 1 flake
44FK1077	5340	2925		2 flakes

Site	N	E	Radial	Description
44FK1077	5340	2925		3 glazed redware/ shatter/ fcr
44FK1077	5340	2940		1 glass/ shatter/ 1 flake
44FK1077	5340	2977.5	R	Barbed wire
44FK1077	5340	3000		1 flake/ 1 glass/ barbed wire
44FK1077	5340	3015		shatter/ 1 flake
44FK1077	5355	2880		shatter
44FK1077	5355	2910		fcr/ 1 flake
44FK1077	5355	2925		shatter/ 1 flake
44FK1077	5355	2925		shatter/ 3 pearlware (green featheredge) fragments/ 1 flake
44FK1077	5355	2955		shater/ 1 redware fragment
44FK1077	5355	2970		1 lead glazed redware fragment/ 2 flakes/ shatter
44FK1077	5355	2985		1 flake
44FK1077	5362.5	2925	R	1 flint shatter, 1 flint flake
44FK1077	5362.5	2970	R	1 Lead glazed redware, 5 shatter
44FK1077	5370	2880		1 flake/ 1 prehistoric ceramic fragment
44FK1077	5370	2885		shatter
44FK1077	5370	2887.5	R	3 Fcr, 1 20th c. floor tile, 1 Flint flake
44FK1077	5370	2902.5	R	4 flint shatter
44FK1077	5370	2910		shatter/ 1 lead glazed redware fragment
44FK1077	5370	2925		shatter/ 1 flake
44FK1077	5370	2932.5	R	4 flint shatter
44FK1077	5370	2955		1 flake
44FK1077	5370	2962.5	R	4 flint shatter, 1 flint flake
44FK1077	5370	2970		shatter
44FK1077	5370	2977.5	R	9 flint shatter
44FK1077	5370	2977.5	R	4 flint shatter, 1 Stalactite, 1 flint flake

Site	N	E	Radial	Description
44FK1077	5377.5	2895	R	2 flint shatter
44FK1077	5377.5	2925	R	1 flint shatter, 1 flint flake
44FK1077	5377.5	2940	R	3 flint shatter
44FK1077	5377.5	2955	R	4 flint shatter, 1 flint flake
44FK1077	5385	2887.5	R	1 Fcr, 1 cobble
44FK1077	5385	2910		shatter
44FK1077	5385	2985		shatter/ 1 flake
	5385	3045		shatter/ 1 flake
	5385	3150		shatter
	5385	3195		shatter/ 1 flake
	5385	3225		hammerstone/ 1 flake
	5385	3285		shatter
	5385	3300		shatter/ 1 flake
	5385	3315		shatter
44FK1077	5392.5	2895	R	3 flint shatter
44FK1077	5400	2940		1 lead glazed redware fragment
44FK1077	5430	2955		3 brick fragments/ shatter
44FK1077	5430	2985		Prehistoric ceramic/ 1 flake
	5430	3090		1 aqua inkwell glass fragment
44FK1079	5430	3180		shatter/ 1 flake
44FK1079	5430	3195		shatter/ 1 flake
44FK1079	5430	3210		1 flake
44FK1079	5430	3225		shatter/ 1 flake
	5445	2970		1 creamware fragment
44FK1076	5467.5	2910	R	English saltglazed stoneware
44FK1076	5467.5	2925	R	1 Unglazed redware

Site	N	E	Radial	Description
44FK1076	5475	2902.5	R	1 Lead glazed redware, 1 unglazed redware, 1 Wrought iron nail
44FK1076	5475	2917.5	R	2 Lead glazed redware, 4 Unglazed redware, 1 Pearlware
44FK1076	5475	2925		1 pearlware fragment/ 1 pipestem fragment/ 3 lead glazed redware fragments/ 7 unglazed redware fragments/ 2 brick fragments
44FK1076	5475	2932.5	R	1 Buckley type redware, 2 Unglazed redware, 2 Pearlware (1 early polychrome), 1 Creamware
44FK1076	5475	2940		1 aqua glass fragment/ 1 glazed redware fragment/ 3 unglazed redware fragments
44FK1076	5475	2947.5	R	2 Buckley type redware, 2 Lead glazed redware, 1 unglazed redware, 1 quartz flake
44FK1076	5482.5	2910	R	1 Wrought nail, 1 Cut nail, 7 Lead glazed redware, 2 Unglazed redware, 1 mortar, 1 18th c. medicine bottle glass, 1 Pearlware
44FK1076	5482.5	2940	R	1 Lead glazed redware, 1 unglazed redware, 1 burnt bone
44FK1076	5490	2910		2 wrought nails/ 6 lead glazed redware fragments/ 2 unglazed redware fragments/ 2 pieces of pearlware/ 1 creamware fragment/ 1 cylinder window glass fragment
44FK1076	5490	2925		1 pearlware fragment/ 1 cut nail/ 3 redware fragments, animal tooth root
44FK1076	5490	2940		1 glazed redware fragment/ 1 unglazed redware fragment/ 1 creamware fragment
44FK1076	5497.5	2910	R	7 Brick, 2 Hearth slag, 3 Wrought iron nails, 1 Cut nail, 3 Pearlware (2 Green featheredge), 1 Lead glazed redware, 1 Cow tooth fragment
44FK1076	5497.5	2925	R	1 Wrought nail, 1 Cut nail, 2 burnt bone, 7 Unglazed redware, 8 Lead glazed redware (Redware rimsherd, copy of stoneware bottle), 2 Whiteware, 3 brick, 1 Late blue polychrome pearlware, 1 Cylinder window glass
44FK1076	5497.5	2940	R	2 Lead glazed redware, 3 Unglazed redware
44FK1076	5505	2910		1 wrought nail/ 3 lead glazed redware fragments/ 6 unglazed redware fragments/ 1 white ware fragment/ 2 wine glass fragments/ 2 cylinder window glass fragments/ 4 brick fragments/ 2 mortar fragments
44FK1076	5505	2925		1 transfer print fragment/ 1 pearlware fragment/ 3 unglazed redware fragments/ 1 aqua glass fragment/ 2 cut nails/ 5 brick fragments/ 1 slag/ 2 mortar fragments.
44FK1076	5505	2940		4 pearlware fragments/ 6 lead glazed redware fragments/ 7 unglazed redware fragments/ 1 cylinder window glass fragment/ 4 brick frgmnts
	5505	2997.5	R	1 Unglazed redware, 1 stalactite
44FK1076	5520	2910		2 brick frgmts.

Site	N	E	Radial	Description
44FK1076	5520	2925		brick frgmnt.
44FK1076	5520	2940		freeblown aqua bottle base fragment (1750-1800, Hume)/ 4 pieces lead glazed redware/ 1 piece bailing wire/ 1 pig tooth
	5520	3015		shatter/ 1 flake
	5520	3045		shatter
	5520	3090		shatter/ 1 flake
44FK1076	5527.5	2947.5	R	3 Flat iron fragments, 3 Lead glazed redware fragments, 3 Unglazed redware fragments
	5535	3075		shatter/ 1 flake
	5565	2925		1 flake
	5565	3090		shatter/ 1 flake
	5625	3165		shatter
	5640	3105		1 flake
	5640	3165		1 flake
	5670	2940		worked core
	5670	2950		shatter
	5670	3060		shatter
	5670	3090		shater/ 1 flake
	5670	3165		shatter
	5670	3180		shatter
	5685	2910		1 flake
	5685	2925		shatter
	5685	2970		fcr/ shatter
	5715	3015		1 flake
	5715	3180		plastic/ stoneware/ whiteware
	5730	3015		shatter/ 1 flake
44FK1078	5775	2985		fcr/ shatter

Site	N	E	Radial	Description
44FK1078	5775	3015		fcr/ shatter
44FK1078	5775	3030		fcr/ shatter
44FK1078	5775	3045		shatter/ 1 flake
44FK1078	5775	3060		fcr/ shatter
44FK1078	5775	3075		shatter
44FK1078	5775	3090		fcr/ shatter
44FK1078	5797.5	3015	R	1 flint flake
44FK1078	5797.5	3022.5	R	1 Thermaly altered worked quartzite cobble/ 2 flint shatter
44FK1078	5797.5	3037.5	R	1 flint shatter
44FK1078	5797.5	3060	R	1 flint shatter, 1 quartzite flake
44FK1078	5805	2985		shatter/ 1 flake
44FK1078	5805	2992.5	R	1 River cobble fcr
44FK1078	5805	3000		fcr/ shatter/ 1 flake
44FK1078	5805	3015		shatter/ 1 flake
44FK1078	5805	3030		fcr/ shatter/ 1 flake
44FK1078	5805	3030		fcr/ lithic collected from RW's stp on surface
44FK1078	5805	3045		fcr/ possible flakes
44FK1078	5805	3060		fcr/ 1 flake
44FK1078	5805	3075		fcr/ shatter/ 1 flake
44FK1078	5805	3090		fcr/ 1 flake
44FK1078	5812.5	3000	R	4 flint shatter, 1 flint flake
44FK1078	5812.5	3045	R	2 flint shatter, 1 quartzite cobble fcr, 3 flint flakes
44FK1078	5817.5	3030	R	2 flint shatter
44FK1078	5820	3030		shatter
44FK1078	5827.5	3045	R	1 flint cobble primary flake
44FK1078	5835	3000		fcr/ 1 flake

Site	N	E	Radial	Description
44FK1078	5835	3045		fcr/ shatter
44FK1078	5835	3060		fcr/ 1 flake
44FK1078	5835	3075		fcr/ shatter
44FK1078	5835	3090		flake
44FK1078	5850	3030		fcr/ 1 flake
44FK1078	5850	3045		fcr/ 1 flake
44FK1078	5850	3075		fcr/ 1 flake
44FK1078	5865	3015		fcr/ 1 flake

Appendix B:

Archeological Site Forms

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1076

Snapshot

Date Generated: January 29, 2024

Site Name:	Glass Family Homestead
Site Classification:	Terrestrial, open air
Year(s):	1751 - 1789, 1790 - 1829, 1830 - 1860
Site Type(s):	Farmstead
Other DHR ID:	No Data
Temporary Designation:	No Data

Site Evaluation Status

Locational Information

USGS Quad:	WINCHESTER
County/Independent City:	Frederick (County)
Physiographic Province:	Valley and Ridge
Elevation:	805 feet
Aspect:	Facing Southeast
Drainage:	Potomac
Slope:	2-6%
Acreage:	0.730
Landform:	Ridge
Ownership Status:	Private
Government Entity Name:	No Data

Site Components

Component 1

Category:	Domestic
Site Type:	Farmstead
Cultural Affiliation:	Euro-American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)
Start Year:	1750
End Year:	1830
Comments:	Site AV-1 covers a roughly circular area measuring 55m-x-50m (Figure 5.1). Within this area, 23 of 29 STPs contained cultural material, including 11 baseline STPs and 12 radial STPs. A total of 204 artifacts were recovered from STP testing, with an additional 73 encountered during metal detection (Table 5.1). The recovered material indicates a house site. A wide variety of diagnostic ceramics present shows that the period of occupation was likely between 1750 and 1830. Several artifacts recovered have a terminal use date of the end of the first quarter of the 19th century. Additional Colonial-era artifacts including blown window pane and olive green wine bottle fragments were found (Figure 5.3). Both hand-wrought and machine-cut nails were encountered, indicating that the site was being improved until after 1810. There is negligible presence of later cultural material that would indicate a continuation of occupation into the late 19th or 20th century. Only one pre-contact artifact was recovered, a secondary flake made of the local Beekmantown chert. Potentially associated with multiple generations of the Glass family

Bibliographic Information

Bibliography:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia. Conducted for Winchester Gateway, LLC.

Informant Data:

No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1076

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Jay Lunze- crew chief
Lyle Torp- principal investigator
Karl Franz- archeologist

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: The Ottery Group

Investigator: Lyle Torp

Survey Date: 6/16/2023

Survey Description:

Phase I archeological survey of a 71.85-acre tract conducted prior to development of the property. The property falls within the NR-eligible Kernstown Battlefield (2011 expansion). 1580 STPs were excavated at 15-meter and close intervals. Metal detection was conducted across open portions of the property. 197 positive STPs including 144 with local chert debitage. Five sites were identified during the survey.

Current Land Use	Date of Use	Comments
Pasture	7/21/2023	former pasture, overgrown, vacant since approximately 2009

Threats to Resource: Development, Erosion, Neglect

Site Conditions: Unknown Portion of Site Destroyed

Survey Strategies: Metal Detection, Subsurface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

The recovered material indicates a house site. A wide variety of diagnostic ceramics present shows that the period of occupation was likely between 1750 and 1830. Several artifacts recovered have a terminal use date of the end of the first quarter of the 19th century. Additional Colonial-era artifacts including blown window pane and olive green wine bottle fragments were found (Figure 5.3). Both hand-wrought and machine-cut nails were encountered, indicating that the site was being improved until after 1810. There is negligible presence of later cultural material that would indicate a continuation of occupation into the late 19th or 20th century. Only one pre-contact artifact was recovered, a secondary flake made of the local Beekmantown chert.

Site AV-1 may be the home of three generations of the Glass family. David Glass (1728-1775) purchased the land that includes the project area in 1749. Upon his death, it was passed to his son, David Glass II (1746- after 1789) and possibly David Glass II's son John (1831-?) after that. A fenceline with remnants of a fieldstone wall adjacent to site appears to be part of a property boundary aligning to the metes and bounds of the 1749 purchase. Little is known of this branch of the much more famous Glass family, descendants of which still live adjacent to the property today. It is thought that John Glass, the grandson, may have moved out of the Opequon Creek drainage as so many pioneers did to the Kentucky or Ohio frontiers. As John left no heirs his property may have reverted into the family or been sold in the 1850s.

Creamware- Undecorated8
Pearlware- Undecorated16
Pearlware- Polychrome3
Pearlware- Feather-Edged2
Pearlware- Transfer Printed1
Redware- Lead Glazed62
Redware- Plain63
Redware- Other3
Buckley5
Astbury1
Manganese Mottled Ware2
Whiteware- Undecorated3
Whiteware- Transfer Printed1
Chinese Export Porcelain2
Gray Bodied Domestic Stoneware1
English Brown Stoneware1
Buff Bodied Stoneware1
Lead Glass Stemware2
Medicine Bottle4
Olive Vessel Glass- Free Blown1
Brick (not wire cut)33
Mortar10
Hand-forged Nail16
Machine-cut Nail7
Window Pane (cylinder)6
Chert Secondary Flake1

Summary of Specimens Observed, Not Collected:

No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1076

Current Curation Repository:	The Ottery Group, Silver Spring, MD
Permanent Curation Repository:	Artifacts to be returned to landowner
Field Notes:	Yes
Field Notes Repository:	The Ottery Group, Silver Spring, MD
Photographic Media:	Digital
Survey Reports:	Yes
Survey Report Information:	Jay Lunze, Karl Franz, and Lyle Torp (2023) Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia
Survey Report Repository:	VCRIS
DHR Library Reference Number:	No Data
Significance Statement:	Site AV-1 is a dense cluster of 18th and 19th century domestic artifacts, possibly associated with the David Glass, Sr. homestead. Glass purchased the property in 1749 and appears to have remained in the family for three generations, until approximately 1850. The site is relatively intact and does not contain later 20th century materials. A wide variety of ceramics recovered from the site suggests a long duration of habitation, and the potential for encountering intact features is high. Metal detection within the site resulted in the recovery of additional artifacts. A Phase II investigation is recommended to establish the National Register eligibility of the site.
Surveyor's Eligibility Recommendations:	Recommended for Further Survey
Surveyor's NR Criteria Recommendations:	No Data
Surveyor's NR Criteria Considerations:	No Data

Archaeological site data is protected under the Archaeological Resource Protection Act (ARPA 1979).

Page: 3 of 3

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1077

Snapshot

Date Generated: January 29, 2024

Site Name:	No Data
Site Classification:	Terrestrial, open air
Year(s):	, 3000 - 1201 B.C.E, 1200 B.C.E. - 299 C.E, 1000 - 1606, 1751 - 1789, 1790 - 1829, 1830 - 1860
Site Type(s):	Lithic procurement site, Outbuilding
Other DHR ID:	No Data
Temporary Designation:	No Data

Site Evaluation Status

Locational Information

USGS Quad:	WINCHESTER
County/Independent City:	Frederick (County)
Physiographic Province:	Valley and Ridge
Elevation:	795 feet
Aspect:	Facing Southeast
Drainage:	Potomac
Slope:	2-6%
Acreage:	5.460
Landform:	Ridge
Ownership Status:	Private
Government Entity Name:	No Data

Site Components

Component 1

Category:	Industry/Processing/Extraction
Site Type:	Lithic procurement site
Cultural Affiliation:	Native American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Late Woodland (1000 - 1606), Pre-Contact
Start Year:	No Data
End Year:	No Data
Comments:	142 lithic artifacts shatter (94), primary flakes (1), secondary flakes (40), FCR (6), contracting stemmed point (1) possible Accokeek sherd (1) possible Moyaone sherd (1)

Component 2

Category:	Subsistence/Agriculture
Site Type:	Outbuilding
Cultural Affiliation:	Euro-American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)
Start Year:	1750
End Year:	1830
Comments:	possible springhouse associated with the domestic occupation immediately to the north. Feather-edged pearlware and lead glaze redware are similar to what was recovered from the adjacent site. Historic scatter is concentrated at a springhead. Some later material recovered (barbed wire, fence staple) is associated with the 20th century use as pasture rather than the earlier farmstead.

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1077

Bibliographic Information

Bibliography:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia. Conducted for Winchester Gateway, LLC.

Informant Data:

No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1077

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Jay Lunze- crew chief
Lyle Torp- principal investigator
Karl Franz- archeologist

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: The Ottery Group

Investigator: Lyle Torp

Survey Date: 6/16/2023

Survey Description:

Phase I archeological survey of a 71.85-acre tract conducted prior to development of the property. The property falls within the NR-eligible Kernstown Battlefield (2011 expansion). 1580 STPs were excavated at 15-meter and close intervals. Metal detection was conducted across open portions of the property. 197 positive STPs including 144 with local chert debitage. Five sites were identified during the survey.

Current Land Use	Date of Use	Comments
Pasture	7/21/2023	Overgrown pasture, appears to have been last used in 2009 based on aerial photos

Threats to Resource: Development, Erosion

Site Conditions: Unknown Portion of Site Destroyed

Survey Strategies: Metal Detection, Subsurface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

A total of 168 artifacts were recovered from the site, an average of 2.04 artifacts per positive STP and an overall density of 0.92 artifacts per STP within the site boundary (Tables 5.2 and 5.3). Five STPs contained only historic period artifacts while 63 contained exclusively pre-contact lithic artifacts. A total of 11 STPs contained both.

The majority of the artifacts were pre-contact Native American lithic debitage (Table 5.2). Of the 145 pre-contact artifacts present, 94 consisted of angular shatter from the locally-occurring chert. A total of 41 chert flakes were recovered, including 1 primary and 40 secondary flakes. Six fire cracked rock (FCR) indicate a potential hearth or remnant of lithic material extraction. One core was also present, also composed of local chert.

One lithic tool was recovered from Site AV-2. It is a broken or use-worn projectile point refashioned into a hafted scraper. The contracting stem is consistent with Late Archaic and Early Woodland point types (Figure 5.4). Two additional diagnostic artifacts were recovered from the site, both Native American ceramic fragments. One heavily carbonized small sherd is a sand-tempered ceramic with a bright orange paste, possibly Accokeek. The other is a hard fired ceramic with a micaceous paste similar to Moyaone. The pre-contact component is interpreted as a resource extraction site. With the large quantity of debitage present, it would appear that lithic extraction is the primary function, although the overall lack of primary flakes present is inconsistent with quarrying activity. The presence of the springhead makes the location favorable for a hunting camp or the harvesting of plant resources that would be found in that environment.

The historic component of Site AV-2 consists of 23 artifacts from 16 STPs (Table 5.3). Of these, 9 were ceramics of varieties recovered from Site AV-1, lead glazed redware and green feather-edged pearlware, and one was a machine-cut nail. The artifacts were found near the springhead and may represent an outbuilding associated with the domestic occupation at Site AV-1, possibly a springhouse. Three brick fragments and two fragments of mold-blown bottle glass may also be associated as there are no other known structures on the property. Seven artifacts, 6 fragments of barbed wire and a fence staple are associated with the current land use. One piece of 20th century floor tile is an outlier that does not fit in with the assemblage.

Chert shatter94
Chert secondary flake41
Chert Core1
Hafted Scraper1
Early Woodland Ceramic1
Late Woodland Ceramic1
FCR6
Pearlware- Feather-Edged3
Redware- Lead Glazed6
Bottle Glass- Mold Blown2
Brick (not wire cut)3
Floor Tile1
Machine-cut Nail1
Barbed Wire6
Fence Staple1

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: The Ottery Group, Silver Spring, MD

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1077

Permanent Curation Repository:	Artifacts to be returned to landowner
Field Notes:	Yes
Field Notes Repository:	The Ottery Group, Silver Spring, MD
Photographic Media:	Digital
Survey Reports:	Yes
Survey Report Information:	Jay Lunze, Karl Franz, and Lyle Torp (2023) Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia
Survey Report Repository:	VCRIS
DHR Library Reference Number:	No Data
Significance Statement:	Site AV-2 is a large moderately dense scatter of pre-contact Native American lithic artifacts with a light scatter of 18th to 19th century domestic artifacts focused around a springhead. The majority of the lithic artifacts recovered consist of local Beekmantown chert shatter. The site yielded one lithic tool, a nondiagnostic hafted scraper. Two fragments of unidentified pre-contact ceramic were also recovered. The pre-contact component is interpreted as a repeated use during the Woodland period for lithic extraction. The historic materials are likely associated with the more concentrated site AV-1 directly to the north of it and may represent a springhouse or other outbuilding. The ephemeral nature of the site suggests that intact cultural deposits are unlikely. Based upon the presence of Native American tools and ceramics as well as 18th century material culture, a Phase II investigation is recommended to establish the National Register eligibility of the site.
Surveyor's Eligibility Recommendations:	Recommended for Further Survey
Surveyor's NR Criteria Recommendations:	No Data
Surveyor's NR Criteria Considerations:	No Data

Archaeological site data is protected under the Archaeological Resource Protection Act (ARPA 1979).

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Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1078

Snapshot

Date Generated: January 29, 2024

Site Name:	No Data
Site Classification:	Terrestrial, open air
Year(s):	No Data
Site Type(s):	Lithic procurement site
Other DHR ID:	No Data
Temporary Designation:	No Data

Site Evaluation Status

Locational Information

USGS Quad:	WINCHESTER
County/Independent City:	Frederick (County)
Physiographic Province:	Valley and Ridge
Elevation:	820 feet
Aspect:	Facing South
Drainage:	Potomac
Slope:	2-6%
Acreage:	1.670
Landform:	Ridge
Ownership Status:	Private
Government Entity Name:	No Data

Site Components

Component 1

Category:	Industry/Processing/Extraction
Site Type:	Lithic procurement site
Cultural Affiliation:	Native American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Pre-Contact
Start Year:	No Data
End Year:	No Data
Comments:	74 lithics from 35 positive STPs chert shatter (32), chert primary flake (1), chert secondary flake (22), quartzite secondary flake (1), FCR (18) no diagnostic artifacts

Bibliographic Information

Bibliography:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia. Conducted for Winchester Gateway, LLC.

Informant Data:

No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1078

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Jay Lunze- crew chief
Lyle Torp- principal investigator
Karl Franz- archeologist

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: The Ottery Group

Investigator: Lyle Torp

Survey Date: 6/16/2023

Survey Description:

Phase I archeological survey of a 71.85-acre tract conducted prior to development of the property. The property falls within the NR-eligible Kernstown Battlefield (2011 expansion). 1580 STPs were excavated at 15-meter and close intervals. Metal detection was conducted across open portions of the property. 197 positive STPs including 144 with local chert debitage. Five sites were identified during the survey.

Current Land Use	Date of Use	Comments
Pasture	7/21/2023	*No Data*

Threats to Resource: Development, Erosion

Site Conditions: Unknown Portion of Site Destroyed

Survey Strategies: Metal Detection, Subsurface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

Site AV-3 is a large scatter of lithic artifacts measuring 90m-x-110m located in the northeastern part of the project area, extending off the project area into Apple Valley Road (Figure 5.1). A total of 35 positive STPs, 26 baseline STPs and 9 radial STPs together yielded 74 lithic artifacts (Table 5.4). The 2.1 artifacts per positive STP is similar to Site AV-2. No historic period artifacts were present. The artifact assemblage yielded high quantities of chert shatter (n=31) and secondary flakes (n-22), and two primary flakes, one chert and one quartzite. Nearly 25% of the artifacts from the site were FCR. One tested cobble was also found.
None of the artifacts collected from Site AV-3 were temporally diagnostic. Given the presence of rock outcrops on the property, the site function is presumed to be lithic extraction.

Chert shatter31
Chert primary flake1
Chert secondary flake22
Quartzite secondary flake1
Tested Cobble1
FCR18

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: The Ottery Group, Silver Spring, MD

Permanent Curation Repository: Artifacts to be returned to landowner

Field Notes: Yes

Field Notes Repository: The Ottery Group, Silver Spring, MD

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia

Survey Report Repository: VCRIS

DHR Library Reference Number: No Data

Significance Statement: Site AV-3 is a low density scatter of pre-contact lithic material similar to Site AV-2. No tools or diagnostic artifacts were recovered from the site. The site is interpreted as a lithic extraction site with a long duration or repeated use. The site is not considered to meet the criteria as a significant archeological resource and no additional testing is recommended.

Surveyor's Eligibility Recommendations: Recommended Not Eligible

Surveyor's NR Criteria Recommendations: No Data

Surveyor's NR Criteria Considerations: No Data

Archaeological site data is protected under the Archaeological Resource Protection Act (ARPA 1979).

Page: 2 of 2

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1079

Snapshot

Date Generated: January 29, 2024

Site Name:	No Data
Site Classification:	Terrestrial, open air
Year(s):	No Data
Site Type(s):	Lithic scatter
Other DHR ID:	No Data
Temporary Designation:	No Data

Site Evaluation Status

Locational Information

USGS Quad:	WINCHESTER
County/Independent City:	Frederick (County)
Physiographic Province:	Valley and Ridge
Elevation:	785 feet
Aspect:	Facing South
Drainage:	Potomac
Slope:	2-6%
Acreage:	0.140
Landform:	Terrace
Ownership Status:	Private
Government Entity Name:	No Data

Site Components

Component 1

Category:	Industry/Processing/Extraction
Site Type:	Lithic scatter
Cultural Affiliation:	Native American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Pre-Contact
Start Year:	No Data
End Year:	No Data
Comments:	seven artifacts all from local chert recovered from 4 STPs. Artifacts consist of 4 secondary flakes and 3 shatter. Site is located at the edge of a spring.

Bibliographic Information

Bibliography:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia. Conducted for Winchester Gateway, LLC

Informant Data:

No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1079

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Jay Lunze- crew chief
Lyle Torp- principal investigator
Karl Franz- archeologist

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: The Ottery Group

Investigator: Lyle Torp

Survey Date: 6/16/2023

Survey Description:

Phase I archeological survey of a 71.85-acre tract conducted prior to development of the property. The property falls within the NR-eligible Kernstown Battlefield (2011 expansion). 1580 STPs were excavated at 15-meter and close intervals. Metal detection was conducted across open portions of the property. 197 positive STPs including 144 with local chert debitage. Five sites were identified during the survey.

Current Land Use	Date of Use	Comments
Pasture	7/21/2023	overgrown pasture, last used in 2009 based on aerial photos

Threats to Resource: Development, Erosion

Site Conditions: Unknown Portion of Site Destroyed

Survey Strategies: Metal Detection, Subsurface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

Site AV-4 is the smallest of the sites encountered within the project area (Figure 5.1). It measures 15m-x-60m and consists of four consecutive positive STPs. The site yielded 7 lithic artifacts: 3 chert shatter and 4 chert secondary flakes. No temporally artifacts were recovered. No historic period artifacts were present. The site is a nondiagnostic lithic scatter.

Chert Shatter3
Chert Secondary Flake4

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: The Ottery Group, Silver Spring, MD

Permanent Curation Repository: artifacts to be returned to landowner

Field Notes: Yes

Field Notes Repository: The Ottery Group, Silver Spring, MD

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia

Survey Report Repository: VCRIS

DHR Library Reference Number: No Data

Significance Statement: Site AV-4 is a small scatter of pre-contact lithic material consisting of seven artifacts. No tools or diagnostic artifacts were recovered. If the site was not identified in proximity to sites AV-2 and AV-3, no site function would be possible due to the limited size and artifacts. It is likely that the site is a resource extraction site. The site is not considered to meet the National Register criteria for research potential and no additional testing is recommended.

Surveyor's Eligibility Recommendations: Recommended Not Eligible

Surveyor's NR Criteria Recommendations: No Data

Surveyor's NR Criteria Considerations: No Data

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1080

Snapshot

Date Generated: January 29, 2024

Site Name:	No Data
Site Classification:	Terrestrial, open air
Year(s):	No Data
Site Type(s):	Other
Other DHR ID:	No Data
Temporary Designation:	No Data

Site Evaluation Status

Locational Information

USGS Quad:	WINCHESTER
County/Independent City:	Frederick (County)
Physiographic Province:	Valley and Ridge
Elevation:	780 feet
Aspect:	Facing Southeast
Drainage:	Potomac
Slope:	2-6%
Acreage:	0.190
Landform:	Terrace
Ownership Status:	Private
Government Entity Name:	No Data

Site Components

Component 1

Category:	Industry/Processing/Extraction
Site Type:	Other
Cultural Affiliation:	Native American
Cultural Affiliation Detail:	No Data
DHR Time Period:	Pre-Contact
Start Year:	No Data
End Year:	No Data
Comments:	Site AV-5 is a moderate sized scatter of lithic artifacts recovered from the north side of a dammed spring. The site measures 30m-x-90m and contained 13 positive STPs, including 4 baseline and 9 radial STPs. The site yielded 28 lithic artifacts: 15 chert shatter, 6 chert secondary flakes, 5 FCR, 1 tested cobble, and one potential nutting stone. No temporally diagnostic artifacts were recovered. No historic period artifacts were present. The site is interpreted as a resource procurement site. The presence of a nutting stone may indicate the processing of vegetable fibers harvested from the drainage.

Bibliographic Information

Bibliography:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Appel Valley Road Tract, Winchester, Frederick County, Virginia. Conducted for Winchester Gateway, LLC.

Informant Data:

No Data

Archaeological site data is protected under the Archaeological Resource Protection Act (ARPA 1979).

Page: 1 of 2

Virginia Department of Historic Resources
Archaeological Site Record

DHR ID: 44FK1080

CRM Events

Event Type: Survey:Phase I

Project Staff/Notes:

Jay Lunze- crew chief
Lyle Torp- principal investigator
Karl Franz- archeologist

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: The Ottery Group

Investigator: Lyle Torp

Survey Date: 6/16/2023

Survey Description:

Phase I archeological survey of a 71.85-acre tract conducted prior to development of the property. The property falls within the NR-eligible Kernstown Battlefield (2011 expansion). 1580 STPs were excavated at 15-meter and close intervals. Metal detection was conducted across open portions of the property. 197 positive STPs including 144 with local chert debitage. Five sites were identified during the survey.

Current Land Use	Date of Use	Comments
Pasture	7/21/2023	overgrown pasture last used in 2009 based on aerial photos

Threats to Resource: Development, Erosion

Site Conditions: Unknown Portion of Site Destroyed

Survey Strategies: Metal Detection, Subsurface Testing, Historic Map Projection

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

Site AV-5 is a moderate sized scatter of lithic artifacts recovered from the north side of the artificial pond (Figure 5.1). The site measures 30m-x-90m and contained 13 positive STPs, including 4 baseline and 9 radial STPs. The site yielded 28 lithic artifacts: 15 chert shatter, 6 chert secondary flakes, 5 FCR, 1 tested cobble, and one potential nutting stone. No temporally diagnostic artifacts were recovered. No historic period artifacts were present. The site is interpreted as a resource procurement site. The presence of a nutting stone may indicate the processing of vegetable fibers harvested from the drainage.

Chert Shatter15
Chert Secondary Flake6
Nutting Stone1
Tested Cobble1
FCR5

Summary of Specimens Observed, Not Collected:

No Data

Current Curation Repository: The Ottery Group, Silver Spring, MD

Permanent Curation Repository: Artifacts to be returned to landowner

Field Notes: Yes

Field Notes Repository: The Ottery Group, Silver Spring, MD

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Jay Lunze, Karl Franz, and Lyle Torp (2023)
Phase I Archeological Survey of the Apple Valley Road Tract, Winchester, Frederick County, Virginia

Survey Report Repository: VCRIS

DHR Library Reference Number: No Data

Significance Statement: Site AV-5 is a cluster of pre-contact lithic artifacts found on the north of the cattle pond, and along the original spring running through the property. The site contained a moderate density of artifacts, none of which are chronologically diagnostic. The artifact assemblage is consistent with the other Native American sites within the project area. The only anomalous artifact was a possible nutting stone, which suggests that the site may be more than a short-term resource extraction camp. The site is not considered to be a significant archeological resource and no additional testing is recommended.

Surveyor's Eligibility Recommendations: Recommended Not Eligible

Surveyor's NR Criteria Recommendations: No Data

Surveyor's NR Criteria Considerations: No Data

Appendix C:

Qualifications of Investigators

LYLE C. TORP, RPA
Managing Director

Lyle C. Torp consults on issues related to compliance with Section 106 of the National Historic Preservation Act (NHPA), directs the preparation of environmental assessments under the National Environmental Policy Act (NEPA), and performs a variety of services related to archeological and historical assessments and historic preservation planning. He has extensive experience performing all phase of cultural resource investigations, and has served as Principal Investigator on numerous compliance-related projects throughout the country. Mr. Torp is fully-qualified under the Secretary of the Interior's Standards for Archeology and Historic Preservation at 36 CFR 61, and is certified in archeology by the RPA. Mr. Torp is a past President of the Council for Maryland Archeology (CfMA), and has served two terms on the Board of Directors for the American Cultural Resources Association (ACRA). Since 1998, Mr. Torp has directed the operations of a consulting firm with a staff of cultural resource and environmental professionals. In this capacity he has augmented his prior work experience in conducting ESAs, natural resource planning, and other environmental services with a diverse professional staff serving clients throughout the United States. Lyle is an Instructor in the Cultural Heritage Resource Management (CHRM) Program at the University of Maryland.

KARL FRANZ, RA
Archeologist

Karl Franz is an Archeologist with The Ottery Group. He is certified in archeology by the RPA. He holds a bachelors degree from Saint Mary's College of Maryland (1991). Mr. Franz has been an archeologist in the Middle Atlantic region 35 years, with experience in all levels of effort at historic and pre-contact Native American sites in 20 states, with a focus in the Mid-Atlantic and Northeast Regions of the United States. He has directed archeological projects for a variety of public, private, and government clients for purposes that range from compliance-driven to academic research studies and is equally proficient in pre-contact Native American and historical period site excavation and interpretation. In addition to project management and laboratory direction duties, Mr. Franz has authored over 200 cultural resources technical reports in his career. He has been employed by the Ottery Group for the last 19 years.

JAY LUNZE, MA
Crew Chief

Jay Lunze is an Archeologist with The Ottery Group. She holds a masters degree in maritime archeology from the University of Southern Denmark (2011). Ms. Lunze has 20 years of experience in the fields of archaeology, museum studies, and heritage management. She has worked as a museum educator and docent at the Jamestown Yorktown Foundation as well as a docent and security guard at the Virginia Museum of Fine Art. Throughout this time, she contributed to the publication of the transcribed and annotated journal of George Washington's journey to Barbados. Since 2018, she has been active in CRM field archaeology in the Mid-Atlantic.

Impact Analysis Statement
Blackburn Rezoning

Back Creek Magisterial District
Parcel ID 63-(A)-801
Total Area: 128.82 acres

March 7, 2015

Owner:
Blackburn Limited Partnership
Winchester, VA 22603

Prepared by

Stowe Engineering, PLC
220 Serviceberry Court
Stephens City, VA 22655

IMPACT ANALYSIS STATEMENT
Blackburn Limited Partnership Rezoning

Introduction

Blackburn Limited Partnership is requesting a rezoning of 92.066 acres of a 128.82 acre parcel in Frederick County. The property is owned by the partnership. The property is located between Route 37 south of Winchester and Apple Valley Road. The site is bordered on the north by Middle Road and on the south by the Coca-Cola Business Park. The site has previously been used for agricultural purposes but has remained vacant in recent years. The applicants are seeking a change in zoning for the 92.066 acres from RA to M-1.

The property is currently an open field. Multiple underground and overhead utilities run along the perimeter of the property. Stormwater drains generally towards the east to multiple culverts that pass under Apple Valley Road.

The Frederick County Comprehensive Plan's 2030 Long Range Land Use map shows this property is planned for industrial use. The requested M-1 zoning is consistent with this planned use. Light manufacturing and warehousing businesses are planned for the site. The site will be graded, landscaped, and roads installed that will meet current County specifications. The existing entrance onto Apple Valley Road will be used to access the site from the east, and a new entrance will be constructed on the south by extending Dawson Drive on county owned right of way. Inter-parcel connectors will be utilized where practical and possible.

Site Suitability

100 Year Flood Plains - The site is not located within or near any 100 year flood plains per FEMA Flood Map No. 51069C0214D.

Wetlands – Based on a review of the National Wetland Inventory mapping and field studies performed by Greenway Engineering, wetlands are known to exist on the site. These wetlands will be quantified and mapped to obtain the US Army Corps of Engineers concurrence as to their locations and extents. Development in wetlands areas will be avoided or mitigated in accordance with Corps of Engineers and Virginia DEQ requirements.

Steep Slopes – This site is fairly flat. The only steep slopes are on the back side of the dam at the pond.

Mature Woodlands – There is a six acre +/- area of mature woodlands at the south end of the property that will be disturbed.

Prime Agricultural Soils – Based on data from the USDA Web Soil Survey there are 90.3 acres of Prime Farmland on the site and 21.7 acres of farmland of statewide importance. Efforts will be made to preserve these lands in the wetlands and inactive zoning buffer areas.

Soil or Bedrock Conditions which would create Construction Difficulties or Hazards – A review of the USDA Web Soil Survey indicates that the depth to bedrock for 107+ acres of the site is over 3 feet. Where rock is encountered in excavation areas it will be removed by mechanical means or blasting.

Surrounding Properties

The subject property is surrounded by:

- Route 37 to the west. On the opposite side of Route 37 is agricultural land.
- A Christmas tree farm to the north.
- The Coca-Cola Business Park to the south with warehouses adjacent to this property.
- To the east is Apple Valley Road, and on the opposite side of the road is Fellowship Bible Church, 18 single family residences, and the Kernstown Battlefield.

The distance from the property line to the homes on the east side of Apple Valley Road is 80 feet or more. Due to the wetlands, existing underground utilities, and the Frederick County zoning buffer requirements, noise or glare impacts on the neighbors is expected to be minimal, if any. The planned uses are not generators of loud noises, fumes or pollution.

Traffic

A Traffic Impact Study has been prepared by Stowe Engineering. The study shows that Route 11 will serve as the primary artery between I-81/Route 37 and the site. Route 11 currently operates at a poor level of service and additional growth will exasperate this condition. The developer is proffering to participate financially to improve mobility to the area.

Sewage Conveyance and Treatment

The site is located inside of the Frederick County Sewer and Water Service Area. An existing 12" sewer force main is located along the full length of the eastern property line, parallel to Apple Valley Road. To the south of the site there is a 15" gravity sewer main. Both lines flow to the Parkins Mill Wastewater Treatment Plant which is sized to treat 5 million gallons a day. The FCSA has advised that there is adequate capacity in the wastewater system for the proposed uses.

Water Supply

The site is located inside of the Frederick County Sewer and Water Service Area. An existing 20" water main is located along the full length of the eastern property line, parallel to Apple Valley Road. The FCSA has advised that there is adequate capacity and pressure in the water system for the proposed uses.

Drainage

Drainage from the site flows to the east and ultimately through multiple culverts under Apple Valley Road. Much of the site drainage is currently collected in a large on-site pond. Preliminary plans call for the pond to be preserved.

Post-development drainage from the developed areas will be routed through stormwater management facilities to control the quantity and quality of stormwater leaving the site.

Solid Waste

Collection of solid waste will occur through the use of on-site dumpsters and private haulers. The Civil Engineering Reference Manual, 4th edition, uses a solid waste generation rate of 5.4 cubic yards per 1,000 square feet of floor area. Applying this rate, 850,000 sf development will generate 4,590 cubic yards of solid waste per year. The solid waste will be transferred to the Frederick County Landfill Facility by private licensed commercial carriers.

Historical Site and Structures

The site is located on grounds where the 1st and 2nd Battles of Kernstown occurred. A review of the battlefield maps for each battle shows the following:

- *1st Kernstown* – While there was troop movement across the subject property, the battle map shows the fighting occurred north of Middle Road and east of Apple Valley Road.
- *2nd Kernstown* – Again, the battlefield map shows troop movements across the subject site with the fighting occurring east of Apple Valley Road and north of Middle Road.

Consultation with Gary Crawford, President of the Kernstown Battlefield Association, corroborated this interpretation of the battlefield maps.

Impact on Community Facilities

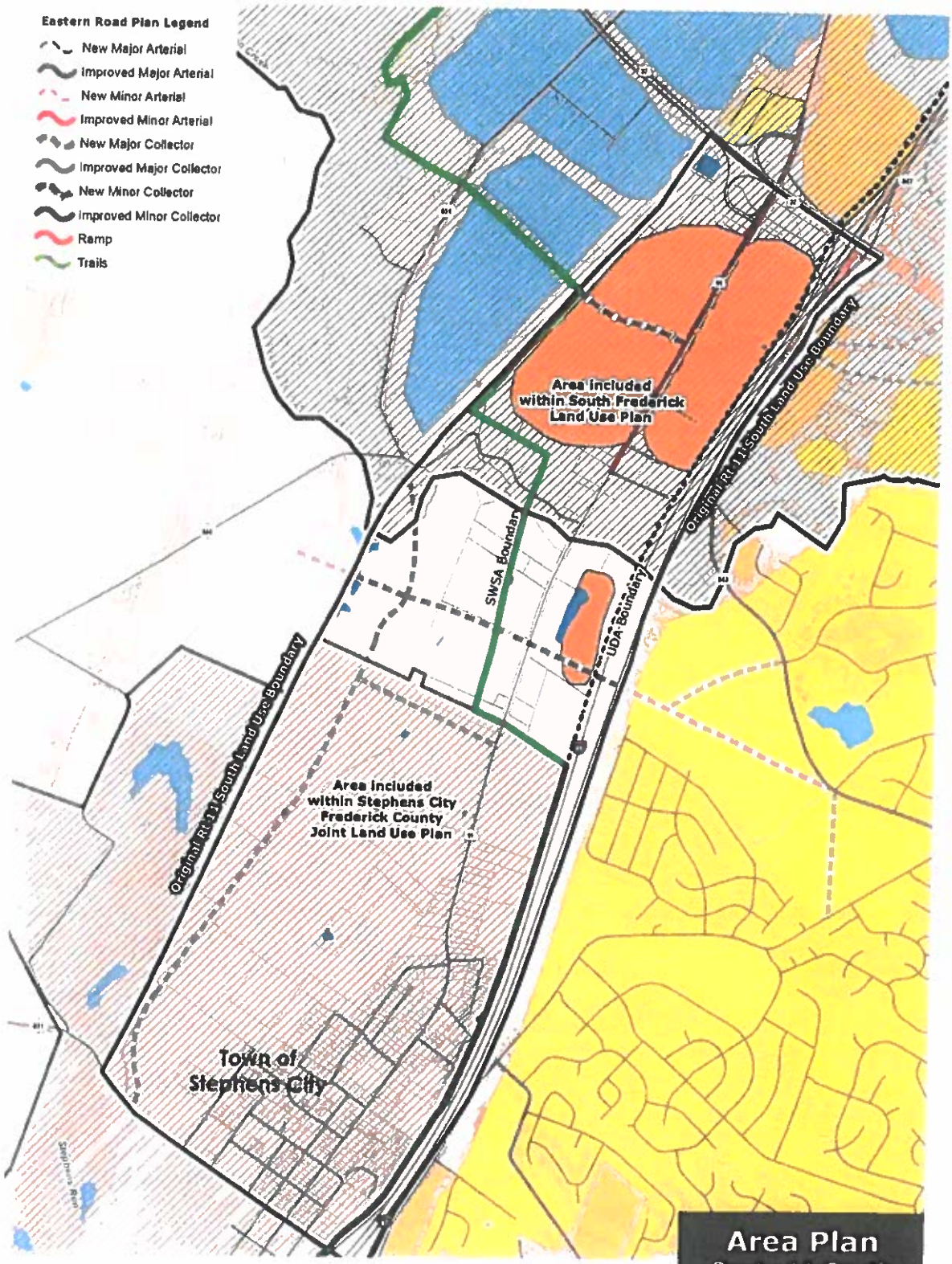
Educational Facilities – This project will add no children to the school system.

Emergency Services – Police protection will be provided by the Frederic County Sheriff Department. The property is located in the first response area for the Stephens City Fire and Rescue station. Response times from the station to the site are reasonable.

Parks and Recreation – This project will not add to the population of Frederick County and therefore will not increase the demand for Parks and Recreational services.

Libraries - This project will not add to the population of Frederick County and therefore will not increase the demand for library services.

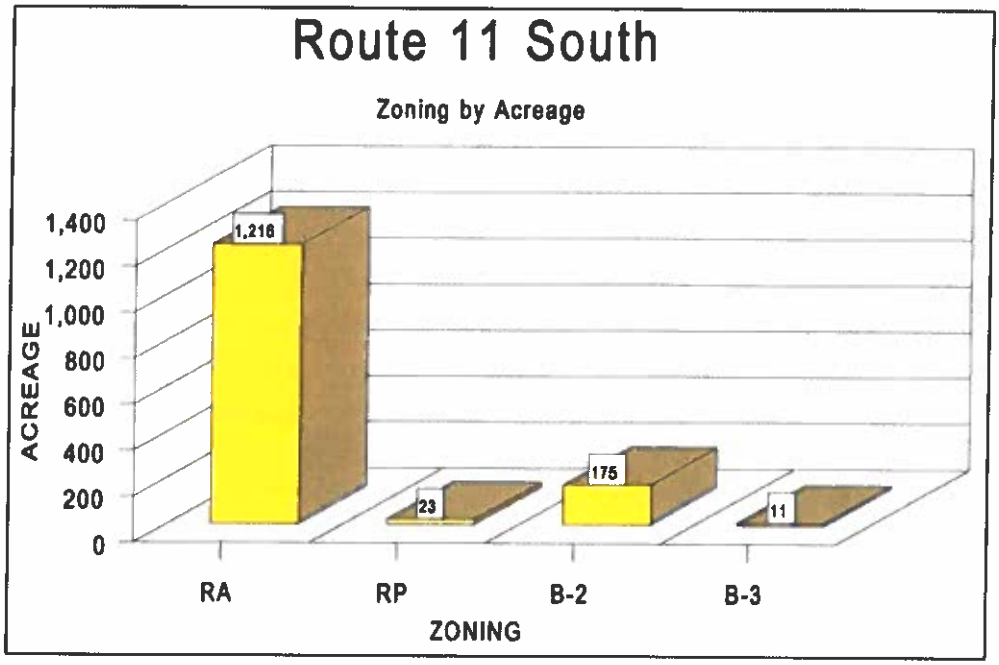
Local Government – The Frederick County Impact Model will be used to determine the level of impact this project will have on the local government.


Eastern Road Plan Legend
New Major Arterial
Improved Major Arterial
New Minor Arterial
Improved Minor Arterial
New Major Collector
Improved Major Collector
New Minor Collector
Improved Minor Collector
Ramp
Trails
Area included within South Frederick Land Use Plan
Original Rt 11 South Land Use Boundary
SWSA Boundary
UDA Boundary
Original Rt 11 South Land Use Boundary
Area included within Stephens City Frederick County Joint Land Use Plan
Town of Stephens City
Area Plan
Route 11 South
Land Use Plan
Urban Development Area
Sewer and Water Service Area
Future Rt 37 Bypass
Land Use Legend
Business
Mixed-Use
Mixed Use Commercial \ Office
Highway Commercial
Industrial
Warehouse
Heavy Industrial
Mixed Use Industrial \ Office
Extractive Mining
Residential
Planned Unit Development
Mixed Use Age Restricted
Urban Center
Neighborhood Village
Commercial Recreation
Recreation
Natural Resources & Recreation
Park
DSA - Historic Resources & Recreation
Fire & Rescue
Institutional
School
Rural Community Center
2030 Comprehensive Policy Plan Map
Approved: July 14th, 2011
0 0.1 0.2 0.4 Miles

ROUTE 11 SOUTH CORRIDOR LAND USE PLAN

The Route 11 South corridor study area encompasses approximately 1,500 acres. The corridor is roughly three miles in length and runs from Route 37 South to, and including, the northern edge of Stephens City. Interstate 81 forms the eastern terminus of the study area with the Baltimore and Ohio railroad tracks composing the western boundary. The majority of land within this study area (roughly 1,200 acres) is currently zoned Rural Areas (RA). There are about 175 acres of Business General (B-2) zoning within the corridor, all of which is situated north of Bartonsville. There are also 23 acres of Residential Performance (RP) zoning and 11 acres zoned Industrial Transition (B-3).

Figure 7: Route 11 South Zoning



Perhaps the most outstanding feature of the Route 11 South study area is the relatively pristine state of the southern portion of the corridor. The land from Bartonsville south to the Stephens City limits is relatively undeveloped. The majority of this segment of the study area (approximately 475 acres) is currently either used for agriculture or is vacant. Only two, small-scale commercial enterprises are situated in this portion of the corridor.

Based upon the counts taken in 1989 by the Winchester Area Transportation Study, 9,140 vehicles traveled on Route 11 South between the intersection of Route 37 and the Stephens City corporate line. Traffic is heaviest during the evening, reaching a peak of 843 vehicles. The majority of this traffic during this time is traveling southbound. This segment is identified by the Winchester Area Transportation study as deficient due to inadequate shoulder width.

LAND USE PLAN

The Route 11 South corridor plan calls for business/office uses along the majority of the corridor with the exception of the area in and around Bartonsville, which is shown as the site of a future Historic District. The southwestern portion of the study area, adjacent to Stephens City, contains a continuation of the residential development within the Town. Future land use along the western edge of the corridor is shown as industrial/office. This designation would take advantage of the rail frontage to promote economic development in the area.

One of the significant elements of this plan is the buffering of Route 11 South. The southern section of the corridor from Stephens City, north to Bartonsville is intended to be set apart from the existing commercial development along the northern third of the corridor. The intent is that, through a combination of setbacks, vegetative screening, planting of shade trees along the edge of the right-of-way, and the provision of bike way and pedestrian access, the corridor would have a parkway-like appearance. A planted median strip is also envisioned when this section of Route 11 South becomes four lane. Uses locating within this section of the corridor would be expected to have no direct access to Route 11 South, but rather would access a proposed east-west connector road which in turn would intersect Route 11 South.

The plan shows two collector roads which would connect the proposed future commercial development areas with Route 11 South and Fairfax Street, west of Stephens City, and ultimately, with Route 642, on the east side of interstate 81. These roads would effectively create a bypass of the northern portion of Stephens City, providing an alternate means of traveling east-west or north-south without having to pass through the traffic light at the intersection of Routes 11 South and 277 (Fairfax Street). A similar arrangement should be planned for the southwestern quadrant of Stephens City to create a full bypass for north-south travel, further alleviating pressure on the Fairfax/Route 11 intersection.

The plan calls for the formation of a Historical District around the Bartonsville area. Current County regulations stipulate that the formation of a Historic District must be done with the landowner's consent, although a proposal for a Historic District can be made by the County's Historic Resources Advisory Board. In addition to its historical significance, much of the Bartonsville area is also within the 100 year flood plain and would therefore be otherwise limited in terms of development potential.

It is intended that as much as possible, the view from Route 11 South be screened. This could be achieved by requiring uses which locate within this area to use the east-west connector road as a means of access to Route 11 South rather than having individual entrances directly onto Route 11 South. Extensive screening and setbacks should also be required adjacent to Route 11 South.

Figure 8: Route 11 South Corridor Four Lanes with Buffers and Setbacks

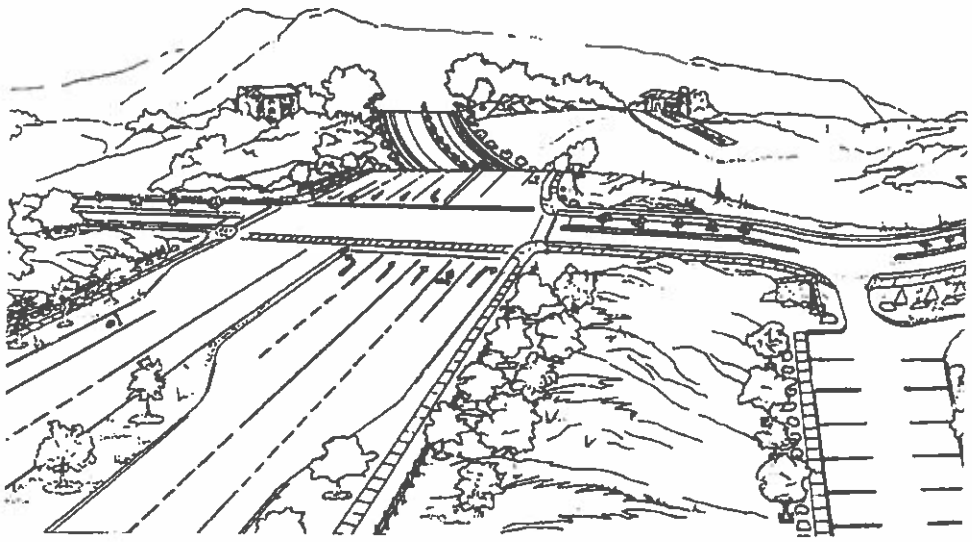


Figure 9:

Methods to be Used to Preserve the Appearance of the Route 11 Corridor

- Save existing stone fence rows and mature trees wherever possible by incorporating them into site designs.
- Utilize native species in plantings for buffers and landscaping along Route 11 and establish mechanisms to insure that the plantings are properly maintained.
- Incorporate interconnected bike and pedestrian travel ways into site design.
- Utilize traditional board fencing along Route 11 and within developments as appropriate.
- Limit or prohibit the use of off-site signs along the corridor. Encourage the use of monument style signs.
- Prohibit individual site entrances and parking lots along the frontage of Route 11.

CIVIL WAR SITES IN THE SHENANDOAH VALLEY OF VIRGINIA

PART THREE
SHENANDOAH VALLEY BATTLEFIELDS

Part Three addresses each of the battlefields in chronological order, summarizing the battle's statistics, size, and significance. The battle action is described in phases. Important events are linked with features that can be located on the ground. The current condition of the battlefield is assessed in narrative form, and perceived threats to the sites are summarized in detail. Also included for each site is a list of features that were mentioned in battle accounts, including place names, topographical features, standing structures and buildings, ruins, sites of lost features, and archeological sites. The battle phases are keyed roughly to the numbers on the battlefield integrity maps.

FIRST KERNSTOWN (23 MARCH 1862)

County: Frederick, VA and City of Winchester.

General Location: West of US 11 (Valley Pike) and N. of Hoge Run; Rte. 37 (4-lane bypass) bisects the area of heaviest fighting along Sand Ridge.

Size of Study/Core Areas: 4,029/1,554 acres

GIS Integrity of Study/Core Areas: 56/71 percent; Fair/Fair

Field Assessment of Study Area Integrity: Fair

USGS Quadrants: Winchester, Stephens City

Campaign: Jackson's Valley Campaign

Principal Commanders: *[c]* Maj. Gen. Thomas J. Jackson; *[u]* Col. Nathan Kimball, commanding Brig. Gen. James Shields' division.

Forces Engaged: *[c]* Jackson's infantry division of three brigades (Garnett, Burks, and Fulkerson), 27 guns, and a cavalry contingent under Col. Turner Ashby; total strength did not exceed about 3,600-3,800, of which most were engaged; *[u]* One infantry division of three brigades (Kimball, Sullivan, and Tyler), 24 guns, and 16 companies of cavalry under Broadhead; total force between 8,500 and 9,000, three-fourths of which were brought into action.

Casualties: *[c]* 718 (80k/375w/263mc); *[u]* 590 (118k/450w/22mc).

Significance: This battle is considered by many historians as the opening conflict of the famous Valley Campaign of 1862. It was the only battle recorded as "lost" by Stonewall Jackson, but in many ways he gained as much by losing as by winning. After the battle, President Lincoln was disturbed by Jackson's potential threat to Washington and redirected more than 35,000 men to defend approaches from the Valley before the campaign was finished. Maj. Gen. George B. McClellan's army was deprived of these reinforcements, which he claimed would have enabled him to take Richmond during his Peninsular campaign. Because of this redeployment of Federal troops, First Kernstown is considered one of the decisive engagements of 1862.

DESCRIPTION OF THE BATTLE

Prelude: Acting on faulty intelligence that suggested that his small army outnumbered the Federal forces at Winchester, Maj. Gen. Thomas J. Jackson moved to strike his opponents and prevent US reinforcements from leaving the Valley to aid McClellan's army on the Peninsula. The division of Brig. Gen. James Shields in fact outnumbered Jackson more than two-to-one. On the afternoon of 22 March, Ashby's cavalry and horse artillery skirmished with US forces near Kernstown. General Shields was wounded in this affair, his arm broken by a shell fragment, and divisional command devolved to Col. Nathan Kimball.

Phase One. Skirmishing at Kernstown: At dawn Kimball moved against Ashby's advance on the Valley Pike north of Kernstown. Sullivan's and a portion of Kimball's US brigades advanced, straddling the pike, and pushed Ashby south of Hoge's Run, taking possession of Pritchard's Hill. Ashby's troopers formed a new defensive line, which was later supported by infantry and maintained throughout the battle. Jenks' US battery unlimbered on Pritchard's Hill and responded to Ashby's artillery in position near the Opequon Church. About 1100 hours, Jackson's infantry began to concentrate south of Kernstown. It was soon evident to Kimball that Jackson's army was arriving on the field. Kimball consolidated his position and awaited reinforcements.

Phase Two. CS Flank Movement: By 1400 hours, Jackson's infantry was on the field, massed south of Kernstown. Jackson launched a feint toward Kimball's main position along the Pike with a portion of Burks' brigade, but this was to disguise a flanking movement to his left along Sand Ridge. Jackson directed Fulkerson's and Garnett's brigades to the ridge, leaving Burks to support Ashby. Confederate artillery (3 batteries) were positioned on the eastern face of the ridge and engaged US batteries on Pritchard's Hill. Fulkerson advanced on the left, seizing an east-west stone fence on the Glass farm under fire. Garnett came up on Fulkerson's right, extending the CS battle line from Opequon Creek east across the front of the ridge, then bending back south to cover the artillery. A regiment was deployed across the Middle Road to maintain a connection between the CS flanks. Recognizing the threat to his right, Kimball moved Tyler's brigade forward from its reserve position near the toll gate at the intersection of the Valley Pike and Cedar Creek Grade to confront Fulkerson and Garnett. As the artillery duel continued, skirmishers closed and the fighting began to heat up.

Phase Three. US Assault on Sand Ridge: At 1600 hours, Tyler deployed his five regiments (about 3,000 men) and attacked the CS position on Sand Ridge, supported by his batteries on Pritchard's Hill and a small cavalry force on his far right flank. Several attempts to turn the CS left flank were repulsed with heavy casualties. Tyler now focused his attention on the CS center on the crest of the ridge. Recognizing that Ashby's activity on the Valley Pike was a demonstration only, Colonel Kimball marched his brigade and part of Sullivan's (about 3,000) to the right, joining with Tyler to assault the CS center and right on Sand Ridge. Garnett's outnumbered brigade lacked the protection of a stone fence like Fulkerson's and soon began to fall back. Jackson dispatched two regiments to the support of Garnett but before they arrived, Garnett ordered a withdrawal, believing his position untenable. This movement opened Fulkerson's right flank to a heavy fire and he too retired. The retreat soon became badly disorganized. The CS artillery kept US forces in the open ground east of Sand Ridge at bay, firing canister, but no fire could be brought to bear along the wooded ridge itself. The Union advance along the crest forced the guns to retire.

Phase Four. Rear Guard Action: Jackson deployed two regiments (5VA and 42VA) across the ridge to slow the US advance. Several regiment-sized attacks were repulsed, and for a brief time fighting was fierce and hand-to-hand. According to Henderson, colors of the 5th Ohio changed hands six times. A body of US cavalry advanced south along the road (rte. 621), but were checked by Funston's cavalry. Darkness ended the fighting.

Phase Five. CS Retreat: Jackson withdrew along "Stone Lane" past the Magill House and south along the Valley Pike. Ashby remained with the cavalry at Bartonsville, while the infantry went on to Newtown (Stephens City). Jackson slept in the corner of a rail fence near Bartonsville. US forces did not pursue.

CURRENT CONDITION OF THE BATTLEFIELD

The core area of the battlefield where the major Union attacks occurred is bisected by the four-lane rte. 37 bypass, but the western and eastern portions of the field are in relatively pristine condition. The western portion, scene of the most intense fighting, is the Glass property, site of the 1840s Glass House (in the same family). The property preserves all of the original land contours and remnants of stone fences that figured prominently in the battle. Part of the property is farmed as it was during the Civil War, but the woodland along Sand Ridge is more extensive now than at the time of the battle. To the east is Pritchard's Hill and the Pritchard-Grim property. Pritchard's Hill served as a Union artillery strongpoint during First Kernstown and was the center of fighting for Second Kernstown. This property from rte. 628 to the historic Opequon Church and north of rte. 652 is also in very good condition. The area of skirmishing on the morning of the battle along the Valley Pike (US 11) has been claimed by industrial, commercial, and residential developments and is lost. Little remains of the original hamlet of Kernstown other than Hoge's Ordinary, which has been renovated into office space. The area where the rear guard action was fought on Sand Ridge is occupied by a housing development. The importance of this ground is enhanced by its significance in two major Shenandoah Valley campaigns.

PERCEPTION OF THREATS TO BATTLEFIELD

Land east of US 11 along the railroad tracks has been developed for a large-scale industrial/business park. Route 11 is zoned commercial/industrial and has been densely developed from south of Kernstown to the Winchester city limits, causing concern over potential development plans west of US 11. A county planning official noted, however, that watershed and ground water considerations make development in the Pritchard's Hill and Sand Ridge areas less desirable. These factors would need to be considered before any development plans would be approved. Residential development is encroaching on the northern part of Pritchard's Hill. For the present, a large portion of this land remains in private ownership and has been altered little since the Civil War. The Glass property has been placed in the Glen Burnie Trust and Pritchard-Grim farm and adjacent portions of Pritchard's Hill are owned by the Charles Hardy Grim Estate.

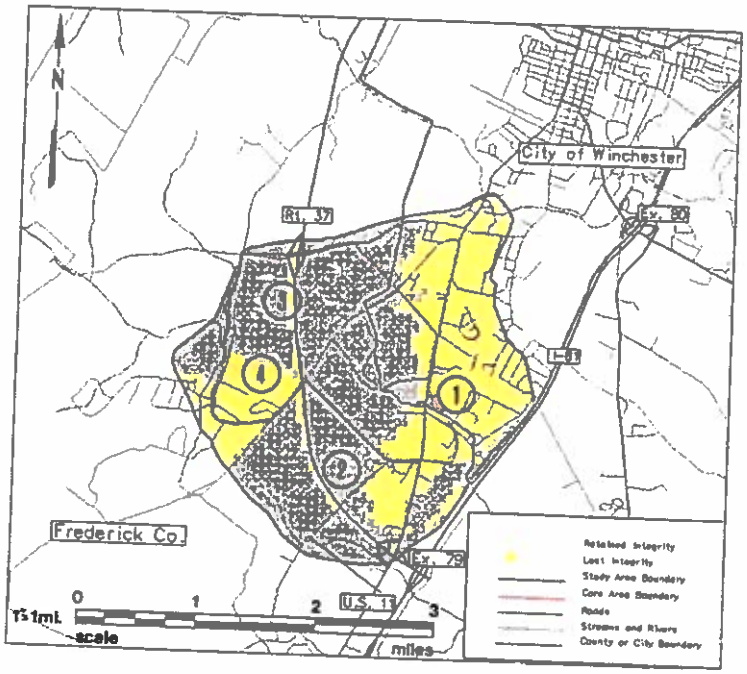
IDENTIFIED SITES AND FEATURES ASSOCIATED WITH THE BATTLEFIELD (UNSURVEYED*)

Bartonsville Mill
Cedar Creek Grade
Front Royal Road
Glass House
Hoge's Ordinary
Hoge's Run
Kernstown
Magill House*
Middle Road
Old Town Winchester
Opequon Church and Cemetery
Pritchard House
Pritchard's Hill
Sand Ridge
Springdale
Stone Lane
Stone Walls
Toll Gate (site of)
Valley Pike

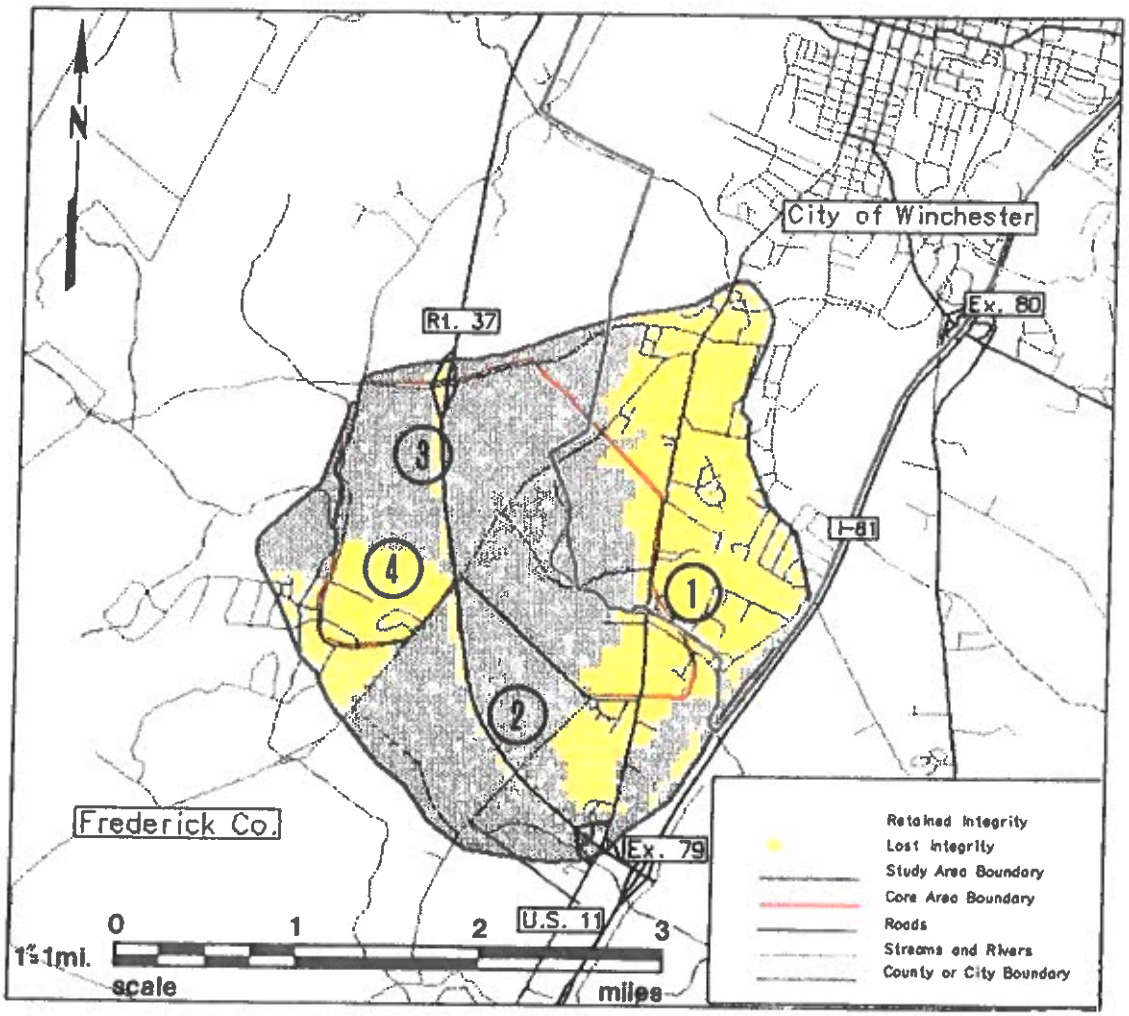
	Study Area		Core Area	
	Acres	Percent	Acres	Percent
LAND USE / LAND COVER				
Built-up Land	1,782.85	44.25	454.48	29.25
Agricultural Land	2,091.88	51.92	965.69	62.15
Forest Land	154.31	3.83	133.63	8.60
Total	4,029.04	100.00	1,553.80	100.00
GIS ASSESSMENT OF INTEGRITY				
Retained Integrity	2,245.39	55.73	1,097.29	70.62
Lost Integrity	1,783.66	44.27	61.39	29.38
Level of Integrity	Fair		Fair	

TABLE 1

1991 LAND USE / LAND COVER
FIRST KERNSTOWN BATTLEFIELD



MAP 13: FIRST KERNSTOWN INTEGRITY – 1991 (Numbers keyed to battle phases)


N
City of Winchester
Rt. 37
Ex. 80
I-81
3
4
1
2
Frederick Co.
Ex. 79
U.S. 11
0
1
2
3
1"=1mi.
scale
miles
Retained Integrity
Lost Integrity
Study Area Boundary
Core Area Boundary
Roads
Streams and Rivers
County or City Boundary

SECOND KERNSTOWN (24 JULY 1864)

County: Frederick, VA and City of Winchester

General Location: US 11 (Valley Pike) and Hoge Run; Old Opequon Church is approximate center of the field; Pritchard's Hill.

Size of Study/Core Areas: 5,861/2,203 acres

GIS Integrity of Study/Core Areas: 50/52 percent; Poor/Fair

Field Assessment of Study Area Integrity: Poor

USGS Quadrants: Winchester, Stephens City

Campaign: Early's Maryland Campaign

Principal Commanders: *[c]* Lt. Gen. Jubal Early; *[u]* Brig. Gen. George Crook.

Forces Engaged: *[c]* Four infantry divisions (Gordon, Rodes, Ramseur, and Breckinridge/Wharton), four brigades of cavalry, and artillery, totalling about 13,000; *[u]* Three infantry divisions (Thoburn, Duval, and Mulligan), two cavalry divisions (Averell and Duffié), and three batteries of artillery, numbering about 10,000.

Casualties: *[c]* unreported, est. 600 (100k/500w); *[u]* about 1,200 (120k/600w/480m&c).

Significance: In late June and early July 1864, Lt. Gen. Jubal A. Early's Confederate army used the strategic Shenandoah Valley corridor to terrorize Maryland, defeat a Union army at Monocacy, and march on Washington, D.C. Only the diversion of reinforcements from the Army of the Potomac, bogged down in the trenches before Petersburg, turned back the invasion. Early returned to the Valley and achieved a decisive victory over George Crook's command at Second Kernstown on 24 July. He subsequently sent cavalry to burn Chambersburg, Pennsylvania on 30 July. These disasters forced Lt. Gen. U.S. Grant to take immediate action to solve the Valley problem. The VI Corps and elements of the XIX Corps were returned to the Valley and united with Crook's corps (called the Army of West Virginia). Additional cavalry units were diverted to the Valley. More importantly, Grant unified the various military districts of the region into the Middle Military District and appointed Maj. Gen. Philip Sheridan as overall commander. Sheridan took command of the newly christened Army of the Shenandoah on 7 August at Harpers Ferry. Sheridan's leadership and his strongly reinforced army turned the tide against Confederate power in the Shenandoah Valley.

Rutherford B. Hayes, later president of the United States, commanded a brigade during the battle on the left of the US line. John C. Breckinridge, former senator and vice president of the United States, commanded the Confederate division that confronted Hayes.

DESCRIPTION OF THE BATTLE

Phase One. Skirmishing at Kernstown (23 July): On the afternoon of 23 July 1864, CS cavalry advanced aggressively down the Valley Pike, driving US cavalry from Newtown (Stephens City) to Kernstown. Brig. Gen. George Crook directed Duval's infantry division to deploy across the pike and clear the town of Confederates, which they did with little difficulty. Crook then withdrew his infantry to Winchester behind Abrams Creek, leaving a brigade of cavalry to picket Kernstown. The CS army encamped in the vicinity of Strasburg with headquarters at the Kendricks' House: Ramseur at Capon Grade, Rodes at Fisher's Mill, Wharton and Gordon on Hupp's Hill. The CS cavalry withdrew to the vicinity of Newtown.

Phase Two. Advance of CS Infantry (24 July): At first light, the CS infantry left their encampments near Strasburg and advanced down the Valley Pike. At Bartonsville, Ramseur's division was directed west on side roads to the Middle Road. Gordon, Wharton, and Rodes continued ahead on the pike. Early sent two columns of cavalry to the east and west on a wide-ranging maneuver to converge on Winchester and the Federal rear. Cavalry led the advance down the pike, coming up against the main US force at Kernstown about 1000 hours. About noon, the vanguard of the CS infantry reached Kernstown. Gordon deployed to the left of the Valley Pike, Wharton to the right. Ramseur deployed across the Middle Road at Mrs. Massie's house. Rodes moved east from the Pike, following a ravine.

Phase Three. US Deployment on Pritchard's Hill: Crook received information that Early's army was approaching and brought two of his three divisions into line just north of Hoge's Run at Kernstown. Mulligan's division held the US center behind a stone fence at the Pritchard House, supported by Capt. Henry DuPont's artillery massed on Pritchard's Hill to his rear. Duval's two brigades were separated and posted on Mulligan's flanks with Hayes' brigade extending the US line east of the Valley Pike. A strong skirmish line was posted near Opequon Church. Thoburn's division was held in reserve on Pritchard's Hill to the right rear of the main US line. Cavalry protected both flanks.

Phase Four. CS Attack on Center: About noon, Gordon's division advanced in line west of the pike, driving back the skirmishers and closing with the main US line in the vicinity of Opequon Church. Mulligan's division counter-attacked, supported by Hayes on his left and took possession of the churchyard. Soldiers sheltered there from the intense firing behind stone fences and headstones in the cemetery. Gordon regrouped and again advanced, compelling Mulligan to fall back 250 yards to the stone fence along Pritchard's Lane. Gordon reached Opequon Church but could make no further headway. CS artillery was brought up south of the church to engage US artillery on Pritchard's Hill. One of Wharton's brigades came into line on Gordon's right. Crook repositioned his forces. Duval's right flank brigade was moved west, astride Middle Road. Thoburn's division was brought forward to fill the gap between Mulligan and Duval. Elements of Duffié's cavalry supported the right flank on the Middle Road and picketed Cedar Creek Grade to the west.

Phase Five. CS Attack on Left: Ramseur's division came into line from the Middle Road on Gordon's left and advanced. Gordon shifted a brigade to the open ground west of Opequon Church and advanced against Thoburn in conjunction with Ramseur. Without orders Gordon's brigade attacked and dislodged US troops sheltering behind two stone fences. Thoburn withdrew to the base of Pritchard's Hill, bending his line back to the north and exposing Mulligan's right flank. Ramseur advanced in force, wheeling right to confront Thoburn's line and bringing a heavy enfilade fire against Mulligan's line.

Phase Six. CS Attack on Right: Wharton's division moved along the ridge east of the Pike to threaten the US left flank held by Hayes. Elements of Averell's cavalry division were in position to delay this maneuver but withdrew without engaging. In conjunction with Ramseur's advance on the CS left, Wharton attacked about 1500 hours and quickly turned the US left. Hayes retreated to the stone walls that lined the Valley Pike and rallied his brigade, facing east at right angles to the center held by Mulligan.

Phase Seven. US Retreat: Three CS divisions now moved in concert to envelope the US center. Mulligan's division was under fire from three directions. While trying to direct the defense, Mulligan himself was pierced by five mini* balls and fell mortally wounded. "Lay me down and save the colors!" he snapped at the officers who tried to assist him. The US center collapsed, and soldiers began streaming to the rear. Hayes' brigade stood long enough on the crest of Pritchard's Hill to allow the US artillery to escape. Elements of Duffié's cavalry made a brief counter-attack along the Middle Road, buying time for Thoburn's division to retire in relatively good order.

Phase Eight. Rear Guard Actions: A brigade of Thoburn's division made a stand near the toll gate at the intersection of the Valley Pike and Cedar Creek Grade, while the rest of Crook's infantry retreated through the streets of Winchester. Rodes' division, in the meantime, crossed from the Valley Pike to the Front Royal Road and marched north to cut off the Federal retreat, meeting only light opposition from the US cavalry. Rodes followed the Federal forces north to Stephenson's Depot, taking hundreds of prisoners until darkness ended the pursuit. The CS cavalry did not advance as Early expected. The disorganized Federal army retreated to Bunker Hill where it regrouped. Crook continued the retreat before dawn and eventually reached the Potomac River on 27 July. For a few days after the battle, Federal prisoners were held in Star Fort.

CURRENT CONDITION OF THE BATTLEFIELD

The core of the battlefield, the US center and goal of decisive CS assaults, is Pritchard's Hill and the Pritchard Farm, owned by the Charles Hardy Grim Estate. The "Pritchard-Grim" property (roughly from rte. 652 to Pritchard's Hill and from rte. 628 to the historic Opequon Church, about 200 acres) is agricultural land that retains a marked similarity to its Civil War appearance. The property features a fine brick antebellum structure (Pritchard House), a frame tenant house, and several

outbuildings that date from the time of the battle. Col. James Mulligan, commander of the Union center, was wounded in front of and died in the Pritchard House two days after the battle. The stone fence defended by Mulligan's infantry still runs along Pritchard's Lane. CS forces attacked across the open meadow south of the house. Pritchard's Hill served as a Union artillery strongpoint and was assaulted directly during the battle's closing phases.

Opequon Church was the focal point of initial fighting; the original building was destroyed during the war but rebuilt in 1896. Union accounts describe firing from behind tombstones in the cemetery. An adjacent parcel (bounded by rte. 37, Cedar Creek Grade, and Middle Road to the Winchester city limits) is primarily agricultural with some new residences along Middle Road and Cedar Creek Grade. This land, about 275 acres, was significant during First Kernstown, and was the location of the US far right at Second Kernstown, anchored on Sand Ridge until turned by Ramseur's advance. Of about 2,200 acres of battlefield core, excluding Rodes' pursuit and cavalry actions, an estimated 625 acres of contiguous open ground remains.

Ramseur's deployment area on Middle Road is bisected by the four-lane rte. 37-bypass. Gordon's deployment area is occupied by an industrial building and a housing subdivision. The area where Wharton made his decisive flanking movement and attack Rutherford B. Hayes' brigade is occupied by a high density industrial park along US 11 and the railroad corridor. Dense industrial and commercial development characterizes the land adjacent to and east of US 11. The Pritchard-Grim property and Pritchard's Hill are the last portions of open ground south of the Winchester city limits.

Most historic buildings of old Kernstown have been lost, with the notable exception of Hoge's Ordinary or Beemer's Tavern, which has been renovated into office space and anchors a five-acre office-commercial development. Taylor provides a useful drawing of this structure in his sketchbook. The Frederick County Historical Society has recently erected new interpretive signs and a map adjacent to Opequon Church, making the action more comprehensible to visitors.

PERCEPTION OF THREATS TO THE BATTLEFIELD

Land east of US 11 (Valley Pike) along the railroad tracks has been developed for a large-scale industrial/business park. Route 11 is zoned commercial/industrial and has been densely developed from south of Kernstown to the Winchester city limits, causing concern over potential development plans west of the highway. A new business/office park was recently constructed near the entrance to the Opequon Church with Hoge's Ordinary as its center piece.

A county planning official noted, however, that watershed and ground water considerations make development in the Pritchard's Hill and Sand Ridge areas less desirable. These factors would need to be considered before any development plans would be approved. Residential development is encroaching on the northern part of Pritchard's Hill. For the present, a large portion of this land remains in private ownership and has been altered little since the Civil War. The Pritchard-Grim farm and adjacent portions of Pritchard's Hill are owned by the Charles Hardy Grim Estate.

IDENTIFIED SITES AND FEATURES ASSOCIATED WITH THE BATTLEFIELD (UNSURVEYED*)

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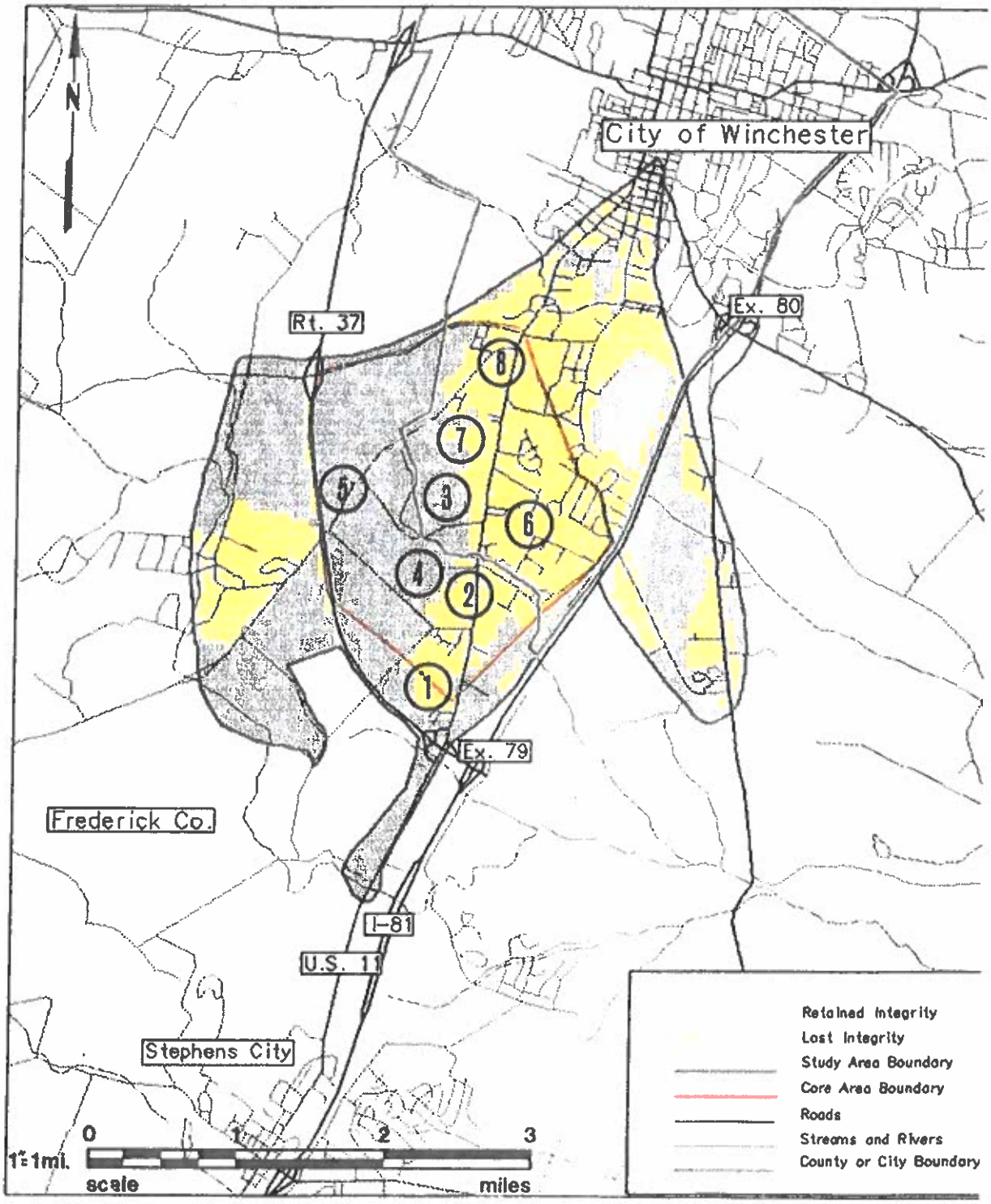
Cedar Creek Grade
Front Royal Road
Glass House
Hoge's Ordinary
Hoge's Run
Kernstown
Magill House*
Middle Road
Old Town Winchester
Opequon Church and Cemetery
Pritchard House
Pritchard's Hill
Pritchard's Lane
Sand Ridge
Springdale
Stephenson's Depot
Stone Lane
Stone Walls
Tollgate (site of)
Valley Pike

	Study Area		Core Area	
	Acres	Percent	Acres	Percent
LAND USE / LAND COVER				
Built-up Land	2,837.23	48.41	1,105.3	50.17
Agricultural Land	2,799.71	47.77	1,090.54	49.5
Forest Land	223.89	3.82	7.27	0.33
Total	5,860.83	100.00	2,203.12	100.00
GIS ASSESSMENT OF INTEGRITY				
Retained Integrity	3,025.94	51.63	1,098.03	49.84
Lost Integrity	2,830.78	48.30	1,105.08	50.16
Level of Integrity	Fair		Poor	

TABLE 11

1991 LAND USE / LAND COVER
SECOND KERNSTOWN BATTLEFIELD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City of Winchester
Rt. 37
Ex. 80
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1
Ex. 79
Frederick Co.
I-81
U.S. 11
Stephens City
0
1
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scale
miles
Retained Integrity
Lost Integrity
Study Area Boundary
Core Area Boundary
Roads
Streams and Rivers
County or City Boundary