

Frederick County, VA  
Battlefield Interpretation &  
Preservation Utilizing GIS

# What is GIS?

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- According to ESRI: Geographic Information Systems (GIS) is a computer system designed to capture, store, manipulate, analyze, manage and present all types of data that have a spatial representation.

# Components of GIS

- Hardware
- Software
- Data
- Methods
- People

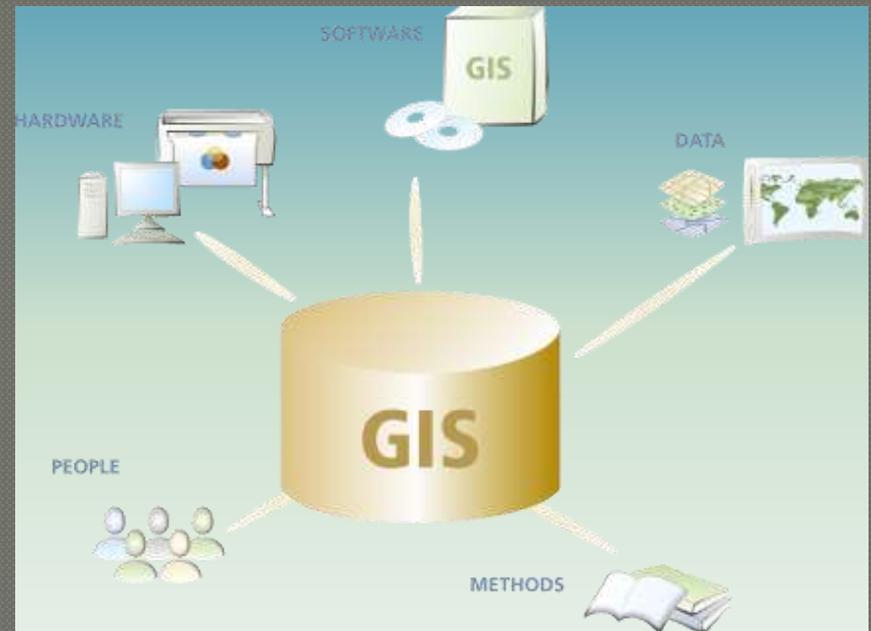


Image from ESRI

# Frederick County GIS

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- County established GIS in the 1980's
- The purpose of GIS in Frederick County
  - To provide a comprehensive approach to storing, managing, and analyzing spatial data.
  - Started in Planning Department; was initially centered around land use and land management.

# Frederick County, VA

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- ◉ Northern Shenandoah Valley
- ◉ Established in 1743
- ◉ Location of George Washington's Headquarters during American Revolution

# Frederick County, VA

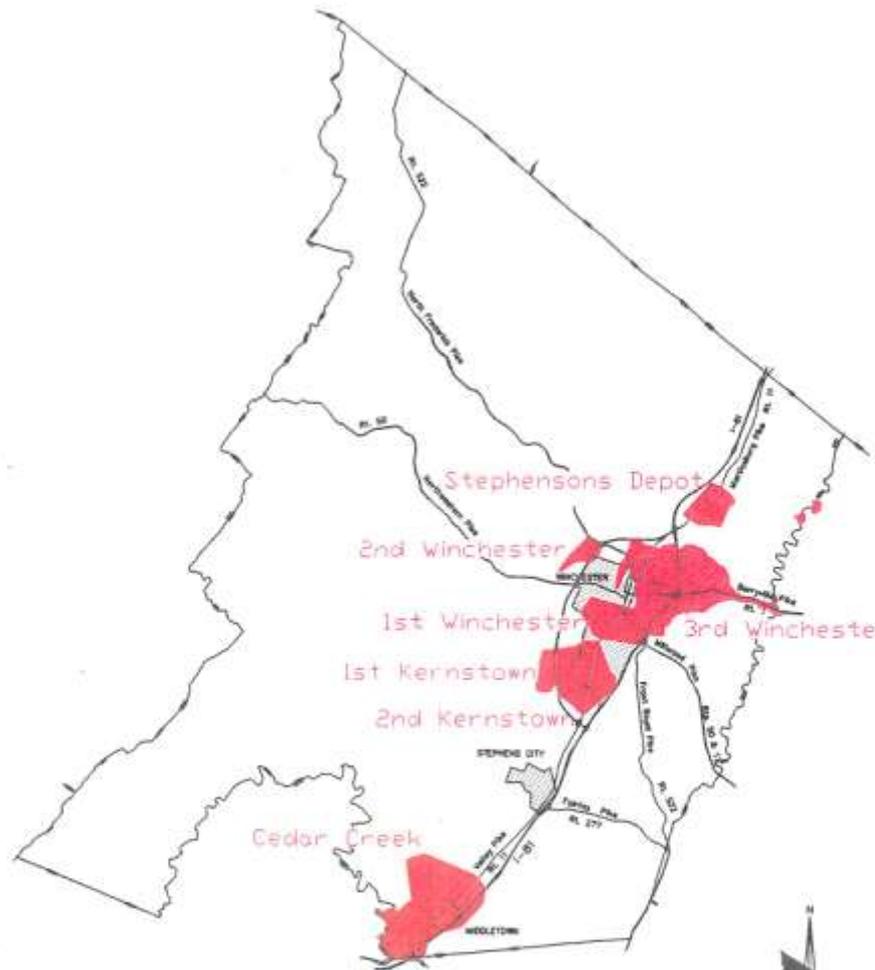
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- ◉ During the Civil War 6 battles were fought here
  - First Kernstown (1862)
  - First Winchester (1862)
  - Second Winchester (1863)
  - Second Kernstown (1864)
  - Third Winchester or Battle of Opequon (1864)
  - Battle of Cedar Creek (1864)

# Mapping Battlefields

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- Concentrated Mapping effort began in mid-90's
- In 1993 the Civil War Advisory Committee, which was established by Congress, issued a report that listed Cedar Creek and First Kernstown as priorities
- Worked with National Park Service and other preservation foundations to identify and categorize Battlefield lands



**CIVIL WAR BATTLEFIELD CORE AREAS**  
In Frederick County - Winchester, Virginia

# Battle of 3<sup>rd</sup> Winchester

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# Third Battle of Winchester

September 19, 1864

## Battle Actions

-  Conf. Troop Positions
-  Troop Movements
-  Artillery Positions
-  Union Troop Positions
-  Troop Movements
-  Artillery Positions

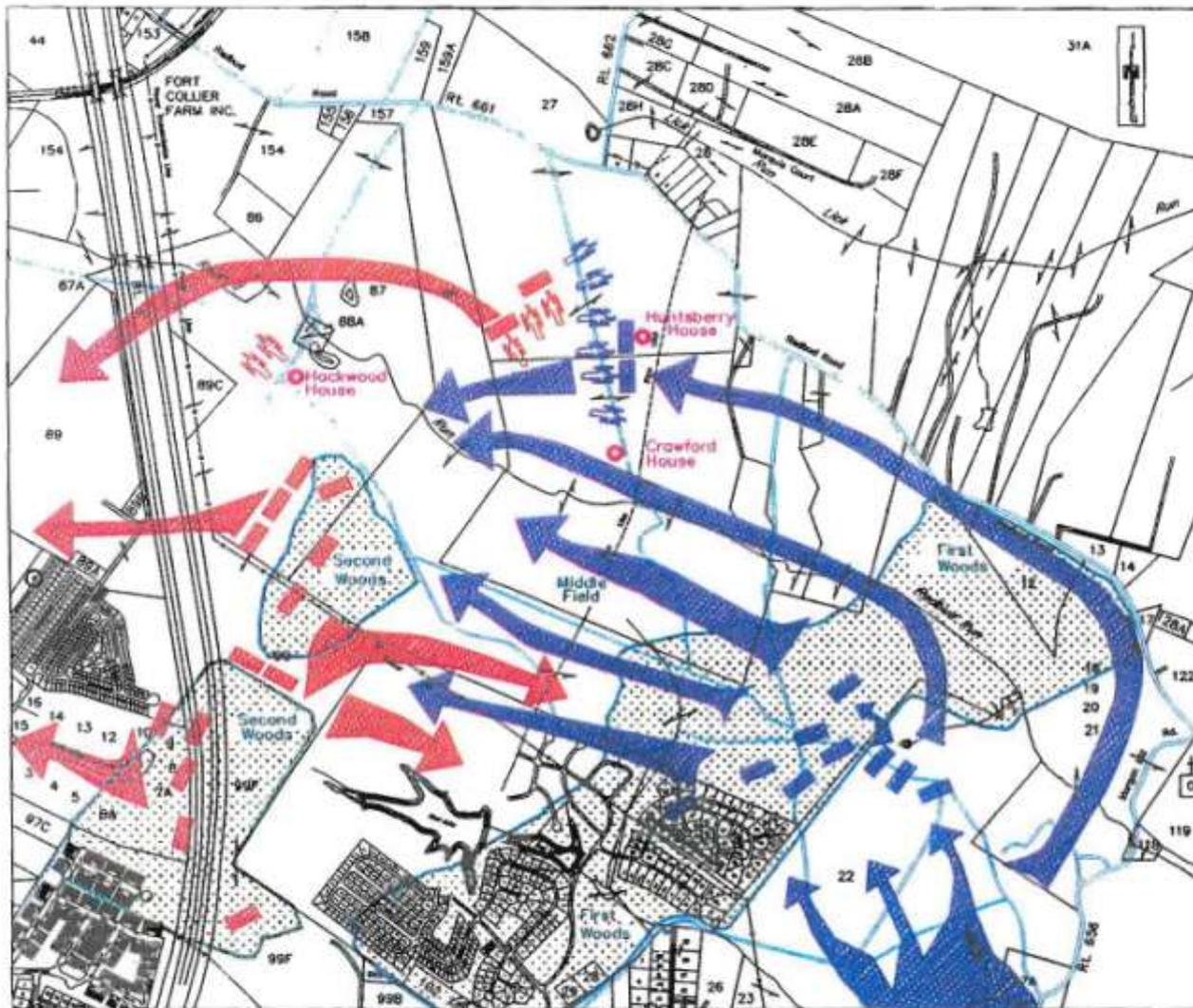
## Features 1861-1865

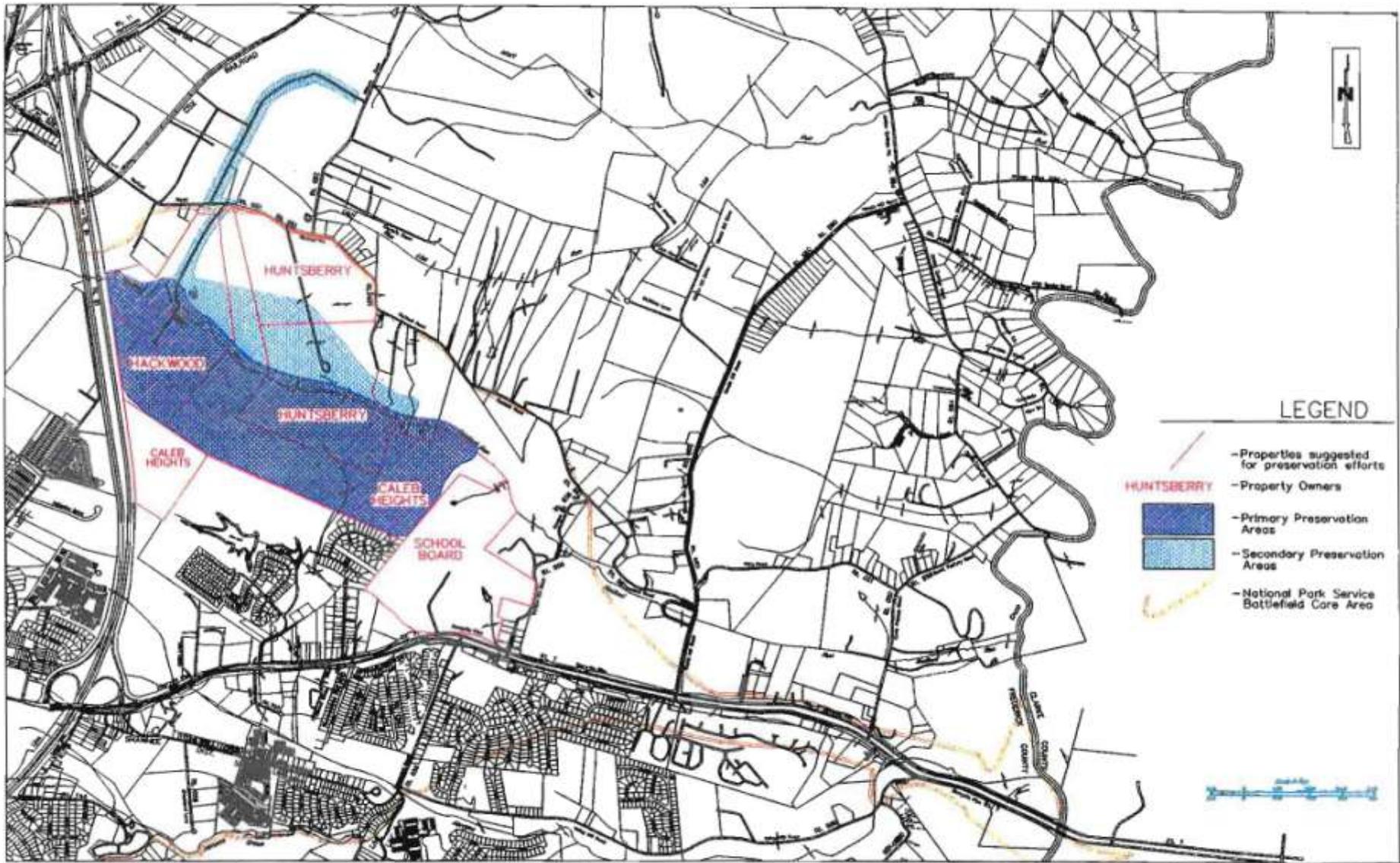
-  Dense Vegetation - 1864
-  Road Network - 1864



Frederick County Planning & Development  
Winchester, Virginia

SCALE IN FEET  
0 500 1000 1500 2000



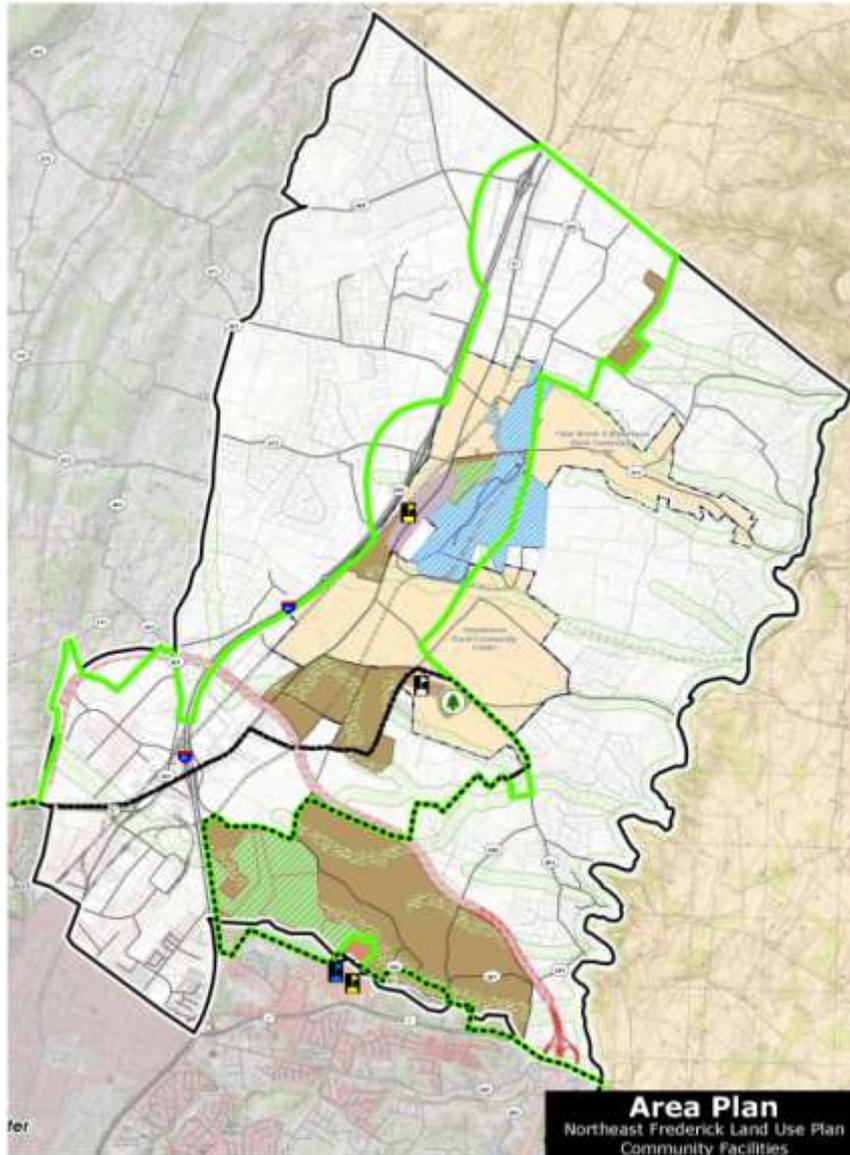


**LEGEND**

-  - Properties suggested for preservation efforts
-  - Property Owners
-  - Primary Preservation Areas
-  - Secondary Preservation Areas
-  - National Park Service Battlefield Core Area



**THIRD WINCHESTER BATTLEFIELD**



**Area Plan**  
 Northeast Frederick Land Use Plan  
 Community Facilities  
 Natural and Recreational  
 Resources Plan

- Urban Development Area
- Sewer and Water Service Area
- Future RT 37 Bypass
- Facilities**
- Future Elementary
- Existing Elementary
- Existing High School
- Future Park
- Future Elementary School
- Middle School
- High School
- Post & Rescue Station
- Community Facilities**
- Park
- Crum Park
- Water Resources Area
- Natural Resource & Recreation Area
- Developmentally Sensitive Areas
- Rural Community Center



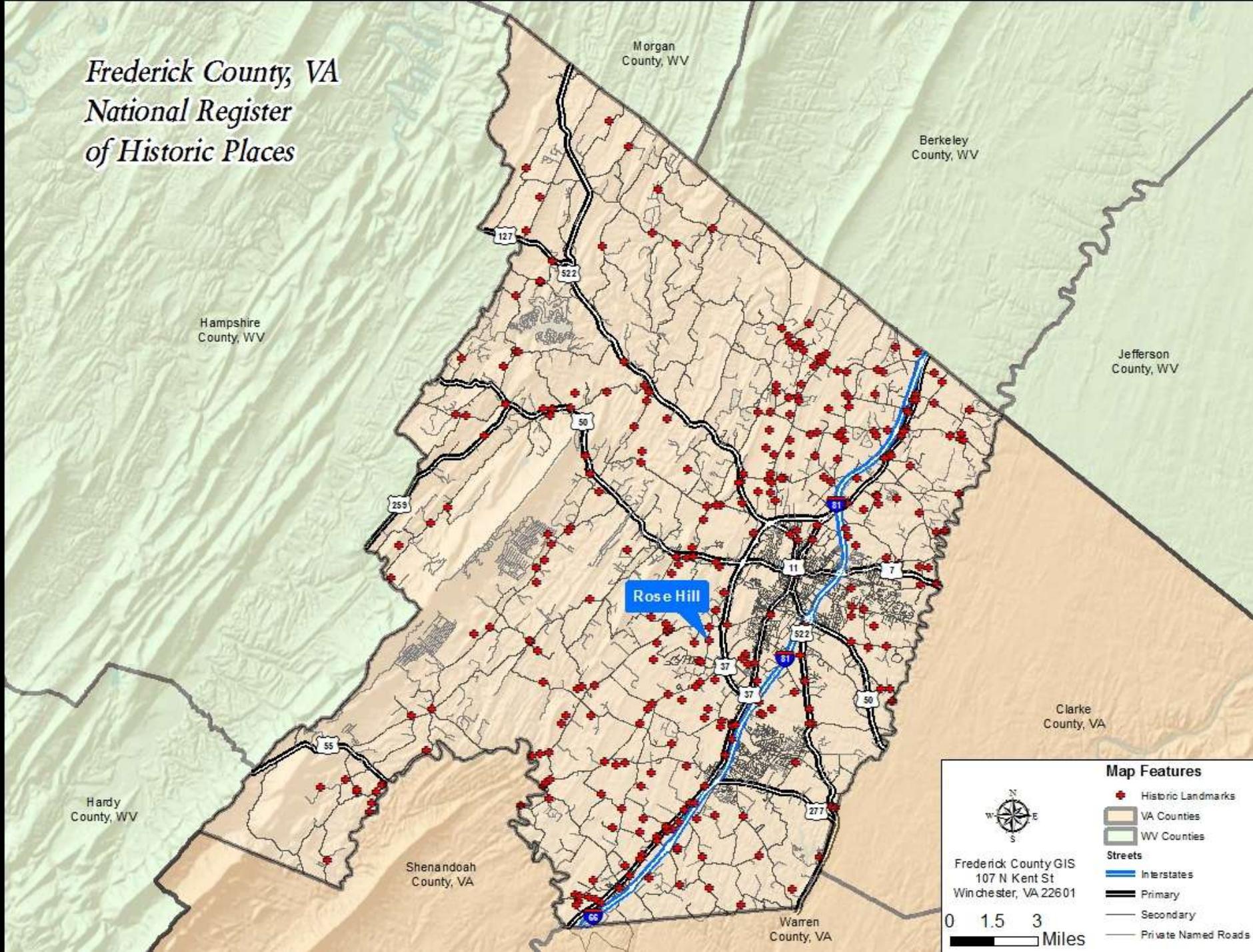
0 0.25 0.5 1 Miles

2030 Comprehensive Policy Plan Map  
 Approved: July 14th, 2011  
 Draft Update April 2013

# Rose Hill and Battle of 1<sup>st</sup> Kernstown

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# Frederick County, VA National Register of Historic Places



**Map Features**

- Historic Landmarks
- VA Counties
- WV Counties

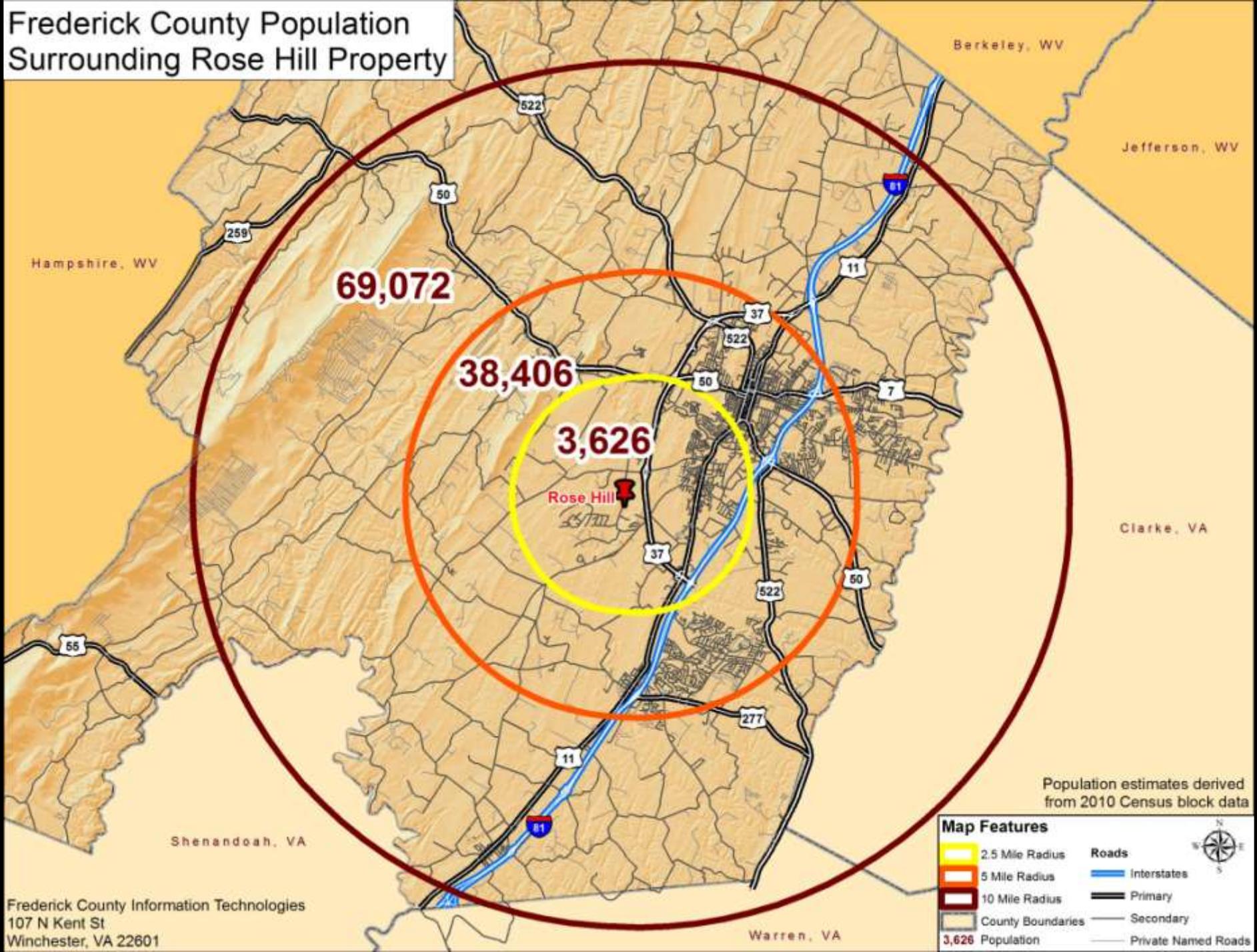
**Streets**

- Interstates
- Primary
- Secondary
- Private Named Roads

Frederick County GIS  
107 N Kent St  
Winchester, VA 22601

0 1.5 3 Miles

# Frederick County Population Surrounding Rose Hill Property



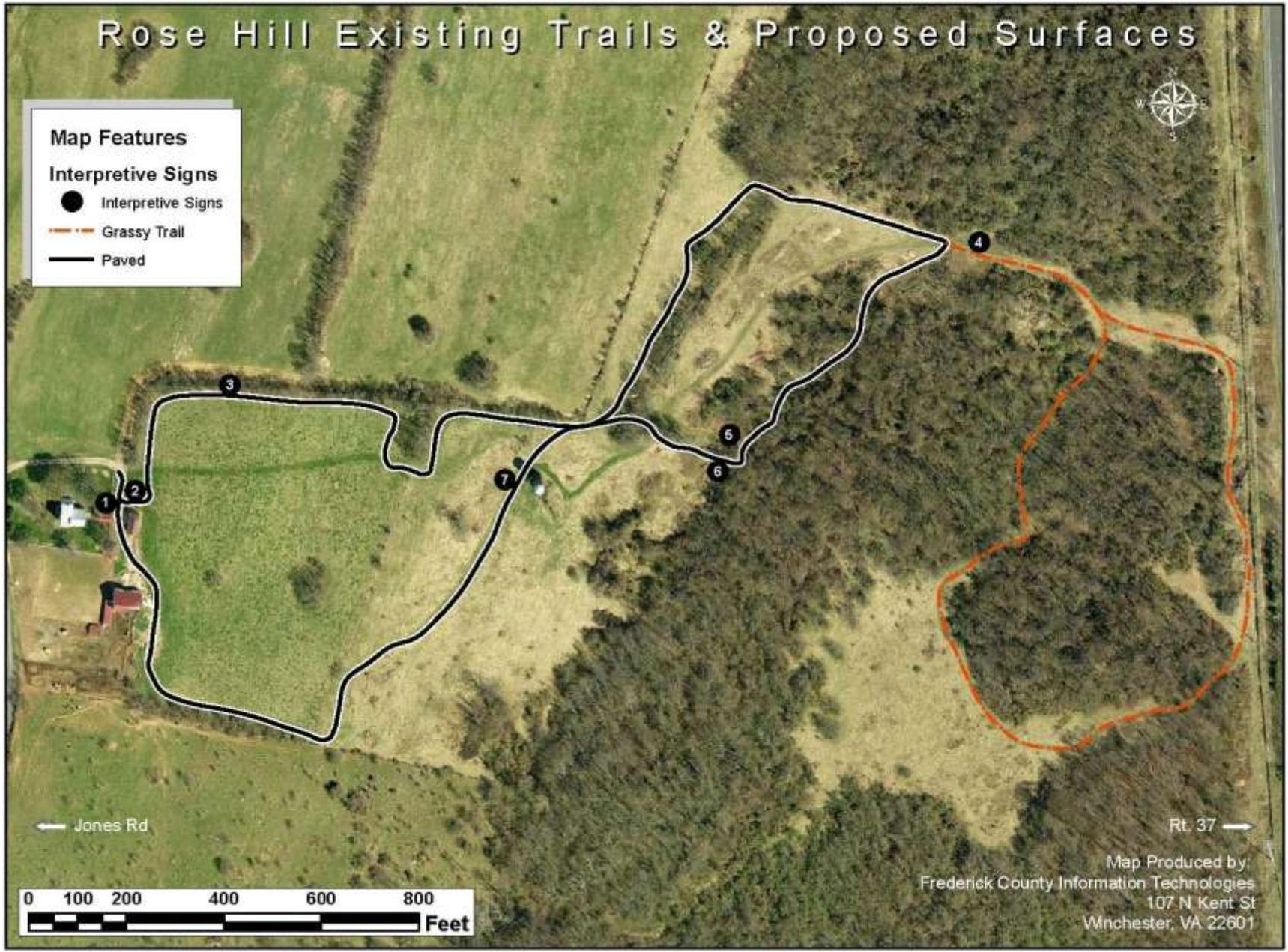
# Rose Hill Existing Trails & Proposed Surfaces



## Map Features

### Interpretive Signs

- Interpretive Signs
- Grassy Trail
- Paved



← Jones Rd

Rt. 37 →



Map Produced by:  
Frederick County Information Technologies  
107 N Kent St  
Winchester, VA 22601

# Rose Hill Proposed Trail



Total Trail Length -- 6031 Ft

Stone Wall Spur -- 345 Ft

Map produced by:  
Frederick County IT/GIS  
107 N Kent St  
Winchester, VA 22601  
Imagery Date: 2011

## Map Features

— Proposed Trail

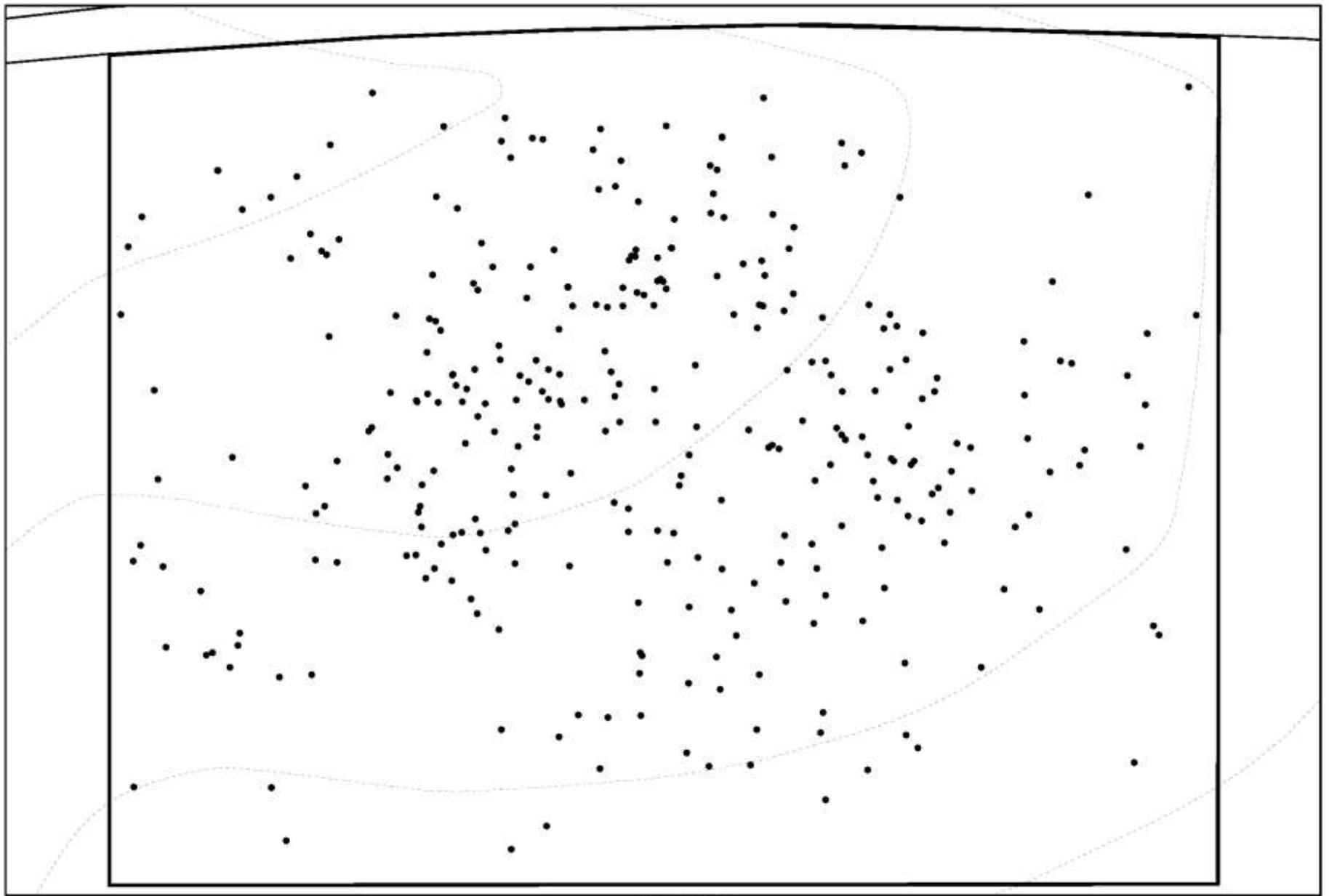
0 125 250 500  
Feet



# Using GIS with Archeology

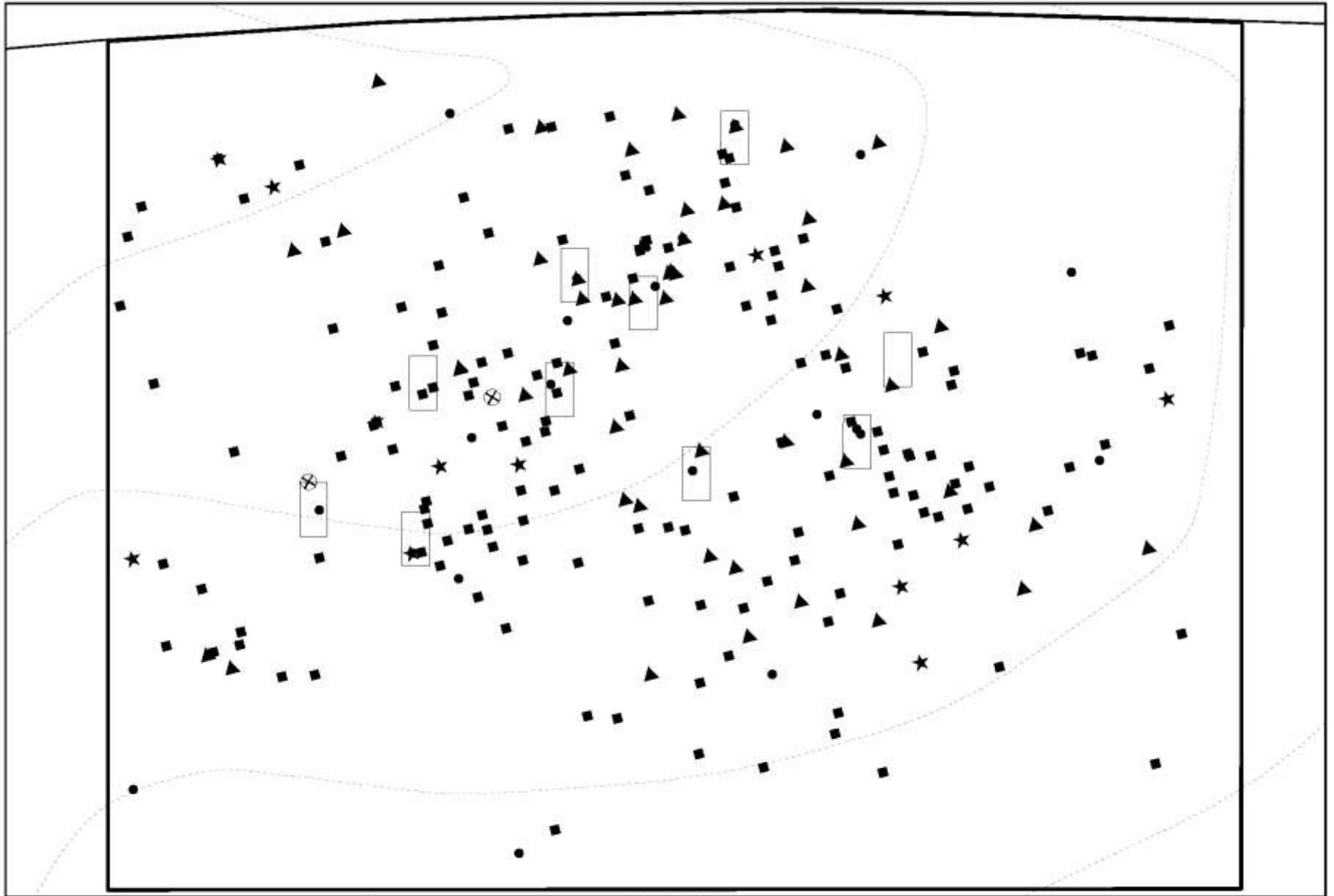
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- County GIS Staff worked with regional Archeologist
- Used GPS and GIS Technology to assist in mapping dig sites



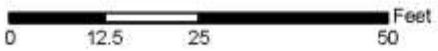
**44FK681**  
**VIRGINIA CAMP**  
**Metal Detector Survey**  
**Revolutionary War Period Artifacts**

• Artifacts



44FK681  
**VIRGINIA CAMP**  
**Metal Detector Survey**  
**Revolutionary War Period Artifacts**

Produced by: Frederick County Dept. of Information Technologies, GIS Division



- |               |                  |          |
|---------------|------------------|----------|
| Test Units    | <b>Artifacts</b> | CLOTHING |
| ARCHITECTURAL | KITCHEN          | PERSONAL |
| ARMS          |                  |          |

# Questions ?

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- Frederick County GIS Staff
- Information Technology
  - Patrick Fly, GIS Manager
  - Andrew Farrar, GIS Technician
  - Ellen Peng, GIS Analyst Programmer
- Planning and Development
  - Lindsey Felton, GIS Analyst
- Commissioner of Revenue
  - Derek Brill, GIS Analyst