

DRAFT Birmingham Hill Preserve MASTER PLAN

*Birmingham Township
Chester County, Pennsylvania*



**BRANDYWINE
CONSERVANCY**

Prepared by
Brandywine Conservancy
September 2020

Birmingham Hill Preserve Master Plan

September 2020

STUDY PREPARED FOR

Brandywine Conservancy & Museum of Art

PROJECT ADVISORY COMMITTEE MEMBERS

David Poston. Brandywine Conservancy Committee

Jack Hines. Brandywine Conservancy & Museum of Art Board of Trustees

Mike Forbes. Birmingham Township Historical Commission

Anne Siemer. Birmingham Township Recreation, Parks, and Open Space Committee

Dan Hill. Chair, Birmingham Township Board of Supervisors

Mike Shiring. Member, Birmingham Township Board of Supervisors

Karen Marshall. Heritage Preservation Coordinator, Chester County

Jeannine Spiers. Senior Community Planner, Chester County

Andrew Outten. Executive Director, Brandywine Battlefield Park

Susan Hamley. Executive Director, Chester County Conference and Visitors Bureau

Verne Weidman. Community and history advocate

Bruce Mowday. Author and Historian

Beverlee Barnes. Historic Preservation Manager, Delaware County Planning Department

Cory Kegerise. Community Preservation Coordinator – Eastern Region, Pennsylvania
Historical and Museum Commission

Scott Stephenson. Executive Director, Museum of the American Revolution

Kathy Robertson. Deputy Director of Real Estate, American Battlefield Trust, Washington

Tom McGuire. Historian and educator

Steve Byrne. Executive Director, Destination Delco Tourist Bureau

STUDY PREPARED BY

Brandywine Conservancy
1 Hoffmans Mill Road
P.O. Box 141
Chadds Ford, PA 19317

610.388.2700

brandywine.org/conservancy

STUDY FUNDED BY

Brandywine Conservancy & Museum of Art
E. Kneale Dockstader Foundation

and

Many others who contributed to the
acquisition of Birmingham Hill Preserve



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Chapter 1

Introduction

Property Overview

Birmingham Hill Preserve is located in central Birmingham Township, Chester County, Pennsylvania at the corners of Meetinghouse and Birmingham Roads, and Birmingham and Wylie Roads. The 100.18-acre Skirmish Hill Farm parcel (“Skirmish Hill Farm Parcel”) was purchased by the Brandywine Conservancy, Inc. (now the Brandywine Conservancy & Museum of Art) from the Odell Family Limited Partnership on May 24, 2007. As a part of Skirmish Hill Farm acquisition, Brandywine secured an option to purchase the remaining 13.618-acre parcel owned by Mrs. Roberta Odell situated in the northwest corner of the Preserve (“Option Parcel”). Upon Mrs. Odell’s death in 2017, Brandywine exercised its right in the option agreement to purchase the property. The Option Parcel was transferred to the Conservancy on September 7, 2018. Birmingham Hill Preserve is subject to several property restrictions, including two (2) Declarations of Covenants, Conditions, and Restrictions in favor of Chester County and a Deed Restriction in favor of the Pennsylvania Department of Conservation and Natural Resources. The Option Parcel will also be subject to a conservation easement granted to Natural Lands. The property is currently leased to Luke Magness and managed for agricultural use, specifically hay cultivation.

The property is within the Birmingham Township Historic District and the Brandywine Battlefield National Historic Landmark (BBNHL). Designated on January 20, 1961, the 64,745-acre Brandywine Battlefield is one of ten National Historic Landmarks in Chester County, Pennsylvania. The Brandywine Conservancy holds 32 easements covering 740 acres and owns an additional 420 acres within the Landmark.

The area between Renwick Run and Wylie Road—which includes Birmingham Hill Preserve—was the site of the first and second

Snapshot of Birmingham Hill Preserve

**113.907 ACRES, LOCATED IN BIRMINGHAM
TOWNSHIP, CHESTER COUNTY, PA**

Comprised of:

- 1. Skirmish Hill Farm Parcel**
identified as UPI # 65-4-25.1
containing 100.289 acres
- 2. Odell Option Parcel**
identified as UPI # 65-4-25,
containing 13.618 acres

defensive line of the Continental Army during the Battle of Brandywine in 1777. Some of the fiercest fighting during the Battle is known to have occurred on the Preserve.

Birmingham Hill Preserve is currently used for residential, agricultural, and open space purposes. There are several residential, agricultural, and accessory structures on the property. An on-site day-to-day property manager currently resides in a residential structure on the Preserve and the agricultural buildings and structures are used for equipment storage.

Acquisition History

The Brandywine Conservancy has been working since its inception in 1967 to protect Brandywine Battlefield lands, but efforts began in earnest in 1989 when Nancy V. Webster wrote the two-volume Brandywine Battlefield National Historic Landmark Cultural Resources Management Study for the Delaware County Planning Department. In 1993, the Brandywine Conservancy and a consortium of local preservation groups, citizens, and township, county, state, and federal officials formed the Brandywine Battlefield Task Force. In addition to education about and interpretation of the Battle, the Task Force's mission is to implement public and private partnerships to preserve historic sites and properties within the National Historic Landmark.

Beginning in 1996, the Conservancy and the Task Force focused on the Brandywine Battlefield Meetinghouse Road Corridor situated in Birmingham Township, Chester County and Thornbury Township, Delaware County. It was in the Corridor where the heaviest engagements of the battle took place and where the largest area of contiguous undeveloped (and unprotected) land was located. It also contained the 46-acre Sandy Hollow Park owned by Birmingham Township, which was the site of the last major fighting during the battle. Five key properties were targeted for preservation, and the Brandywine Conservancy took the lead in cultivating their owners—the Brigham, Odell, Spackman, Worth, and Wylie families. It became apparent that the landowners were not in positions to either donate their properties outright and/or grant conservation easements restricting their lands. As a result, efforts to increase public awareness of the Meetinghouse Road Corridor and raise funds to purchase land or easements began and ultimately involved dozens of public officials and agencies as well as private individuals and institutions.

In 1997, the Brandywine Battlefield National Historic Landmark was designated as the first official Commonwealth Treasure by the Pennsylvania Historical and Museum Commission in recognition of “the remarkable community dedication to the preservation of the historic integrity of the Brandywine region as a landmark of tremendous significance in the shaping of our Commonwealth and nation.”

In 1999, the United States Congress enacted the Pennsylvania Battlefields Protection Act of 1999 (Public Law 106-86). The Act authorized the appropriation of \$3 million from the National Park Service to permanently protect land in the Meetinghouse Road Corridor. The appropriated funds, which became available over a three-year period, along with prior funding commitments from state and local governments and one foundation, were used to purchase conservation easements on four of the five targeted properties. The Brandywine Conservancy holds three of these easements (protecting nearly 200 acres); the Natural Lands Trust holds the fourth easement on 110 acres.

The Odell family was contacted numerous times following the passage of the Pennsylvania Battlefields Protection Act about the possibility of the Brandywine Conservancy purchasing a conservation easement on their property. Chester County Commissioner Colin Hanna and Brandywine Conservancy Board of Trustees Chair George “Frolic” Weymouth met with Mrs. Odell in person to discuss the concept. Despite these cultivation efforts and the availability of funding, the Odell family was unwilling to consider protecting the property at that time.

The Odell family submitted a subdivision plan to Birmingham Township in January 2006, proposing to create 33 residential lots and two farmettes. According to the Odell family, the subdivision plan was submitted in response to a township-proposed zoning change that would have required, among other things, a 750-foot setback from Meetinghouse Road for new buildings. The township and the Odell family

agreed to place a freeze on the subdivision plan review proceedings while the Brandywine Conservancy entered into negotiations to acquire the property. After a year of intense negotiations, the Brandywine Conservancy finally signed an agreement of sale with the Odell Family Limited Partnership and Mrs. Odell on December 26, 2006.

Signing the agreement of sale was not the final step in preserving the property, however. The Conservancy had to raise the necessary funds to complete the acquisition. A targeted fundraising effort ensued with the goal of raising eleven million dollars. Grants and contributions were secured from both public and private sources. Individual contributions ranged from two million dollars donated by the Mt. Cuba Center, to \$200 raised by fifth and sixth grade students at a local elementary school. In total, over nine million dollars was raised for the acquisition of the property.

Of the total amount raised, \$2,676,400 were supplied by public sources (National Park Service, Chester County, etc.), \$6,587,992 came from private sources including individual donors, and nearly \$3,750,000 came from private foundations.

On May 15, 2007, the Brandywine Conservancy purchased the 100-acre Skirmish Hill Farm for eight million dollars (Chester County Recorder of Deeds Book 7168, Page 389), subject to various restrictions as detailed in Section VI of this Plan. The remaining funds were set aside for the purchase of Mrs. Odell's 13-acre property adjacent to the Skirmish Hill Farm parcel on which the Conservancy was granted an Option to Purchase. When Mrs. Odell passed away in 2017, the Board of Trustees voted to exercise the Option. A second fundraising effort ensued. Brandywine received funds from Chester County, the National Park Service's American Battlefield Protection Program, local foundations and private individuals to purchase the property for \$1.25 million on September 7, 2018 (Chester County Recorder of Deeds Book 9809, Page 1845). This parcel is also subject to various restrictions.



The view looking north from the high point near Birmingham Road captures the existing pond and residences on Birmingham Road.

Vision for Birmingham Hill Preserve

Birmingham Hill Preserve will be a 113-acre historic preserve owned and managed by the Brandywine Conservancy and open to the general public. The Preserve will reflect the landscape as it may have been during 1777. It will honor the history of the Battle of Brandywine through low impact education and interpretation. The Preserve is expected to attract historic preservation specialists, researchers, academics, and historians from across the country. The Brandywine Conservancy anticipates working in close collaboration with local, state and federal government agencies, non-profit organizations, museums and other qualified partners in offering interpretive and educational programs featuring the Preserve, while minimizing resource-damaging construction. The Birmingham Hill Preserve will be a key location in the interpretation of historic sites, landscapes, and people relevant to the Battle of Brandywine.

Birmingham Hill Preserve is hallowed ground where Americans fought and died to establish our liberties and a new nation. Together with surrounding and nearby lands, it is the site of the Battle of Brandywine, one of the largest and heaviest engagements of the Revolutionary War where soldiers of the American Continental Army under General George Washington engaged in mortal combat for 11 hours against the British Army of General Sir William Howe on September 11, 1777. The Preserve is bordered by private lands forever preserved with conservation easements and within proximity to other protected private and public lands, including land in and near the village of Chadds Ford where the battle was also waged. The Preserve lies within, and is a contributing resource of, the federally designated Brandywine Battlefield National Historic Landmark, and is part of an area designated by the Commonwealth of Pennsylvania as a Commonwealth Treasure.

Goal and Objectives

GOAL: TO DETERMINE THE LONG-RANGE USE AND MANAGEMENT OF BIRMINGHAM HILL PRESERVE.

Objective 1 – protect existing historic resources

- Conduct an inventory and assessment of historic resources
- Identify threats to the historic integrity of the site
- Develop strategies for historic resource protection
- Identify needs for further research

Objective 2 – identify opportunities to interpret historical events and themes

- Identify the locations of existing interpretive features in the region
- Identify multiple interpretive themes that highlight the significant events that occurred on the site and storylines
- Present interpretive program concepts and alternatives
- Identify opportunities for further interpretation of Battle of Brandywine
- Identify interpretive program partners

Objective 3 – protect existing natural resources

- Conduct an inventory and assessment of natural resources

- Identify opportunities for restoration of degraded natural areas
- Identify options for sustainable management of natural areas
- Identify areas suitable for recreation of 1777 agricultural use

Objective 4 – Identify opportunities for natural features interpretation

- Identify interpretive themes
- Present interpretive program concepts and options
- Identify program partners

Objective 5 – Determine infrastructure needs and facilities needs

- Assess existing structures for relevance, utility, condition, and maintenance cost
- Assess need for new facilities including buildings, driveways, parking areas
- Assess impact of new facilities on historic resources

Objective 6 – Develop a plan for public access and passive recreation

- Conduct a review of existing trails and parking facilities
- Identify opportunities and options for new passive recreation activities and facilities
- Prepare a conceptual site plan and recommendations
- Estimate costs and phasing for implementation

Objective 7 – Obtain stakeholder input and support

- Form a study committee
- Conduct key person interviews
- Conduct public meetings
- Coordinate with Birmingham Township

Objective 8 – Prepare an Action Plan for Implementation

- Prepare and prioritize recommendations
- Prepare a list of estimated costs
- List funding sources and requirements
- Identify potential partners

FIGURE 1.1 Population – Chester County Municipalities

CHESTER COUNTY MUNICIPALITIES IN BBNHL	POPULATION IN 2010	POPULATION PROJECTION 2040
Birmingham Township	4,208	5,272
East Bradford Township	9,942	13,479
East Marlborough Township	7,026	10,104
Kennett Square Borough	6,072	7,395
Kennett Township	7,565	9,906
Newlin Township	1,285	1,591
Pennsbury Township	3,604	4,109
Pocopson Township	4,582	5,635
Thornbury Township	3,017	3,852
Westtown Township	10,827	11,779
West Bradford Township	12,223	16,155

Chester County: 2010 Census and 2040 Forecasted Population

FIGURE 1.2 Population – Delaware County Municipalities

DELAWARE COUNTY MUNICIPALITIES IN BBNHL	POPULATION IN 2010	POPULATION PROJECTION 2040
Chadds Ford Township	3,640	4,134
Concord Township	17,336	19,445
Thornbury Township	8,028	8,825

Delaware County: 2010 Census and 2040 Forecasted Population

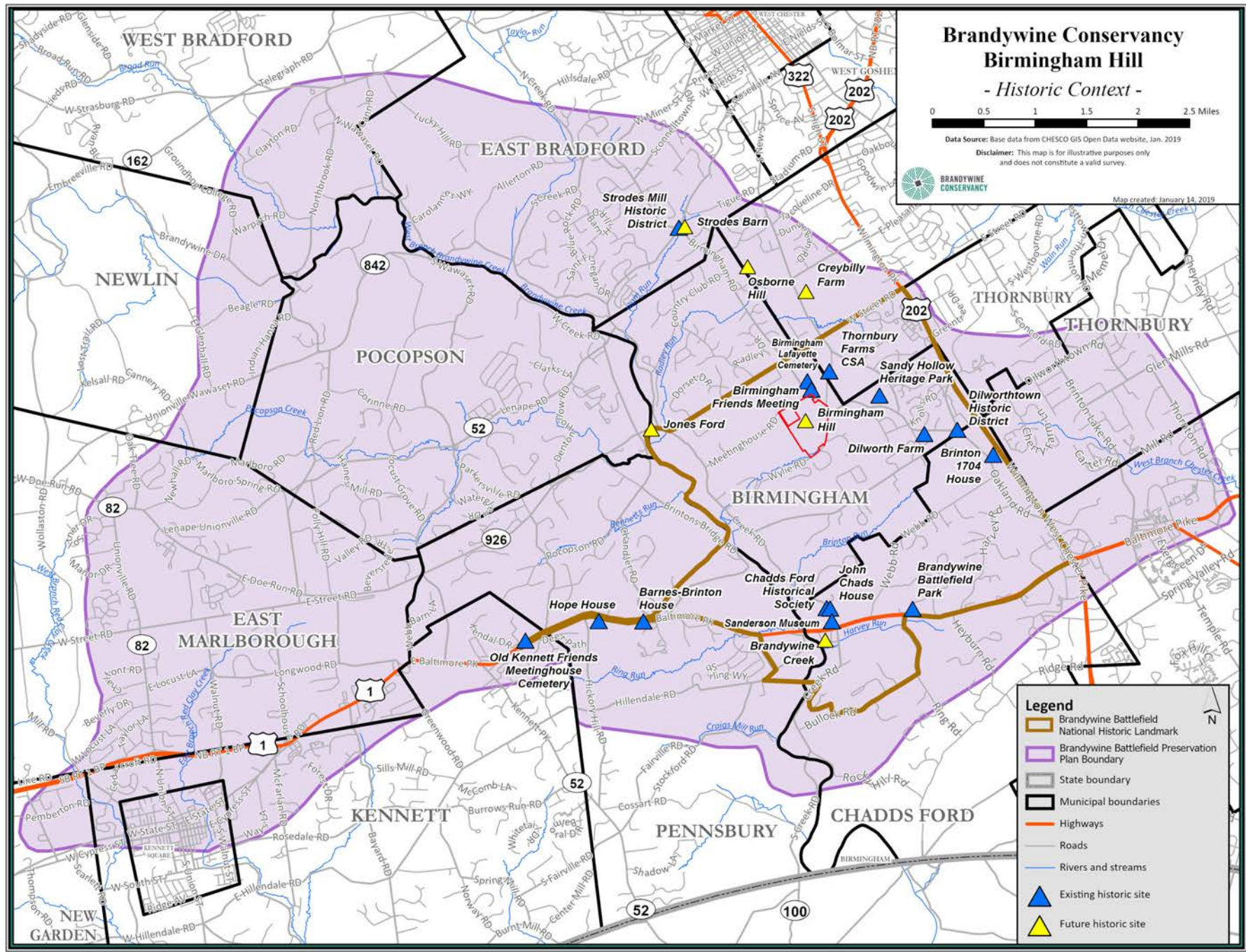
Regional Demographics

Birmingham Township is located in southern Chester County which had an estimated population of 519,293 persons in 2019 according to the 2010 Census (Map 1.1). The population in Chester County is projected to increase by 146,000 by 2040. Eleven Chester County municipalities that host a portion of the Brandywine Battlefield National Historical Landmark are forecast to experience significant population growth by 2040 (Figure 1.1). Many of the Battlefield Landmark municipalities are heavily suburbanized and large tracts of potentially developable lands have become scarce.

In Delaware County the estimated population in 2017 was 564,696 persons and is projected to increase by 5,286 by 2035. In nearby Delaware County municipalities, projected population growth projections are shown below (Figure 1.2).

Planning Context

There are numerous existing planning documents that provide important background information and context for Birmingham Hill Preserve. Many of the documents have been adopted at the state, county, regional, or municipal levels, while other documents have been published by private non-profit organizations or government agencies as policies or guidance. Below is a summary of the most relevant documents as they relate to the Birmingham Hill Preserve Master Plan and information they provide regarding historic resources, cultural assets, open space preservation, and connectivity to residents.



MAP 1.1 BBNHL municipalities and BB study area

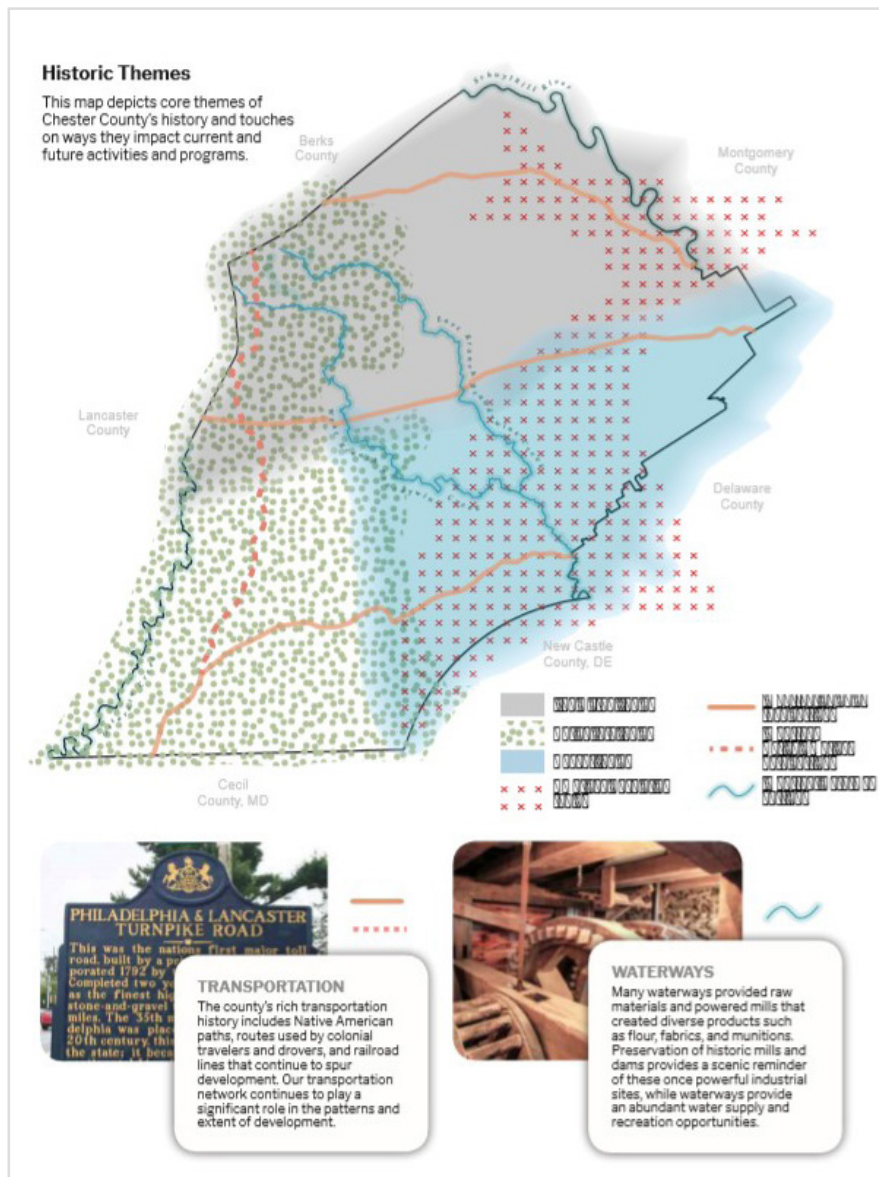


FIGURE 1.3 Historic and Cultural Resources

Chester County Regional Comprehensive Plan - Landscapes 3 (2018)

Landscapes 3 is the comprehensive plan for Chester County. The plan has four major purposes, including: establishing a vision for preservation and growth across the county and in its municipalities; guiding county government decision-making; guiding municipal planning and implementation; and providing a framework for intermunicipal collaboration.

The Appreciate Goal in Landscapes 3 is to: Preserve the historic resources and landscapes that define our cultural heritage to inspire the future through tangible connections to our shared past (Figure 1.3). Relevant objectives under the Appreciate Goal that could apply to Birmingham Hill Preserve include:

- Preserve historic resources in their context while supporting appropriate reuse as a vital part of our community infrastructure and character.
- Preserve the stories of our cultural heritage and connect them to our residents and our future.

Potential conservation corridors are identified conceptually with the intention of guiding further land conservation efforts and aiding in the linkage of protected open space clusters (Figure 1.4). The closest conservation corridor to Birmingham Hill Preserve is located along the main stem of the Brandywine Creek approximately one mile west of the Preserve.

Existing recreational facilities were mapped within a ½ mile service area on p. 99, which is a standard measure of facility accessibility and utilization (Figure 1.5). There are currently no recreational facilities shown in Birmingham Township. The map is intended to depict areas within growth areas that could be targeted for new

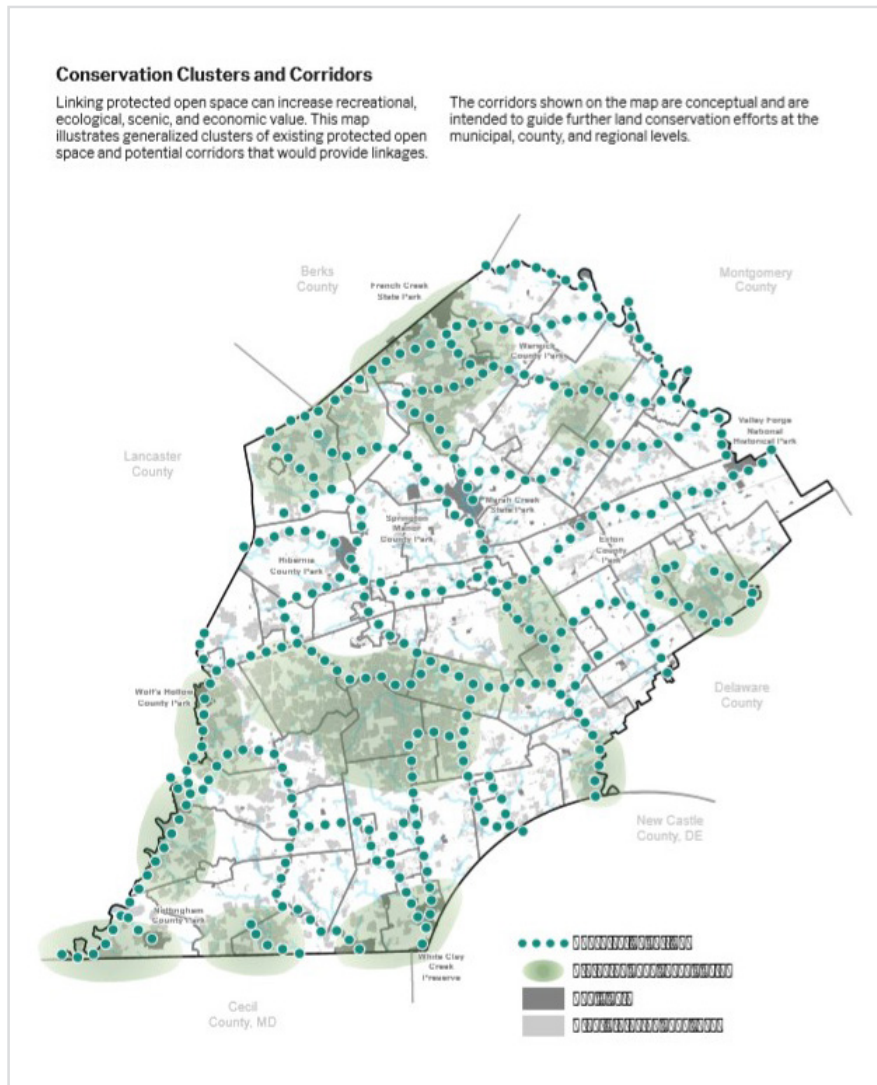


FIGURE 1.4 Conservation Corridors

recreational facilities and amenities, as well as for improved local access to facilities (such as new sidewalks or trails). Birmingham Township is not part of an envisioned growth area, although growth is expected in neighboring Thornbury Township.

Birmingham Township Comprehensive Plan (2015)

Birmingham Township places immense value on the historic and semi-rural landscapes in the municipality. The Comprehensive Plan states that the most critical issue in the Township at the present time may be the community's need and desire to retain an identity as a historic and semi-rural place. Maintaining the current collective identity as an open, historic, and agricultural landscape is dependent on preserving at least the core of the south-central portion of the Township, including Birmingham Hill Preserve and the Birmingham Road Corridor.

The Comprehensive Plan also states that the preservation of the landscape over which the Battle of the Brandywine was fought is the most important preservation issue for Birmingham Township to address. The Plan recommends that the township should continue its effort to protect and interpret its historic resources, consistent with the overall battlefield preservation effort. The Plan recommends that the Township should continue to be engaged as a partner in the preservation activities of the Brandywine Battlefield Task Force.

Brandywine Battlefield Preservation Plan (2013) and Associated Strategic Landscape Plans

The Brandywine Battlefield Preservation Plan was published by the Chester County Planning Commission in collaboration with the Brandywine Battlefield Task Force in 2013. The Plan includes Brandywine Battlefield Protection Strategies – A Guide for Brandywine Battlefield Communities. The Guide describes

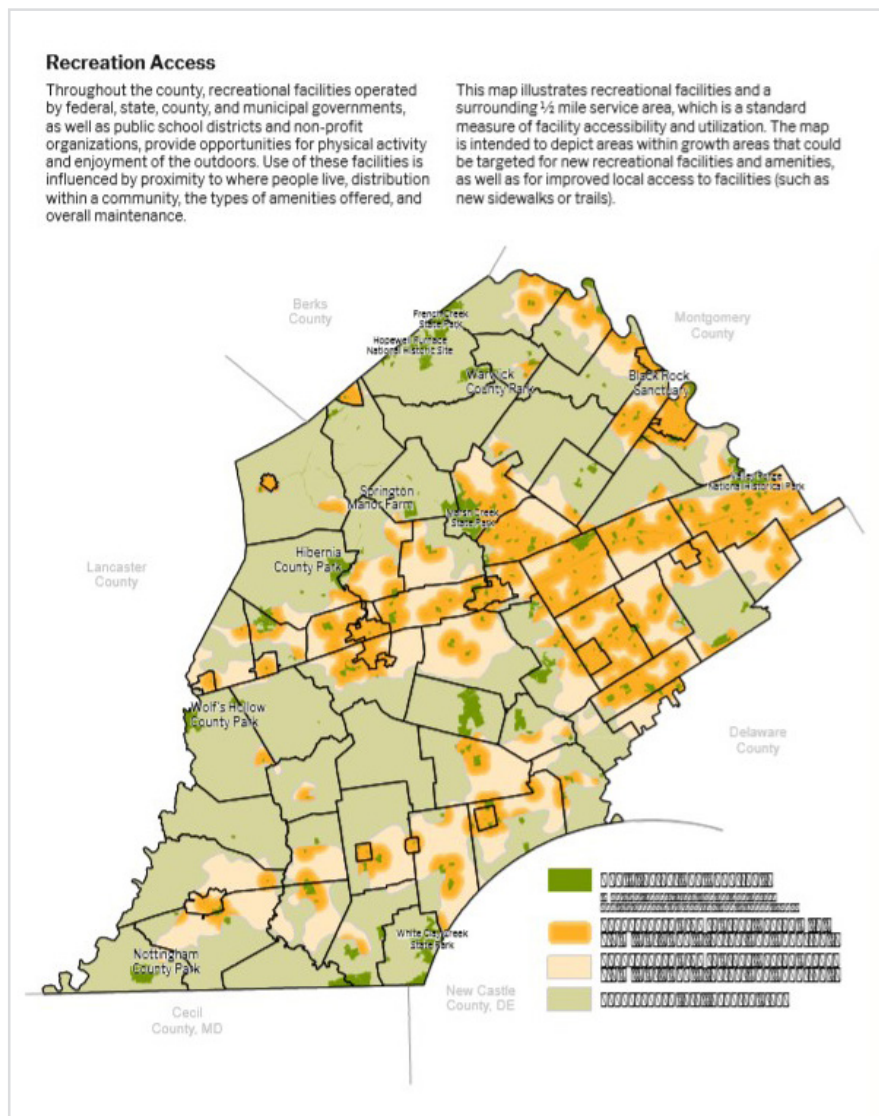


FIGURE 1.5 Half-Mile Service Areas

recommendations for each municipality in the BBNHL. It concludes that Birmingham Township has taken a proactive approach in preserving historic resources protection and designated two types of protection provisions: a local historic district, in accordance with Act 167 the Pennsylvania Historic District Act; and a historic overlay district, in accordance with Act 247 of the Municipalities Planning Code, whose boundaries coincide. The historic zoning district follows the length of Birmingham Road (including Birmingham Hill Preserve), an area that has important historic resources and cultural significance. The Township has an historic Architectural Review Board to advise on the impact of proposed new construction activities within the local historic district. See Figure 1.6 for the map of Historic Districts.

Name	Municipalities that include a historic district	Contributing resources within each historic district**
Total:	16	13
Birmingham Historic District	Birmingham Twp.	13
Brandywine Battlefield Park*	Chadds Ford Twp.	2
Chadds Ford Historic District	Chadds Ford Twp	4
Concordville Historic District	Concord Twp.	3
Darlington Farm/Hillhurst Historic District	Pennsbury Twp.	1
	Pocopson Twp.	2
Dilworthtown Historic District	Birmingham Twp.	0
	Chadds Ford Twp.	2
Kennett Square Historic District	Kennett Square Boro.	1
Longwood Gardens Historic District	E. Marlborough Twp.	1
	Kennett Twp.	1
	Pennsbury Twp.	1
Marlborough Village Historic District	Newlin Twp.	1
Marshallton Historic District	West Bradford Twp.	8
Northbrook Historic District	Pocopson Twp.	2
	West Bradford Twp	1
Taylor Cope Historic District	East Bradford Twp	4
Thornton Historic District	Thornbury Twp. DC	2
Trimbleville Historic District	Pocopson Twp.	1
	West Bradford Twp.	3
Strodes Mill Historic District	East Bradford Twp.	7
Worth Jefferies Rural Historic District	East Bradford Twp.	8

Notes: *Brandywine Battlefield Park was listed in the National Register as an element of the National Landmark, but was not formally described in that documentation as a "district" despite having the attributes of a district. Source: Chester County Planning Commission, 2012. ** The term "contributing resources" as used in this context, refers only to properties considered contributing to the Battle.

FIGURE 1.6 Historic Districts

Planning Process

This Master Plan was prepared by an in-house team of professional planners, historians, geographers, and conservation specialists at the Brandywine Conservancy in Chadds Ford, Pennsylvania. Below (Figure 1.7) is an overview of tasks that were performed to complete this Master Plan over a 12- month timeframe.

Stakeholder and Public Participation

A variety of public participation tools were incorporated into the planning process to engage the community and to solicit feedback at key milestones in the project.

Birmingham Hill Master Plan Tasks and Timeline September 16 2019												
Tasks	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20
Project Tasks	Inventory and Analysis			Design Options			Final Option and Recommendations				Final Report	
A Purpose, Goals, Objectives												
B Public Participation												
C Background Information												
D Site Inventory and Analysis												
E Activity and Facility Analysis												
F Design Considerations												
G Design Process and Recommendations												
H Cost Estimate and Phased Capital Development												
I Maintenance and Operations Costs, Revenue												
J Security Analysis												
K Structural Assessment												
L Historic Areas and Structures Review												
M Forest Stewardship Plan												
N Demolition Plan												
Public Participation												
Advisory Committee Meetings												
Public Meetings												
Key Person Interviews												
Deliverables												
Draft Report												
Final Report												
Executive Summary												

FIGURE 1.7 Planning Tasks and Timeline

Plan Advisory Committee

The Brandywine Conservancy team identified key stakeholders and invited them to serve on the Plan Advisory Committee (PAC). PAC members were selected to represent a wide range of backgrounds and experiences with a focus on historic preservation and the Battle of Brandywine. Members included:

David Poston, Brandywine Conservancy Committee

Jack Hines, Brandywine Conservancy & Museum of Art Board of Trustees

Mike Forbes, Birmingham Township Historical Commission

Anne Siemer, Birmingham Township Recreation, Parks, and Open Space Committee

Dan Hill, Chair, Birmingham Township Board of Supervisors

Mike Shiring, Member, Birmingham Township Board of Supervisors

Karen Marshall, Heritage Preservation Coordinator, Chester County

Jeannine Spiers, Senior Community Planner, Chester County

Andrew Outten, Executive Director, Brandywine Battlefield Park

Susan Hamley, Executive Director, Chester County Conference and Visitors Bureau

Verne Weidman, Community and history advocate

Bruce Mowday, Author and Historian

Beverlee Barnes, Historic Preservation Manager, Delaware County Planning Department

Cory Kegerise, Community Preservation Coordinator – Eastern Region, Pennsylvania Historical and Museum Commission

Scott Stephenson, Executive Director, Museum of the American Revolution

Kathy Robertson, Deputy Director of Real Estate, American Battlefield Trust, Washington

Tom McGuire, Historian and educator

Steve Byrne, Executive Director, Destination Delco Tourist Bureau

The PAC met two times at the Birmingham Township municipal building and once online. Agendas from the meetings can be found in Appendix A.

PAC Meeting #1 – Tuesday, October 29, 2019

PAC Meeting #2 – Friday, February 28, 2020

PAC Meeting #3 – date TBD

Key Person Interviews

The PAC and the Brandywine Conservancy planning team identified several individuals to be interviewed for the Master Plan. Seventeen individuals were interviewed (including 7 landowners described below), and the interviews are documented in Chapter 2 and Appendix B.

Landowner Outreach

During the inventory phase of the project, all landowners with adjoining properties were sent packets by mail that included maps and background information on the Birmingham Hill Preserve Master Plan project. The packets included the vision, goals, and objectives for the Preserve. Landowners were invited to contact Brandywine Conservancy planners if they wished to meet and discuss the Master Plan process and desired outcomes. Seven landowners (including three couples) responded and were engaged in follow-up meetings. Their comments are documented in the Key Person Interviews in Chapter 2 and Appendix B. All adjacent landowners were mailed notices with information regarding two Town Hall gatherings.

Public Meetings

Two Town Hall gatherings were scheduled when key phases of the project were completed, and draft information was presented in a forum open to the general public.

Town Hall Gathering #1 – May 27, 2020 (Online webinar)

- Project overview
- Existing conditions inventory
- Draft vision and goals
- Hands-on public engagement
- Town Hall Gathering #2 – 2020 (Online webinar)
Presentation of draft plan including draft recommendations for phased implementation
- Public review and comment

Website

Draft documents that were prepared for the Town Hall gatherings were made available on the project website and could be viewed or downloaded. Public comments and questions were encouraged through an interactive comment box on the website. The website was also used as an avenue to promote the two Town Hall events.

<https://www.brandywine.org/conservancy/preserves/birmingham-hill-preserve>



Perimeter trails follow Birmingham Road and Meetinghouse Road offering glimpses into the scenic landscape and hay fields in the Preserve.



Chapter 2

Inventory and Analysis

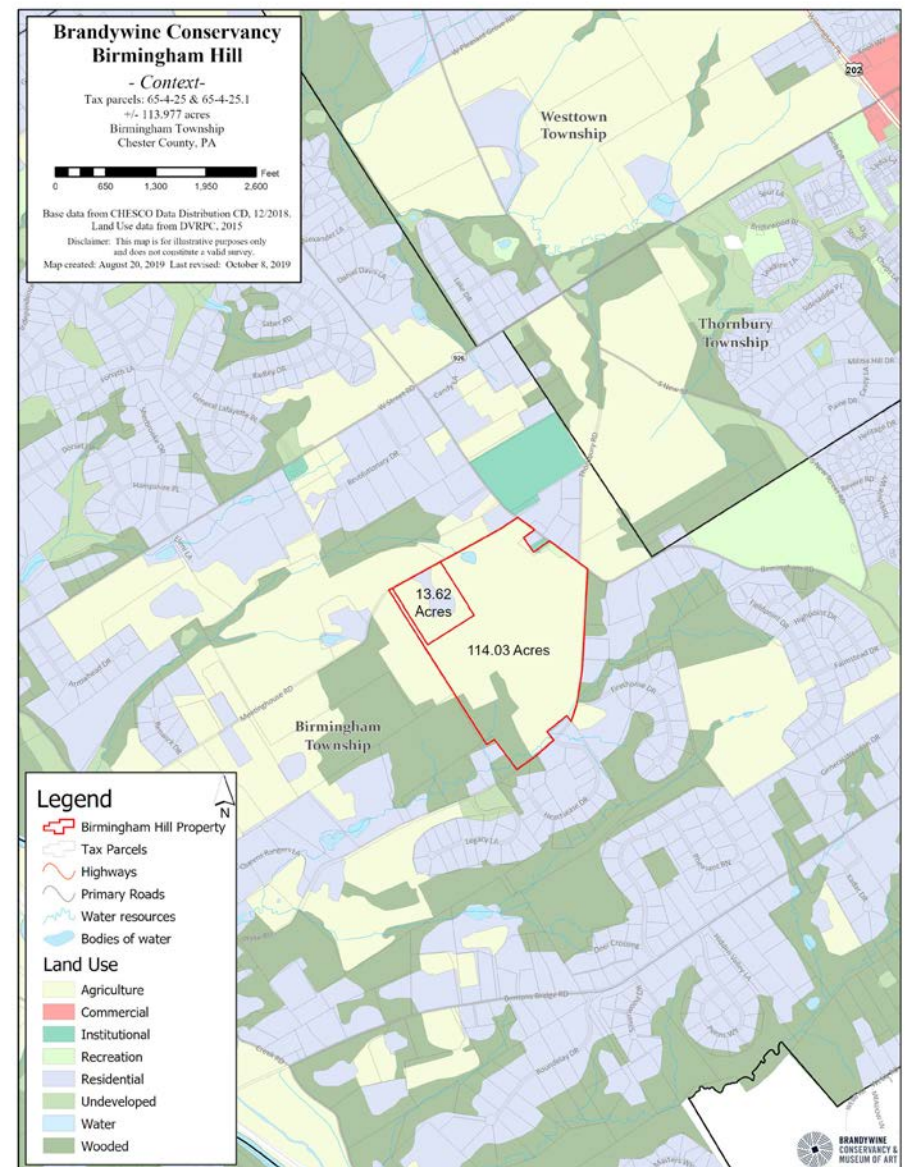
Birmingham Hill Preserve is a unique property that is recognized at the local, county, state and federal levels for its unique cultural resources and significant scenic values, both of which are important in protecting the historic integrity of the Brandywine Battlefield. The property is noted in Birmingham Township's Comprehensive Plan and is specifically targeted in the plan's Brandywine Battlefield Preservation Effort Map. See Map 2.1 of Surrounding Land Uses.

Approximately 649 acres of land within a mile of Birmingham Hill Preserve is permanently protected, some with conservation easements held by the Brandywine Conservancy and Natural Lands, including the Marshall, Worth, Brigham, Wylie, Spackman, and Osborne Hill properties. Although this is significant acreage, many parcels of open space within the BBNHL remain unprotected including those listed in the 2-volume Brandywine Battlefield Historic Landmark Cultural Resources Management Study. Chester County Planning Commission's Brandywine Battlefield Strategic Landscapes studies which focus on the National Historic Landmark and landscapes beyond the boundaries also recommend land conservation and outline the need for further protection efforts to protect the Battlefield in perpetuity.

Land Use History

According to the BBNHL Cultural Resources Management Study (1989), Birmingham Hill Preserve is located within an area of major Revolutionary War battle-related activity, as it was the site of the first and second defensive lines of the Continental Army during the Battle of Brandywine.

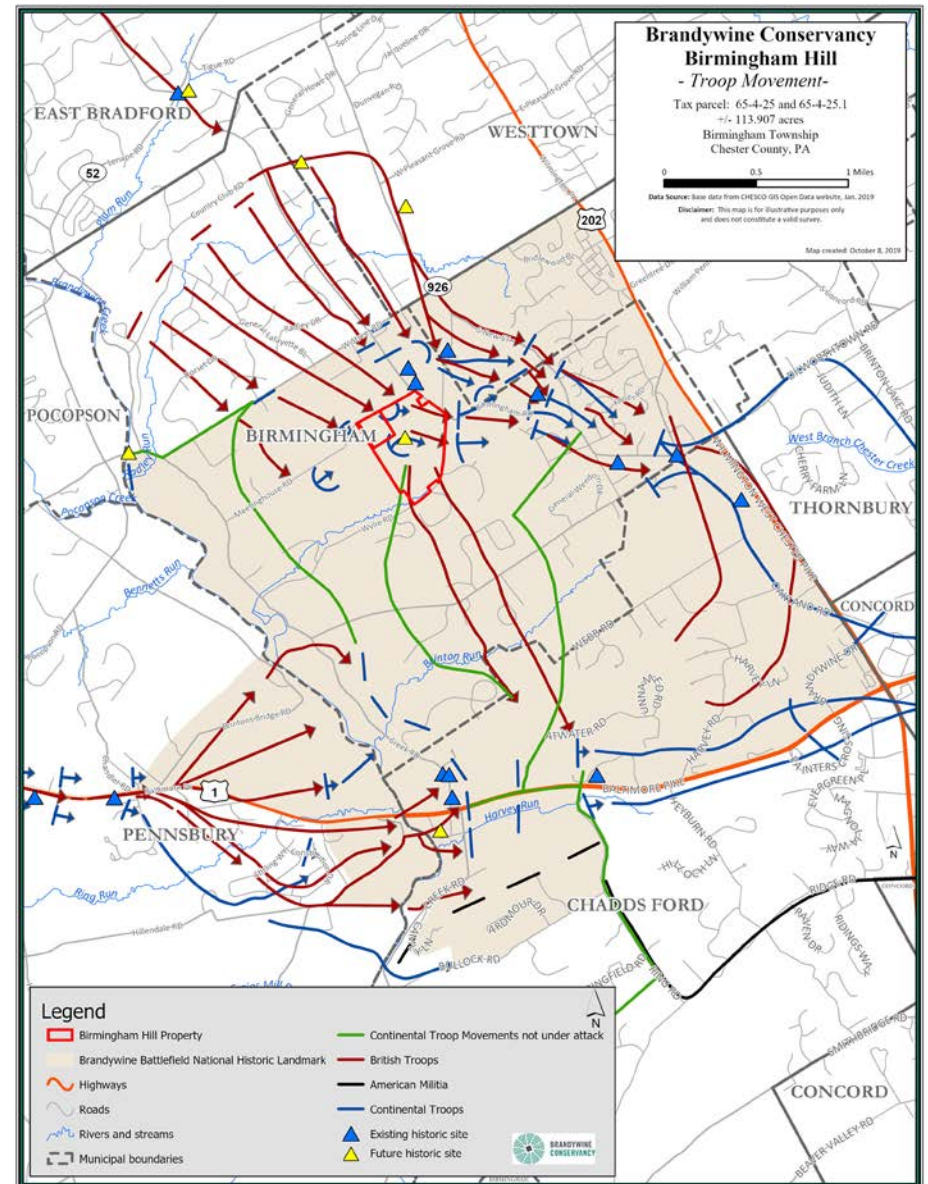
The Battle of Brandywine took place on September 11, 1777 along the Brandywine River near Birmingham, Pennsylvania. This was the second largest battle of the Revolutionary War in terms of the number of combatants, surpassed in total number of troops



MAP 2.1 Surrounding Land Uses

only by the Battle of Monmouth that took place on June 28, 1778. General Sir William Howe was embarrassed by General George Washington's successes at Trenton and Princeton and decided to take Philadelphia, the Continental capital. Washington believed he could stop the British at the Brandywine River. He placed troops at Wistar's Ford to the north and Pyle's Ford to the south to force a fight at Chadd's Ford. This was an advantageous position for the Continental Army. Howe decided to send about half of his army to engage the Americans at Chadd's Ford while sending the majority of Regulars to cross the Brandywine north of the Continental's position, then, march south and flank the American forces. On September 11th, the British troops deployed as planned. Washington believed he was engaging the entire British Army at Chadd's Ford, but by mid-afternoon, the British had forded the west and east branches north of Washington's forces and continued to Osborne Hill about 1 ½ miles north of the Birmingham Friends Meeting House where he rested his soldiers before going into battle. Washington realized he had been out maneuvered and ordered his troops to take the high ground around the Birmingham Friends Meeting House. After a severe engagement, the Americans were forced to retreat. The Continental forces withdrew southeast, fighting all the way to Dilworthtown and beyond. Nightfall ended the battle, and the Continental forces retreated 10 miles east to Chester. Following the battle, the British captured Philadelphia on October 26, and the Continental Army spent the winter at Valley Forge.

Historic records indicate that the property was farmed as a private estate at least as early as 1883. In the twentieth century, the property was used primarily for residential and agricultural purposes. During the Odell family's tenure of the property, agriculture consisted mainly of the raising and boarding of horses and hay cultivation. Crop production ceased around the time the Odell residence was constructed circa 1955.



MAP 2.2 Troop Movement, Philadelphia Campaign of the American Revolution, 1777

Historic Resources

Birmingham Hill Preserve possesses high conservation value for its historic and cultural resources, specifically archaeological resources, as it is located in the heart of the BBNHL and played a significant role in the American Revolution (Map 2.2). Historic research on Birmingham Hill Preserve has suggested that the springhouse located near the pond on the property may date from prior to the Battle of Brandywine. The springhouse is most likely associated with the house across the street at 1025 Meetinghouse Road (UPI# 65-4-6.2). According to the 2013 Brandywine Battlefield Preservation Plan's Appendix B: Historic Resources Inventory, the house across the street is known as the Battlefield Farm and attributed to the William Dean plantation. The tenant house was built in the early 1700s. Jesse Graves owned the property in 1777 and historic deed research revealed that Jesse Graves also owned the Birmingham Hill Preserve property at that time.

Archaeological Resources

In 2008, shortly after acquiring the Skirmish Hill Farm parcel in accordance with grant requirements, the Conservancy granted an access easement to Birmingham Township that, among other things, granted the township the right to construct a parking lot and public walking trail along the property's border with Birmingham Road. Fearing that the construction might cover over or disturb battle-related artifacts, the Conservancy commissioned an archaeological study of the portion of the farm to be impacted by the project. Battlefield Restoration and Archaeological Volunteer Organization (BRAVO) conducted a Phase I electronic metal detecting survey of the proposed parking lot area to determine if any military or other significant historical artifacts were present. The survey area was also expanded to include the hilltop west of the eastern fence line,

where contemporary accounts claim was the area of military activity from the British Light Infantry and segments of the 3rd (artillery) Brigade. One musket ball, a coin (possibly a George I halfpenny), a pewter button and a possible lead pencil were excavated as probable battle-related artifacts and are in the collection of the Brandywine Conservancy & Museum of Art.

A number of agricultural artifacts were also uncovered. A machine cut spike, a cut or wrought nail and horseshoe fragments were excavated in Area A (Figure 2.1). Additional nail readings were reported by the detectorists, but not excavated. The artifacts were left in-situ so as not to be disturbed for a future Phase II study of this area. The topography of the area suggests it may have been filled to level the ground. It is suggested that several 5' x 5' units be strategically placed to determine if the area has been

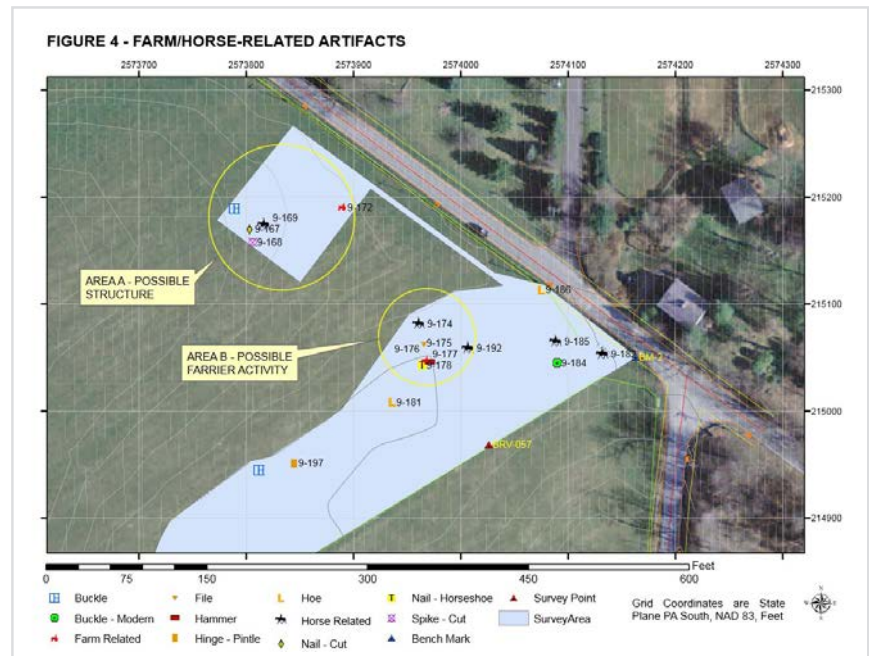


FIGURE 2.1 BRAVO Survey Map

mechanically filled or leveled by accumulating erosion silt. Based on the topography and artifact density, this area may have had a 19th – 20th century structure such as a barn or storage shed.

Area B (Figure 2.1) produced a farrier's hammer, a triangular file, horseshoe fragments, and a horseshoe nail. This suggests the area was once possibly used by a farrier or a blacksmith. A female part of a pintle hinge was found in Area B with the tip hammered into a curl. It is interesting to note that two hoe blades were also found suggesting that this general area may have been tilled, hand weeded and/or aerated.

Following the study, BRAVO recommended that the Conservancy conduct a survey of the entire Skirmish Hill Farm parcel to determine if any additional military artifacts are present. Further archaeological work on the entire property could provide more information regarding activity on the property during the battle and inform future historical interpretation at the site.

Geology

Most of the land comprising Birmingham Hill Preserve is underlain by Doe Run schist, one of three rock types within the Glenarm Wissahickon formation. Doe Run schist is a garnet-staurolite-kyanite pelitic schist with abundant biotite and muscovite. It is moderately resistant to weathering and has an average groundwater yield of 75 gallons per minute (gpm). A band of undifferentiated amphibolite facies gneiss, part of the larger Baltimore gneiss geologic unit, underlies the southern portion of the Property near the stream corridor and forested area. Baltimore gneiss is highly resistant to weathering and has median groundwater yields ranging from 17 to 35 gpm. (Sources: Preliminary Bedrock Geologic Map of a Portion of the Wilmington 30- by 60- Minute Quadrangle, Southeastern

Pennsylvania, Pennsylvania Geologic Survey, 2005; Engineering Characteristics of the Rocks of Pennsylvania, Pennsylvania Geological Survey, 1972).

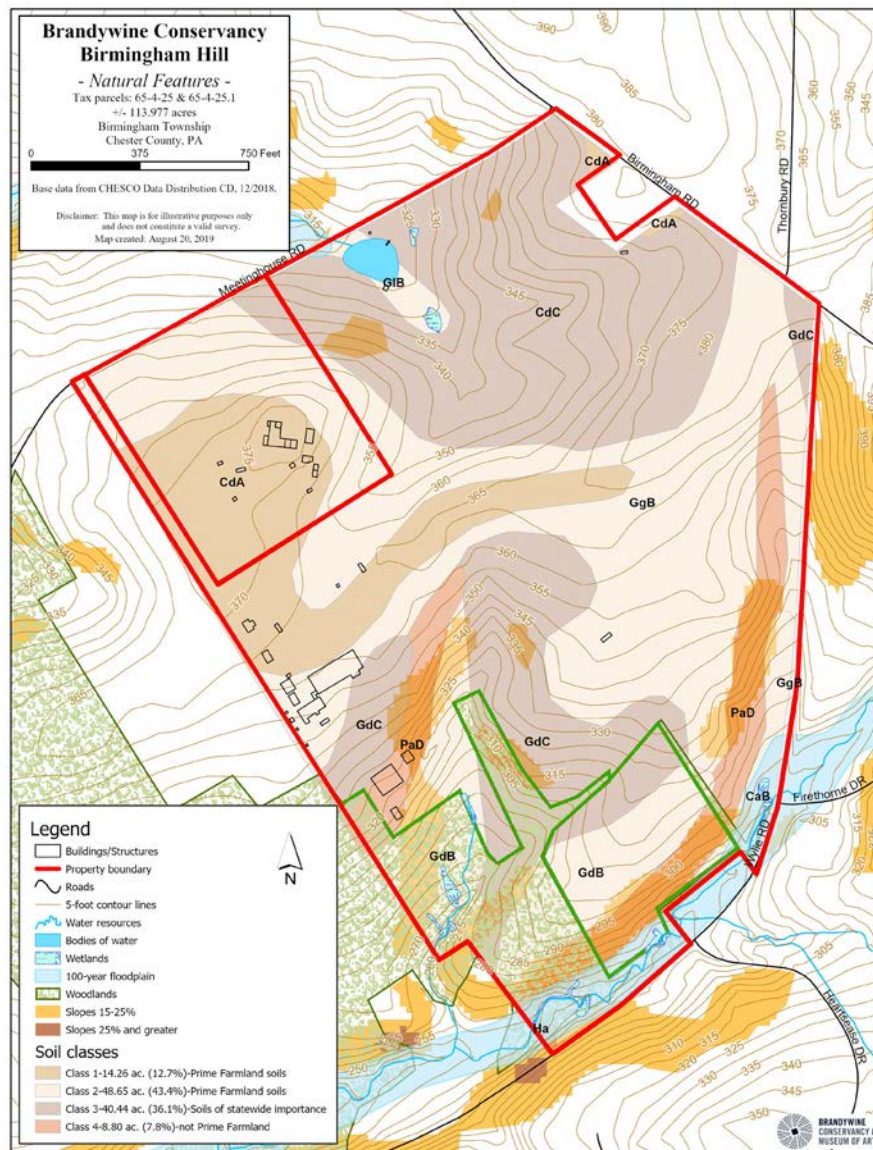
Soils

Soils at Birmingham Hill Preserve include silt loams and gravelly loams. Over 92% of the property is comprised of Prime Farmland Soils or Soils of Statewide Importance. See Map 2.3 of Natural Features and Figure 2.2 Soils.

FIGURE 2.2 Soils

NAME	SYMBOL	SLOPES	ACRES	SOIL DESIGNATION
Califon loam	CaB	3-8%	4.35	Prime Farmland
Chester silt loam	CdA	0-3%	14.3	Prime Farmland
Chester silt loam	CdC	8-15%	26.11	Statewide Importance
Gladstone gravelly loam	GdB	3-8%	10.51	Prime Farmland
Gladstone gravelly loam	GdC	3-8%	15.42	Statewide Importance
Glenelg silt loam	GgB	3-8%	33.35	Prime Farmland
Glenville silt loam	GIB	3-8%	1.3	Prime Farmland
Hatboro silt loam	Ha		0.15	
Parker gravelly loam	PaD	15-25%	8.53	

Source: United States Department of Agriculture, NRCS, 2013



MAP 2.3 Natural Features

Hydrology

The Preserve contains approximately 1,073 feet of frontage on the north branch of Wylie Run, a tributary to the main stem of Brandywine Creek. Additionally, four first-order unnamed tributaries to the north branch of Wylie Run form on the property southeast of the farmstead: one from a shallow stormwater basin east of the existing barns; one from a spring seep in the property's woodlands; and two from hedgerows in the southern corner of the property. The four tributaries converge in the property's woodlands before flowing south and connecting with Wylie Run on neighboring land.

The property contains an existing pond—roughly 0.52 acres in size—adjacent to Meetinghouse Road. This pond is the source of Renwick Run, which flows north then west, and enters Brandywine Creek west of the intersection of Meetinghouse and Creek Roads.

All streams on the property have the aquatic life use-protection designation of Warm Water Fishery/Migratory Fishes (WWF, MF) (25 Pa. Code §93.9.g). Roughly 3.1 acres on either side of the north branch of Wylie Run fall within the Federal Emergency Management Agency-designated 100-year floodplain.

While no National Wetlands Inventory-designated wetlands exist on the property, a wetland delineation completed by Vortex Environmental in late 2005 indicates that jurisdictional wetlands occupy roughly 0.64 acres. These wetlands are concentrated adjacent to the north branch of Wylie Run and its tributaries, though isolated wetlands may also be found adjacent to the existing pond and Wylie Road.

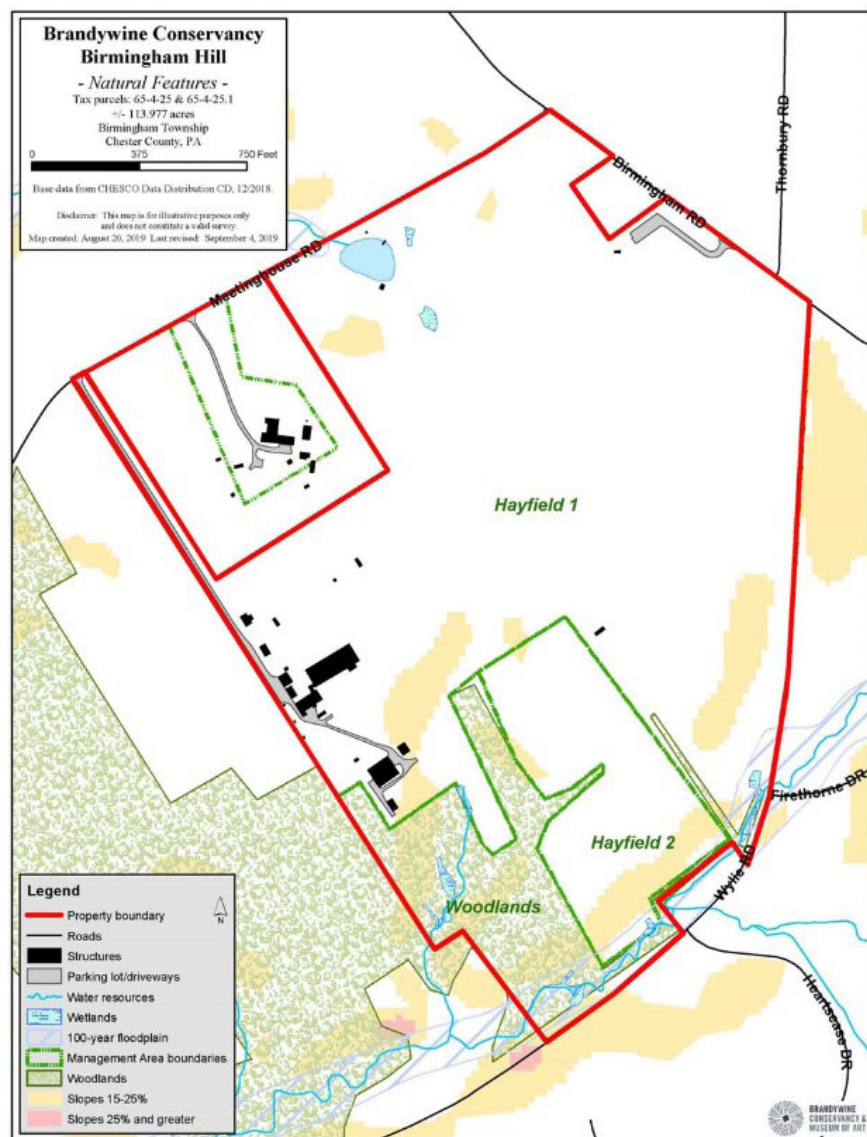


FIGURE 2.3 Management Zones

Vegetation

Birmingham Hill Preserve consists mostly of hayfield with a small wooded area in the southwestern corner. The property has been a working landscape for a long time, and most habitats consist of a mix of non-native invasive and resilient native species. Higher quality native plant species are concentrated in the older woods and wetland areas. Due to past and present soil disturbances and the variety of existing habitats, sedges, mostly of the genus *Carex*, are often common.

For management purposes, the property is divided into two distinct management area types—woodland and hayfields (Figure 2.3). There are two meadow management areas on the property: the area immediately east of the woodland and west of the remnant hedgerow (Hayfield 2), and the hayfields which comprise the largest portion of the farm (Hayfield 1).

Woodland Management Area (10.8 acres)

South and downhill of the barn is a highly disturbed wooded area of walnut, hickory, ash and tulip poplar with a ground cover of rough-stemmed bluegrass, long-bristled smartweed, cut-leaved bitter-cress as well as the non-natives Japanese stilt-grass and garlic mustard. The shrub layer is composed mostly of multiflora rose and Japanese barberry and is generally poor due to deer browsing and past livestock grazing. Farther south, a grove of white oak on a small rise shades a sedge-dominated herbaceous layer.

To the west of this walnut-dominant woodland is a patch of tulip-maple woods inundated with Japanese barberry and other invasive plants. Closer to the western property boundary, the tulip poplars are slightly older and the invasive plants less dense. A small, wet pocket near the stream has native but common wetland species such as jewelweed, soft rush, and *Carex* species.

The area south of the small, deeply eroded stream and north of Wylie Run is remnant hardwood forest consisting mostly of beech and hickory. The shrub layer is sparse and contains mostly Japanese barberry and other invasive plants, but native spicebush and blackhaw viburnum is present. Stilt-grass and garlic mustard are found in patches though there are many bare areas under the beech trees. A few native herbs are present but can be difficult to spot. Livestock were likely permitted to graze in this woodland in the past; what they left behind was likely browsed by deer.

The woods south of Wylie Run are dominated by tulip poplar and ash. The shrub layer is thicker here, especially around several downed trees, and there are a few native plant species present that are indicators of rich woodland habitats. This woodland does not seem to have been as heavily impacted by grazing and deer browse as has the woodland are north of Wylie Run, though evidence of deer browse exists. The wooded corridor north of Wylie Run is comprised of mature walnut and ash with pockets of wetland containing skunk cabbage, sedges and bulrushes. Invasive plants in the corridor include multiflora rose, beefsteak plant and tearthumbs.

Other tree species found within the property's woodlands include hackberry (*Celtis occidentalis*), mockernut hickory (*Carya tomentosa*), shagbark hickory (*Carya ovata*), pignut hickory (*Carya glabra*), red oak (*Quercus rubra*), sycamore (*Plantanus Occidentalis*), black gum (*Nyssa sylvatica*), black cherry (*Prunus velotina*), flowering dogwood (*Cornus florida*), box elder (*Acer negundo*), and American beech (*Fagus grandifolia*). A variety of individual trees may be found surrounding existing improvements elsewhere on the property, including the white pine, cedar and willow trees between the existing pond and Meetinghouse Road. In addition, several mature red maples line portions of Meetinghouse, Birmingham, and Wylie Roads.

Overall, there is a very noticeable absence of a healthy shrub layer in the woodland, most likely a result of extremely high deer densities in the area and historical mowing in the woodlot and livestock grazing. Shrubs that are present include a stand of American bladdernut (*Staphylea trifolia*) as well as more common species such as spicebush (*Lindera benzoin*), blackhaw viburnum (*Viburnum prunifolium*), and arrowwood viburnum (*Viburnum dentatum*).

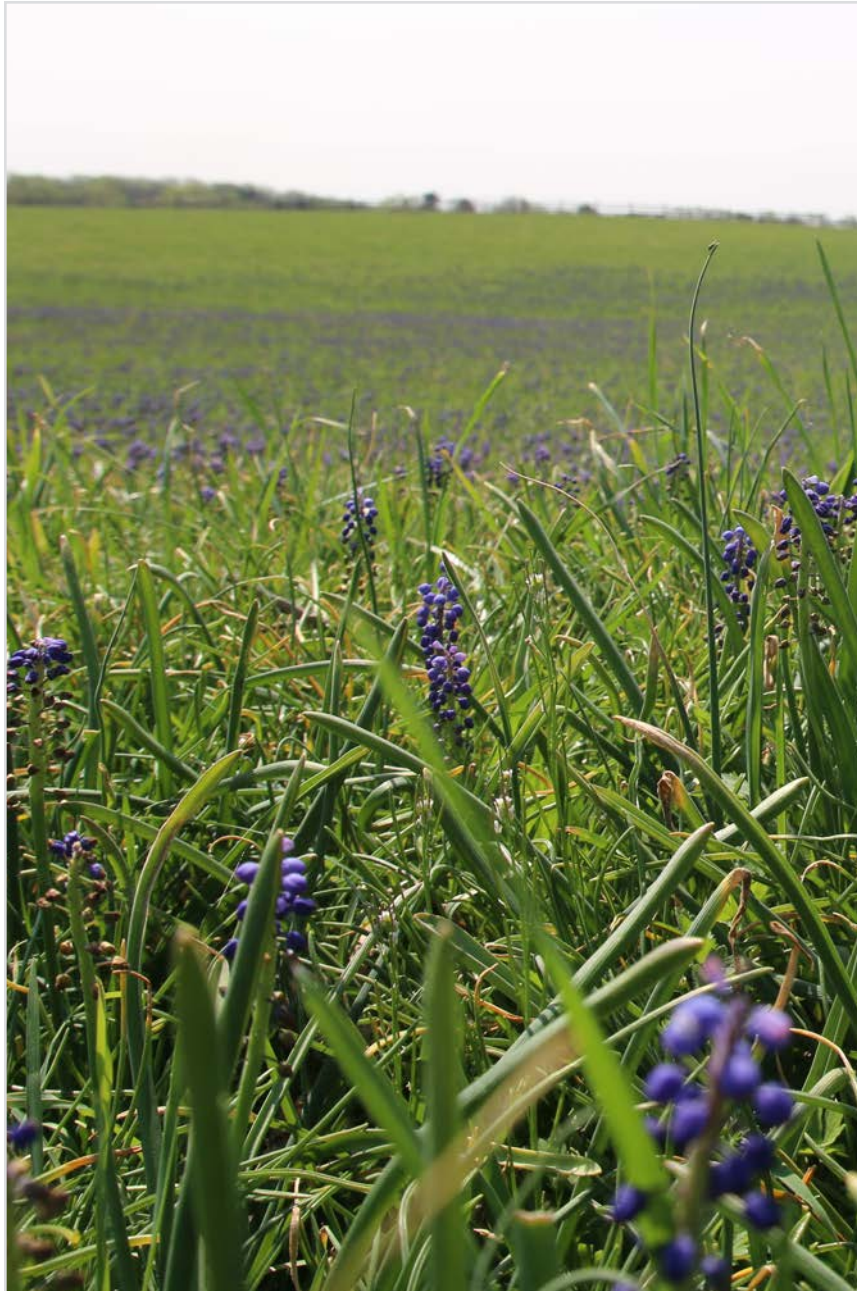
The woodland also contains several fern species such as Christmas fern (*Polystichum acrostichoides*), spinulose wood fern (*Dryopteris carthusiana*) and narrow lady-fern (*Athyrium angustum*) species. Sensitive fern can be found growing along the small seep.

The significant existing resources within the Woodland Management Area are:

- Mature upland hardwood forest
- Unnamed first-order tributaries to Wylie Run

Hayfield 1 Management Area (6.7 acres)

Located immediately east of the woodland and north of Wylie Road is the Hayfield 1 management area. The eastern boundary is marked by a hedgerow, dominated by black walnut, extending into the property away from Wylie Road. The northern portion of this hayfield is relatively flat with little topography change; the southern portion contains areas of steep slope on the southern side and a portion of Wylie Run at the base of the steep slope. This hayfield is leased to a local farmer and allowed to be cut once per year, occurring sometime after July 1st. Some native vegetation is present during the winter months and provides cover and food for a variety of small mammals and birds.



Hayfield 2 Management Area (82.88 acres)

These hayfields are dominated by cool-season grasses and are generally low in diversity. These fields are actively farmed for hay and allowed to be cut twice per year. According to the annual lease, the first cutting is allowed early in the year and the second cutting must occur at a minimum of forty days after the first cutting. Most of the old post and rail fences have been removed for ease of access and cutting, but a fence running from Meetinghouse Rd. south and then west to Birmingham Rd. is maintained as a natural border. The northeast portion of the meadow, referred to as “Cemetery field” has a loop trail cut through that begins and ends at the parking lot for the Birmingham Trail along Birmingham Rd. The public is welcome to hike this trail.

In addition to cool-season grasses, the Cemetery Field is dominated by a sprawling colony of grape hyacinths (*Muscari* sp.) that provide a showy display of blue bloom in the early spring. Although not native to the region (native to Eurasia), the spikes of blue flowers that resemble clusters of grapes have become an icon on the Birmingham Hill Preserve landscape and a local attraction for residents and visitors each year. In the United States and locally they are commonly referred to as bluebells, not to be confused with Virginia Bluebells (*Mertensia* sp.) which is native to the region. It is likely that the hyacinths were once planted as an ornamental garden plant that spread and multiplied across the hillside over the years.

The pond within Hayfield 2 is mowed infrequently to the waterline on all sides except for a small grove of trees (white pine, cedar, willow) near the road, and the springhouse is located on the southern shore. The eroded banks of the pond offer little space for wetland species and algae and hydrilla are the dominant aquatic vegetation.

Fauna

There are no state- or federally-designated threatened or endangered plant or animal species present on the property. Wildlife that is frequently observed includes hawks and other common bird species.

Topography

The property's highpoint at 382 feet above sea level lies about 500 feet south southwest of the intersection of Wylie and Birmingham Roads. The second highest points on the property at 380 feet is the location of the primary residence on the Odell Option Parcel and along Birmingham Road. A broad northeast-southwest trending ridge divides the farm into two drainage basins. The basin in the south drains to the north branch of Wylie Run, on which the property has 1,073 feet of frontage. The basin in the north drains into a pond that feeds Renwick Run. Both Wylie Run and Renwick Run are tributaries to the main stem of the Brandywine Creek.

Invasive Plants

Perhaps the single greatest threat to our native vegetation and the region's biodiversity, and by far one of the most serious problems in the management of open space, is the presence of invasive plants. While invasive plants sometimes provide food and shelter for birds and other wildlife, their detrimental effects to our native vegetation are far greater. Invasive plants outcompete our native species for resources such as sunlight and space, thereby taking over habitats. Through this displacement of native vegetation, habitat quality and availability for native fauna is compromised or lost entirely. Past land use practices such as agriculture and logging coupled with the effects of browsing from a large population of white-tailed deer have caused

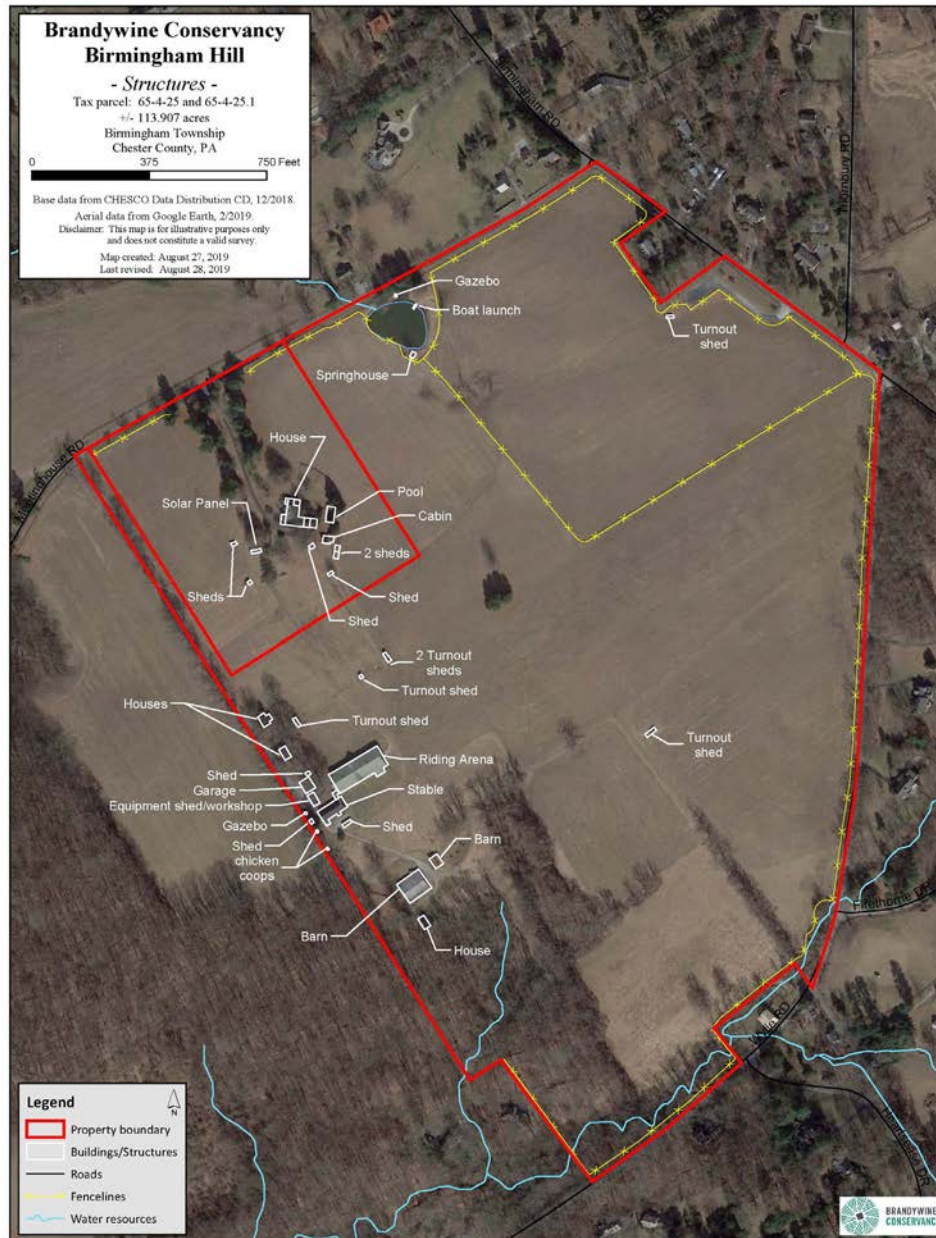
irreparable harm to native vegetation in southeast Pennsylvania. The control of invasive plants in our region will be perpetual.

There are two techniques for controlling invasive vegetation: mechanical removal (cutting, pulling or uprooting, mowing) and chemical removal (i.e., herbicide applications). Usually the most effective control on a given site will require a combination of two or more methods. The prescriptive control will be unique to each site based on specific site conditions and the extent of the infestation. What will be common to every site is the fact that the prolific nature of invasive species mandates ongoing monitoring, early detection of new infestations and a rapid response with regard to control.

Invasive plant species are abundant in the farm's woodland, especially multiflora rose, Japanese barberry and oriental bittersweet. Japanese stilt-grass and garlic mustard can be found in sunny areas of the woodland under canopy openings and on the woodland edge. Other invasive plants that have been detected include tartarian honeysuckle, Japanese honeysuckle, beef-steak plant, and mile-a-minute vine.

Existing Improvements

Birmingham Hill Preserve currently contains four residential buildings and a number of agricultural and accessory structures and improvements. All structures, except for one, are contemporary and have no historical significance. The springhouse is thought to be the sole structure on the property that may have been present at the time of the Battle of Brandywine. Below is a list of existing structures that potentially have value for future operations, and structures with no value that will be demolished. The locations of all buildings and structures are shown on Map 2.4 of Existing Improvements.



Structures to Remain

- Property manager residence
- Log cabin
- Springhouse
- Garage
- Equipment shed/workshop
- Stables
- One Barns
- 2 water wells
- 2 wastewater disposal fields

Structures to be Demolished/Removed

- Primary residence
- Two secondary residences
- Two gazebos
- Solar panel
- In-ground swimming pool
- Indoor riding arena
- Two chicken coops
- 15 turnout sheds
- Split rail fences as appropriate
- Odell house and driveway
- Underground heating oil tank
- Underground gasoline tank

MAP 2.4 Existing Improvements

Access

The entire acreage of Birmingham Hill Preserve is not presently available for public visitation. Limited public access has been granted in accordance with the deed restriction on the Skirmish Hill Farm parcel granted in favor of the Pennsylvania Department of Conservation and Natural Resources (PA DCNR). A public trail easement was granted to Birmingham Township along the property's frontage on the west side of Birmingham Road and the south side of Meetinghouse Road. A small, gravel parking area and walking path were installed in 2008. The maintenance of both the lot and the trail are the responsibility of Birmingham Township, and the Conservancy owns the fence bordering the trail and parking lot. In 2019, a narrow trail, originating and ending at the gravel parking lot, has been mowed through the Cemetery Field to supplement the hiking opportunities. These two features are currently the only portions of the property that are accessible to the general public until the Preserve is officially open. See Map 2.5 Access.

Public enjoyment of the property is also offered by the scenic views enjoyed from the adjacent public roads. With considerable frontage along Birmingham, Meetinghouse and Wylie Roads, the property contributes significantly to the scenic character of both the township and the Brandywine Battlefield National Historic Landmark.

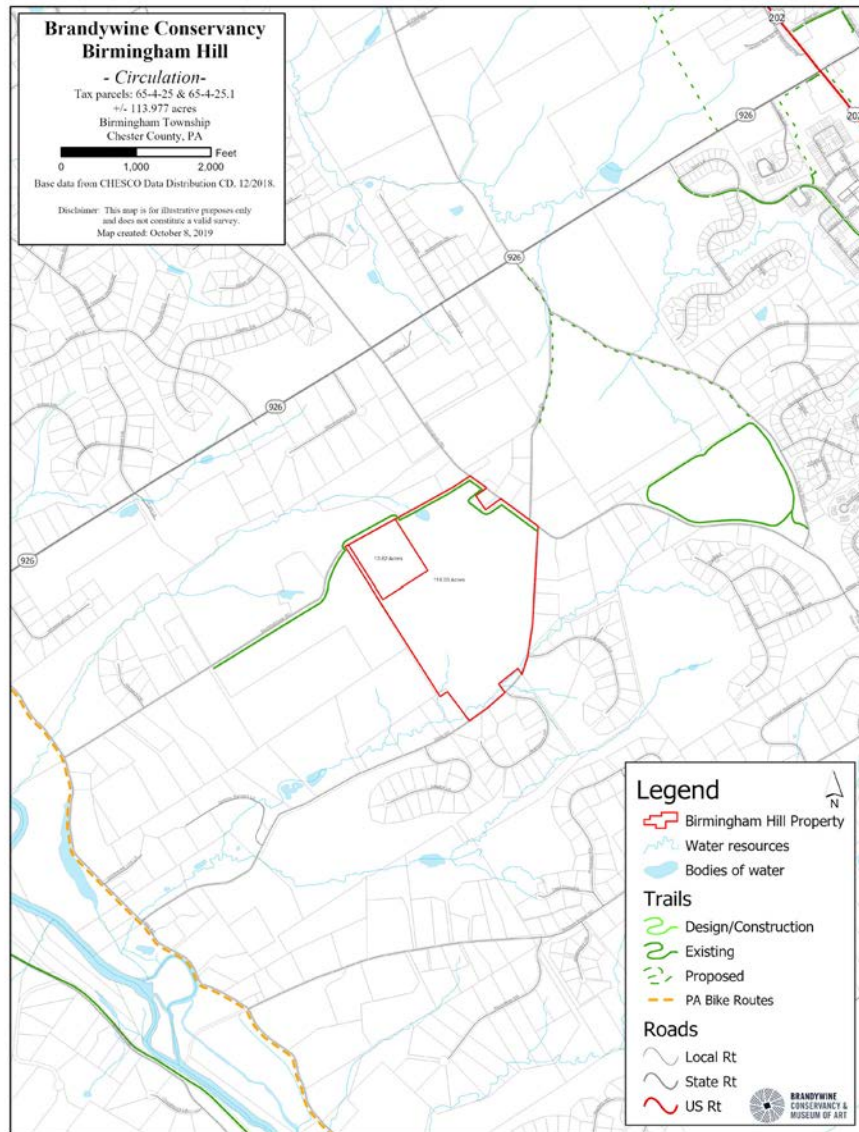
A private driveway/maintenance lane enters the property along its western border off Meetinghouse Road to access the tenant residences, farm buildings, and the property manager's residence.

Zoning

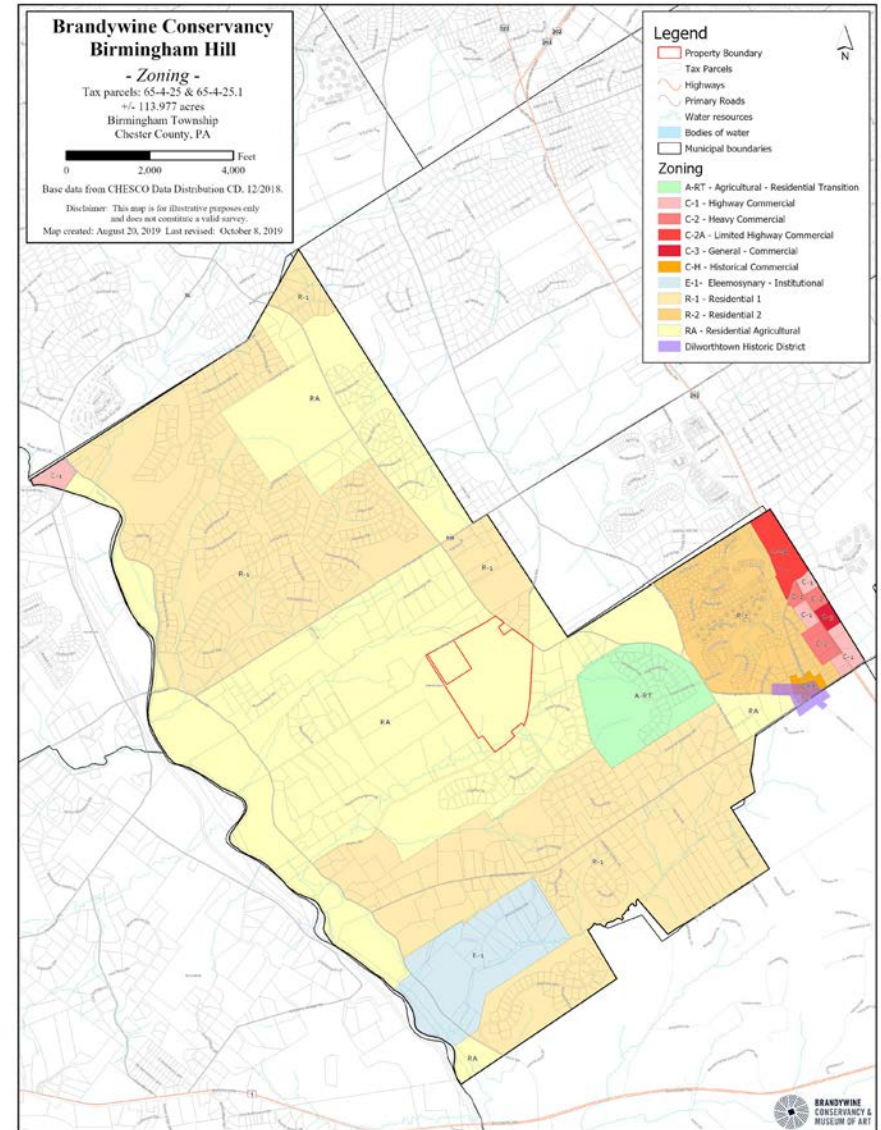
Birmingham Hill Preserve is zoned Residential-Agricultural (RA) District and Historic (H) District through the Birmingham Township Zoning Ordinance (Map 2.6). The purpose of the RA District is to “encourage and promote continued agricultural uses while also permitting low-density residential development which will blend with existing agricultural uses and perpetuate the rural atmosphere of the area”. Uses permitted by right in this District include single-family detached dwellings, agricultural uses, woodlands, game preserves or other conservation purposes, etc. The proposed Preserve would be permitted as a by-right use with a conservation purpose.

The purpose of the H District is to protect historic buildings and areas within Birmingham Township which reflect the architectural and historical heritage of the Township and to promote the general welfare, education, and culture of the Township by encouraging an interest in its historical heritage. The H District is an overlay on the RA District, provides for additional uses, and requires that certain procedures be followed for determining the appropriateness of the erection, reconstruction, alteration, restoration, demolition or razing of any building within the District. The H District permits, subject to Special Exception, “a museum, library or other educational, cultural, or philanthropic use of a similar nature.”

In addition to the RA District and H Overlay District, the Zoning Ordinance's Chapter A127 Historic District Design Guidelines apply to the Birmingham Hill Preserve property. Any new structure that is proposed is subject to review by the Historical Architectural Review Board. See Section A127-1.B Birmingham Road Corridor, Appendix C.



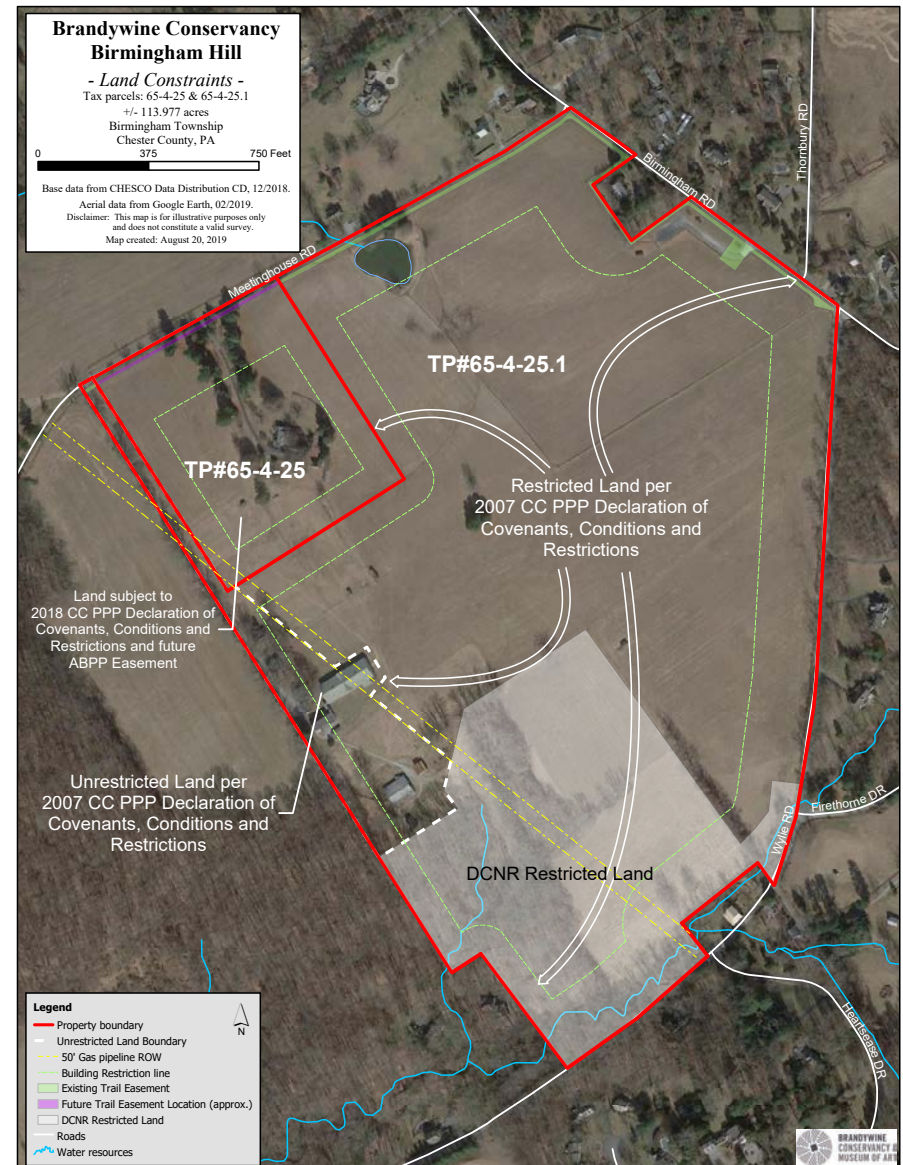
MAP 2.5 Access



MAP 2.6 Zoning

Deed Restrictions/Easements

Birmingham Hill Preserve is subject to several restrictions as illustrated on Map 2.7. The Skirmish Hill Farm Parcel is subject to a Declaration of Covenants, Conditions, and Restrictions (“Declaration”), recorded May 24, 2007, and a deed restriction by Pennsylvania Department of Conservation and Natural Resources (PA DCNR). A 7.162-acre portion of the property along its western border, termed “Unrestricted Land,” encompasses all of the existing residential and accessory improvements and the majority of the property’s agricultural improvements. The Unrestricted Land is not subject to the terms of the Declaration. The 93.127-acre remainder, termed “Restricted Land,” possesses the property’s most significant environmental and cultural resources. The Restricted Land is subject to the terms of the Declaration. Within the Restricted Land are two separate areas also subject to a deed restriction in favor of PA DCNR recorded May 24, 2007. PA DCNR Deed Restriction Area “A” is 24.142 acres in size and lies in the southwest corner of the Restricted Land. It encompasses most of the property’s woodlands and streams and a meadow area. PA DCNR Deed Restriction Area “B” is 1.061 acres in size and follows the property’s frontage along Birmingham and Meetinghouse Roads. Area B contains the publicly accessible walking trail and the small parking area. A trail easement on this acreage was granted to Birmingham Township on November 26, 2008. The Odell Option Parcel is also subject to Declaration of Covenants, Conditions, and Restrictions, recorded September 27, 2018 and encompasses the entirety of the 13.618-acre parcel. Copies of the Declarations, Deed Restriction and Trail Easement are contained in Appendix D.



MAP 2.7 Deed Restrictions/Easements

A detailed summary of the restrictions in place on the 100-acre parcel is provided below:

Chester County Declaration of Covenants, Conditions, and Restrictions

- Recorded May 24, 2007 in Deed Book 7168, Page 401.
- Applies to Restricted Land only (93.127 acres), which excludes a triangle of land encompassing the existing buildings
- Use of land is limited to park, open space, agricultural, forest, public recreation and education, and historical interpretation purposes.
- Disposal of sewage effluent from off-site uses is prohibited.
- Cell towers are prohibited.
- Conveyance of surface or groundwater for consumptive or commercial uses is prohibited. (On site use of groundwater is permitted.)
- Composting materials and waste products generated off site may not be placed on the property for any reason.
- Restricted land may not be used to satisfy municipal open space or protected lands requirements and may not be used for the transfer of development rights.
- Other uses inconsistent with the purposes of the Declaration are prohibited unless approved by Chester County.
- Imposition of any additional or future restrictions on the Property are prohibited unless approved by Chester County.
- Chester County holds the right and power to enforce the Declaration.
- If Chester County determines a violation has occurred, it may demand corrective action.
- Cost incurred in enforcing the Declaration shall be borne by the landowner.
- The Declaration shall be perpetual and run with the land.

PA-DCNR - Deed Restrictions

- Recorded May 24, 2007 in Deed Book 7168, Page 389.
- Applies to PA-DCNR Deed Restriction Area A (25.142 acres) and PA-DCNR Deed Restriction Area B (1.061 acres). Area A consists of the woods in the southwest corner of the property and the adjacent 12-acre field to the east. Area B consists of the parking lot on Birmingham Road and the public walking trail along Birmingham and Meetinghouse Roads. These areas overlap with the Restricted Land in the Chester County Declaration described above.
- In favor of and enforceable by the Pennsylvania Department of Conservation and Natural Resources (PA-DCNR) and its successors.
- Areas A and B may not be converted to purposes other than those outlined in the Environmental Stewardship and Watershed Protection Act (P.L. 949 No. 68, as amended).
- No change of use and no transfer of ownership, control, or interest in the restricted land may occur with written consent of PA-DCNR.
- The restrictions shall be perpetual and run with the land.

Birmingham Township - Trail Easement Agreement

- Recorded November 3, 2008 in Deed Book 7552, Page 1048.
- Exclusive Trail easement and Right of Way granted by Brandywine Conservancy to Birmingham Township.
- Chester County and Commonwealth of PA are beneficiaries with the right to enforcement.
- Trail Easement Area consists of a gravel parking lot and access drive along Birmingham Road and a trail corridor extending 15' into the property from the right-of-way lines

of Birmingham Road and Meetinghouse Road and extending along these roads for the length of the property's frontage thereon., being an area of approximately 1.6 acres.

- Grant the public the right to use the parking lot and trail corridor, subject to access restrictions.
- The access restrictions include:
 - prohibiting motor vehicle, bikes, horse, horse carriages, unleashed pets, fires, camping, alcoholic beverages, collected, cutting or removal of plants or historic artifacts, trapping, hunting or discharging of firearms;
 - restricting public use hours from Dawn to Dusk.
- Township may construct and maintain the parking lot and trail at its expense.
- Township may install steps, railings, and culverts.
- Trail surface shall be restricted to grass or wood chips and/or to gravel, other porous material, or pavement with Owner's approval.
- Parking lot surface shall be gravel unless otherwise approved by Owner.
- Permitted trail facilities shall be limited to: 2 benches, trail and interpretive signs, fences and gates.
- Owner rights include:
 - Right to construct and maintain roads and utility lines across the trail easement.
 - Close the trail from the first Saturday after Thanksgiving to the last day of December, or such other dates for the deer hunting season.
 - Propose reasonable additional limitations on the public's use of the trail easement.
 - Amend the easement or waive a provision with consent of all parties

- Township may not charge a fee for access to or use of the easement area.
- Township shall maintain the easement area and remove all trash and mow the grass.
- Township shall construct a fence immediately outside of the trail easement area and, once installed, the fence shall be the property of owner.



Top Left: An existing in-ground swimming pool, fence, and associated landscaping is to be removed.

Top Right: The property manager's residence is located in the southwestern corner of the Preserve and is accessed by a gravel lane south of the maintenance area.

Bottom: The stable is a contemporary structure that is in good condition.

A detailed summary of the restrictions in place on the 13.62-acre parcel is provided below:

Chester County Declaration of Covenants, Conditions, and Restrictions

- Recorded September 19, 2018 in Deed Book 9819, Page 2079.
- Applies to entire parcel.
- Use of land is limited to park, open space, agricultural, forest, public recreation and education, and historical interpretation purposes.
- Disposal of sewage effluent from off-site uses is prohibited.
- Cell towers are prohibited.
- Conveyance of surface or groundwater for consumptive or commercial uses is prohibited. (On site use of groundwater is permitted.)
- Composting materials and waste products generated off site may not be placed on the property for any reason.
- Restricted land may not be used to satisfy municipal open space or protected lands requirements and may not be used for the transfer of development rights.
- Other uses inconsistent with the purposes of the Declaration are prohibited unless approved by Chester County.
- Imposition of any additional or future restrictions on the Property are prohibited unless approved by Chester County.
- Chester County holds the right and power to enforce the Declaration.
- If Chester County determines a violation has occurred, it may demand corrective action.
- Cost incurred in enforcing the Declaration shall be borne by the landowner.
- The Declaration shall be perpetual and run with the land.

Natural Lands – Conservation Easement with ABPP Restrictions – in Progress

- In process of being prepared.
- To be granted to and enforceable by Natural Lands (the Holder).
- Beneficiaries:
 - U. S. National Park Service, American Battlefield Protection Program – right to prevent conversions or diversions of the property from conservation or open space use.
 - PA State Historic Preservation Office, being Pennsylvania Historic and Museum Commission (PHMC) – right to prior consultation with Holder when Owner requests review and right of notification of any violation of the easement.
- Applies to entire 13.62-acre parcel.
- Establishes Conservation Objectives to:
 - protect and conserve natural, scenic, historic, archaeological and cultural resources of the property;
 - provide public access along a trail;
 - promote compatible land use and development; and
 - ensure sustainable uses with respect to agriculture and forestry.
- IDs three separate Protected Areas: A, B, and Trail.
 - Standard Protection Area (SPA), approx. 12.3 acres, encompasses land surrounding but not including building complex and Trail Area;
 - Minimum Protection Area (MPA), approx. 1.3 acres, encompasses building complex including house, pool, cabin, driveway and parking area; and

- Trail Area, approx. 0.24 acres, encompasses a 15' wide corridor running along the property's Meetinghouse road frontage outside of the existing road ROW.
- Existing Improvements:
 - In SPA: 7 sheds, solar panels, fences, gates, and utilities.
 - In MPA: House with attached garage and attached apartment, patio, log cabin, swimming pool, 2 underground fuel tanks, utilities, 2 wells, septic facilities, driveway and parking area.
- Permitted Improvements:
 - In SPA: Fences, gates, regulatory signs, permeable trail ($\leq 6'$ wide), temporary facilities or structures, and underground utilities. No structure shall exceed 400 sq. ft or 16 feet in height.
 - In MPA: Visitor reception and education facility, pavilion, restrooms, interpretive kiosks and signs (≤ 10 sq. ft. each), utilities, and site improvements (defined as: Access Drives, farm lanes, trails, footbridges, boardwalks, walkways, steps, patios, storm water management facilities, bridges, parking areas and other pavements, lighting fixtures, signs, fences, walls, gates, man-made ponds, berms and landscaping treatments.) All new structures are subject to maximum height limit of 28' and a maximum aggregate impervious coverage limit of 10,000 square feet, excluding graveled areas, above existing coverage.
- Permitted Uses:
 - Agriculture, archaeological surveys and investigations (subject to Secretary of Interior's Standards), battle reenactments, charitable functions, non-commercial passive outdoor recreation and open space activities,

residential use in protection Area B, disposal of sewerage generated on the property, and composting of vegetation generated on the property.

- Prohibited Uses:
 - Disposal of sewage effluent from off-site uses is prohibited.
 - Uses that materially and adversely affect the Conservation Objectives.
 - Use of property for calculating development density or open space for other lands not subject to the easement.
- Proposed Ground Disturbances may, in the opinion of Holder and SHPO (State Historic Preservation Office), require an archaeological survey or investigation
- Artifact found on the property belong to the Owner.
- Subdivision is prohibited except to merge the 13-acre property with the adjacent 100-acre property.
- 30 days prior notice must be given the Holder prior to beginning any construction or activity require Holder's review.
- Other standards boiler plate provisions.

On both parcels, the following rights are granted to:

- Manufacturers Light and Heat Company ROW, assigned to Southern Pipeline Company
- Philadelphia Suburban Gas and Electric Company
- Columbia Gas Pipeline
- Chester County - Act 319 Covenant
- Birmingham Township Zoning Ordinance and other Codes



Chapter 3

Opportunities and Challenges

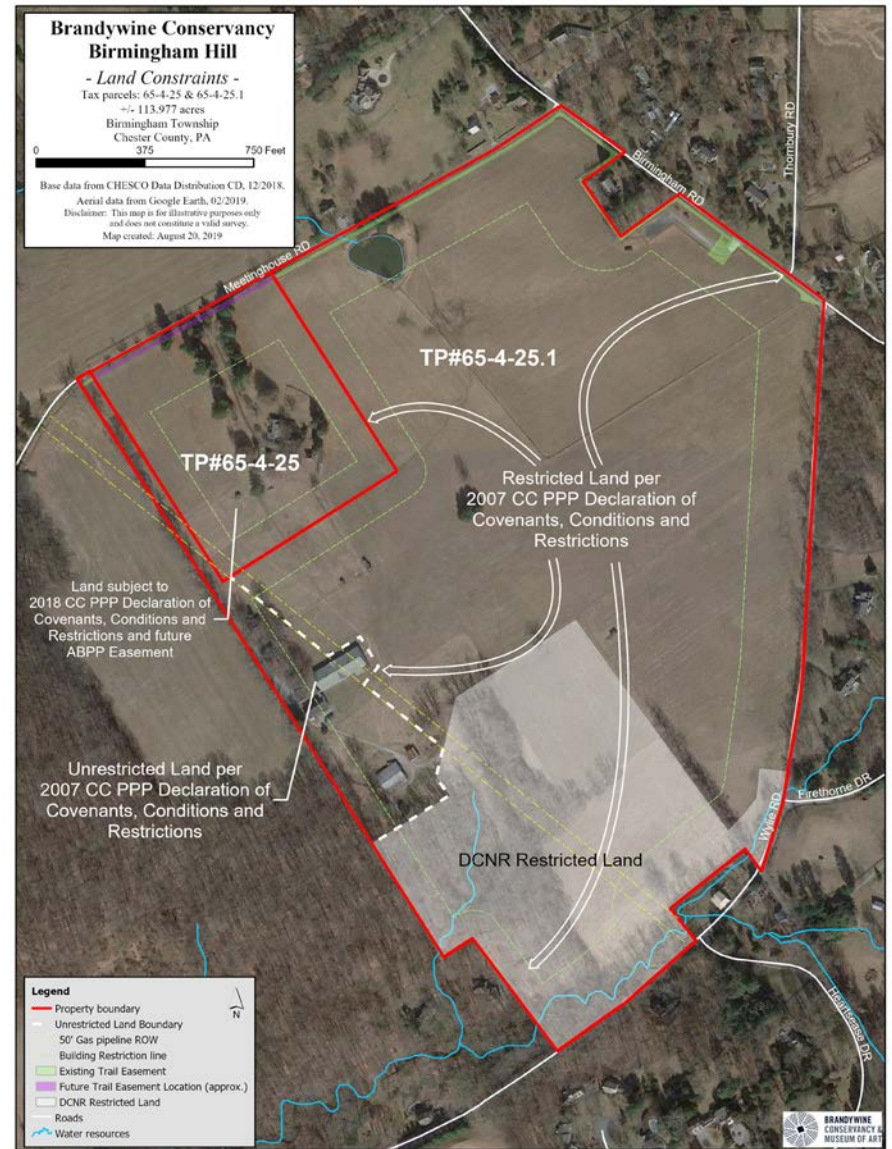
Opportunities

There are several existing structures and other conditions that present opportunities for consideration on the Preserve, while other existing conditions present challenges. See Map 3.1 Opportunities and Challenges for a visual summary.

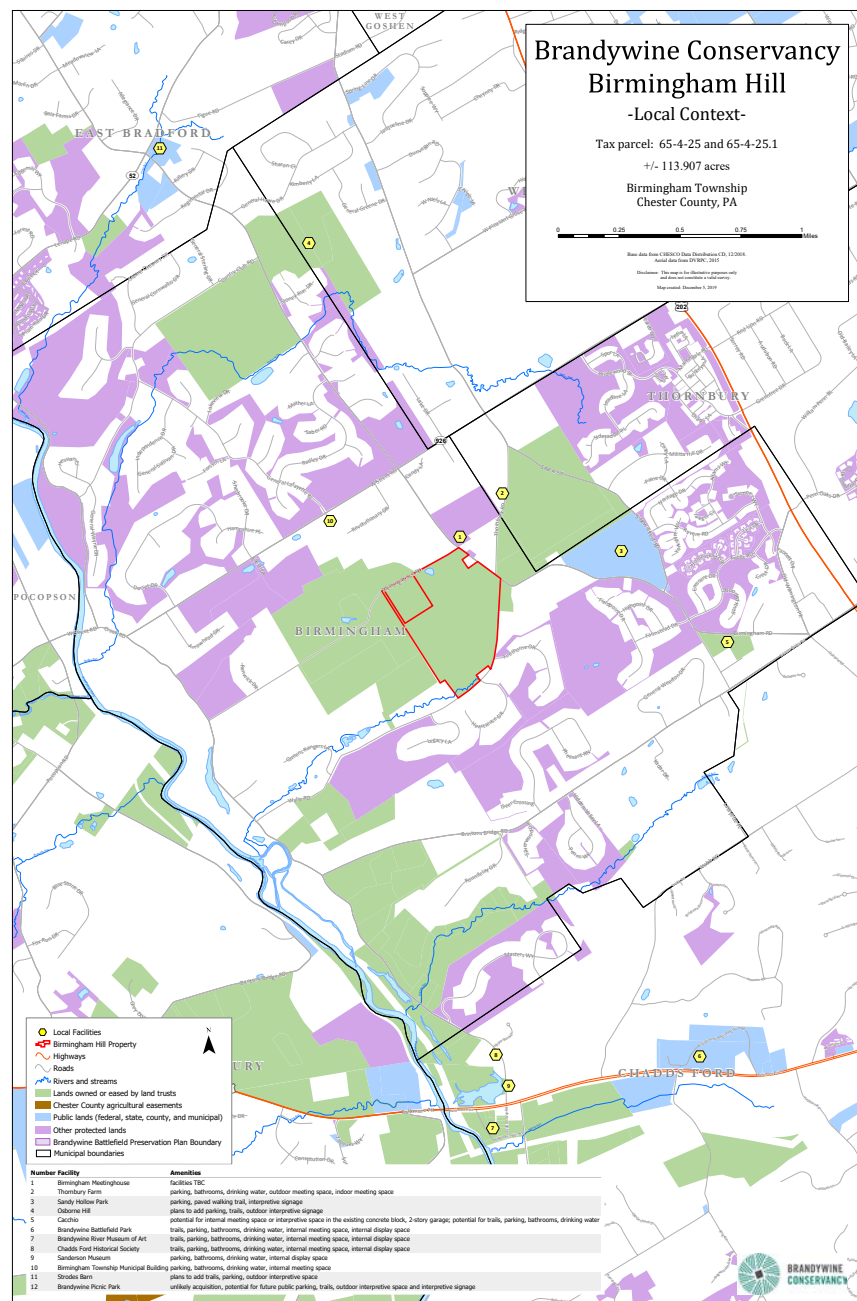
VEHICULAR CIRCULATION AND ACCESS

Public roadways including Birmingham Road, Wylie Road, and Meetinghouse Road follow three sides of Birmingham Hill Preserve and provide views into the site. The sole public entrance and parking area is located on Birmingham Road. A small 10-car parking lot exists at the public entrance where visitors can access a short grass trail loop around the fenced-in meadow. The current entrance and parking lot are thought to be in the most appropriate locations for the Preserve entrance for the following reasons:

1. The existing driveway entrance is located at the safest place on Birmingham Road in terms of site distances and has been previously approved by PennDOT.
2. Use of the existing entrance driveway would prevent further disturbance to the Preserve and protect possible archaeological assets from disturbance.
3. The views across the Preserve from Birmingham Road are perhaps the most spectacular of any views into the Preserve.
4. The parking area can be easily expanded for another 10 vehicles if warranted, subject to archaeological review.
5. Overflow parking opportunities exist on the relatively flat meadow areas with little or no disturbance.



MAP 3.1 Opportunities and Challenges



MAP 3.2 Off-Site Structures Opportunities

A second entrance is located on Meetinghouse Road where a paved private driveway leads to the former Odell house, and a third entrance/maintenance road follows the western edge of the property off Meetinghouse Road. Meetinghouse Road has a very narrow paved surface. Based upon feedback from key person interviews and from Advisory Committee members, neighboring landowners have indicated a preference to not encourage public access to the Preserve by way of Meetinghouse Road. Although the maintenance road entrance is likely to be retained for access, there is an opportunity to remove the existing driveway and restore it to meadow condition.

OFF-SITE STRUCTURES

There are a few historic structures located in close proximity to Birmingham Hill that are relevant to the story of the Battle of the Brandywine (Map 3.2). The Birmingham Friends Meetinghouse/Lafayette Cemetery is located across Birmingham Road a few hundred feet to the north and has an existing parking lot that is sometimes used by visitors to Birmingham Hill Preserve. A single family detached dwelling unit north of Meetinghouse Road existed at the time of the Battle of the Brandywine and was historically a part of the same farm as Birmingham Hill Preserve. There may be opportunities to connect the off-site structures with Birmingham Hill Preserve thematically, visually, and/or physically.

ON-SITE STRUCTURES

A springhouse on Birmingham Hill Preserve (see map 2.4) is thought to be the only structure on the Preserve that may have existed during the Battle of the Brandywine. An opportunity exists to restore the springhouse which is in disrepair, demonstrate 18th century construction methods, and provide an interpretive opportunity for the Battle of Brandywine.



Top: *The existing log cabin was moved to the property from the Pittsburg area. It was fully modernized with power and running water and is in good condition.*

Bottom: *Patio*



Contemporary structures on the Preserve include single family detached dwelling units, barns, accessory structures, and a log cabin relocated from Western Pennsylvania. Most of these structures have little value and are not relevant to the period of significance most strongly associated with the site Preserve. Contemporary structures are likely to detract from the historic interpretation experience. However, some structures may serve a pragmatic function, and as such, should be evaluated to determine what structures should be demolished, relocated, or preserved.

A patio and several short stone walls exist adjacent to the Odell House. Portions or the entirety of the patio and short walls could be reused, providing seating opportunities from one of the two highest points on the property, with a direct line of sight to the ridgeline.

The existing stables are in good condition. There are 12 horse stalls, wash stall, two office spaces, water closet, and one indoor bathroom facility in the structure. An upper level that is accessed by a ladder runs the entire length of the structure. There may be an opportunity to renovate the structure (or portions of it) to be adaptively reused as office, classroom, or interpretive space with minimal investment.

SCENIC VIEWS

The Odell House currently resides on one of the two highest points on the site. This high point or terrace offers sweeping views of much of the Preserve if existing trees are strategically removed. A second high point near the existing parking lot at Birmingham Road is at a slightly higher elevation. The Master Site Plan should capitalize on opportunities to highlight public views of the property from both high points.

NATURAL FEATURES

The generous size of the 113-acre Preserve provides a unique opportunity to steward one of the largest contiguous meadows in the southeastern portion of Chester County. Meadows provide a variety of environmental benefits (such as habitat for wildlife, rainwater infiltration) and would allow relatively unrestricted views of the Preserve.

A large White Oak tree grows east of the preserve manager's residence and provides an opportunity to educate visitors about the value of trees and especially large-caliper native trees. Other large caliper native trees that have value and should be preserved include a sugar maple south of the Odell House and an iconic sycamore tree that stands on the ridge that runs between the two high points. These impressive natural features provide opportunities to educate visitors about the benefits of trees and the importance of protecting them.

Two impressive weeping European beech trees grow north and west of the Odell house. While not native to this region, they are impressive specimens. If retained, they could be used for nature interpretation. However, their removal would open up impressive views across the Brandywine Battlefield study area to the north and west from the high point at the Odell house. Other specimen ornamental vegetation grows around the foundation of the Odell house. While not appropriate for the Preserve, they could provide an economic benefit to the Brandywine Conservancy if sold to landscaping contractors. Specifically, these include two Japanese maples.

ADJACENT AND NEARBY PROPERTIES

A significant amount of land adjacent to and in the vicinity of Birmingham Hill is protected in perpetuity by conservation easements. These lands, like Birmingham Hill Preserve, played

a significant role in the Battle of the Brandywine and provide opportunities for an expanded interpretation and visual experience of the Battle beyond the boundaries of the Birmingham Hill Preserve. Opportunities exist to enjoy historic viewsheds across neighboring parcels to the north if large non-native and/or degraded trees are removed from Birmingham Hill Preserve.

Sandy Hollow Park is a municipal park owned and managed by Birmingham Township that provides interpretive information regarding Battle of Brandywine. It was another important location in the Battle and is within ¼ mile of the Preserve. Opportunities to connect Birmingham Hill Preserve, Birmingham Friends Meetinghouse, and Sandy Hollow Park with interpretive walking trails should be considered.

EDUCATIONAL OPPORTUNITIES

Due to the historic significance of Birmingham Hill Preserve, there are many and varied opportunities to use the site as an educational tool to tell the story of the Battle of the Brandywine. The land itself provides an opportunity to tell the story of the Brandywine Conservancy and the Conservancy's mission to visitors. It also provides an opportunity to educate visitors on the process, effort, and costs involved in the preservation of the site.

Southeastern Pennsylvania is home to a wide variety of organizations with a focus on history and many would be suitable partners in providing educational programming. A few potential partners that might be interested to provide educational offerings at Birmingham Hill Preserve include West Chester University, Chadds Ford Historical Society, Chester County History Center, Birmingham Township Historical Commission, Chester County Historical Commission, Delaware County Historical Commission, Brandywine Battlefield Park Associates, the Museum for the American Revolution, and many other local organizations.

Challenges

CIRCULATION AND ACCESS

Grading issues and limited sight distances are challenges along adjacent roadways. In particular, the intersection of Birmingham Road and Meetinghouse Road has steep grades and poor sight distances. It is a challenging intersection from which to turn onto Birmingham Road or Meetinghouse Road and should be avoided as a primary avenue of access to the Preserve. Wylie Road is equally unsuitable for access to the Preserve due to high road banks and its somewhat challenging intersection with Birmingham Road.

TRAFFIC NOISE

Although traffic volume and speed are relatively low, noise from automobile traffic along Birmingham Road can be distracting and occurs at regular frequency. Opportunities to mitigate noise associated with vehicular traffic on Birmingham Road, yet preserve scenic views, should be considered.



OFF-SITE STRUCTURES

Contemporary off-site buildings, specifically modern single family detached dwelling units are visible from the Preserve. These structures detract from the historic flavor of the site and pose an impediment to communicating the story of the Battle of the Brandywine.

ON-SITE STRUCTURES

Contemporary structures that exist on Birmingham Hill Preserve include single family detached dwelling units, barns, and accessory structures. Such structures are not relevant to the period of significance most strongly associated with the site, detract from the user experience, and are costly to maintain. However, some structures (storage barn, log cabin, stables for example) may serve a practical function and are viewed as potential assets.

ADJACENT PROPERTIES

Properties that are adjacent to the Preserve are primarily rural residential which limits the interpretation of the Battle of the Brandywine to the Preserve. The Preserve facilities and activities should be laid out in a manner that minimizes impact on adjacent landowners.

SITE ARCHAEOLOGY

Artifacts from the Battle of the Brandywine and other historically significant points in time may be present in the ground itself. More archaeological research is necessary in order to understand if there are “sacred” areas on the Preserve that should not be disturbed.



Chapter 4

Activities and Facilities Analysis

Future Needs and Priorities

The primary purpose of Birmingham Hill Preserve is to conserve a historic property of national significance and to interpret the Battle of Brandywine for those who visit. Birmingham Hill Preserve will not address the recreational needs of the region, although it can provide passive recreational opportunities that respect its historical importance.

The Brandywine Conservancy conducted a review of needs and priorities for Birmingham Hill Preserve based upon experiences of owning and managing other private preserves such as The Laurels Preserve and Waterloo Mills Preserve which are open to members. Birmingham Hill Preserve will be open to Conservancy members and to the general public.

The principal premise in the needs analysis was that Birmingham Hill Preserve is hallowed ground where hundreds lost their lives in service to their country. Other important premises included:

- Minimize disturbance to protect undiscovered archaeological assets.
- Restore a portion of the landscape to a condition consistent with agricultural practices in 1777 at the time of Battle of Brandywine.
- Minimize facilities and stewardship, maintenance and security costs.

The local community was engaged in the needs and priorities analysis through written communications and updates to adjacent landowners, meetings with landowners, two public Town Hall gatherings, and a website that provided opportunities for public comments, concerns, questions, and suggestions. The Advisory Committee provided valuable input during three Advisory Committee meetings.

Below is a summary of needs that were deemed to be a priority:

- Locals drive to the Preserve to walk or hike on trails for fitness and to enjoy the scenic views.
- Visitors from across the country drive to the Preserve as a destination of historic interest.
- Visitors wish to experience the history of Battle of Brandywine on Preserve trails and connecting trails through wayfinding, interpretive signage, and maps.
- Visitors desire access to hiking trails that highlight scenic views of the historic/cultural landscape within and surrounding Birmingham Hill Preserve.
- Visitors perceive the Preserve as a historic resource with potential for historic markers and/or kiosks and/or outdoor signage to interpret the Battle of Brandywine as described in the Brandywine Battlefield Preservation Plan.
- Interpretation infrastructure, such markers, signage and kiosks, should be equipped with QR codes or other graphic links that can be scanned by visitors in order to access online media that offers historic interpretation of the site. Materials should be provided in multiple languages or with translation capabilities in order to be accessible to all visitors. This method is less visually intrusive than traditional signage, provides agility for updating interpretative information, and minimizes the cost of updates.
- A permanent indoor interactive interpretive display could be open to the public during specified times. This could become a Heritage Center as described in the Brandywine Battlefield Preservation Plan and its design and implementation would be done in coordination with Chester County and Birmingham Township, and consistent with the future Brandywine Battlefield Heritage Interpretation Plan.

Future Activities

The needs analysis, above, was synthesized into a list of future activities and programs that would support the anticipated needs of Brandywine Conservancy, its partners, and the community.

History Programs

Educational history programs offered by Brandywine Conservancy and other partners will be accommodated at the Preserve. Birmingham Hill Preserve will continue to be a destination for visitors to the Brandywine Battlefield Park, Museum of the American Revolution, Brandywine River Museum of Art, Sanderson Museum, Chadds Ford Historical Society, and First State National Historical Park, as well as for tour and school groups and other partners. The Conservancy and outside partners will use the Preserve as a location to offer walking history tours and on-site lectures.

Research

Thanks to the initiative of the Brandywine Battlefield Task Force and many esteemed historians, much is now known about the events that occurred during the Battle of Brandywine. However, new information about the battle is continually being discovered. There are many unknowns regarding what specifically occurred on Birmingham Hill during the battle, and it is likely that undiscovered archaeological assets exist on the Preserve that could lead to the discovery of more details of the battle. The Conservancy will partner with scholars, students, museums, and others to facilitate further research on the Battle of Brandywine and to document the archaeological assets on the Preserve.

Passive Recreation

An important part of the interpretation of the Battle of Brandywine will be to walk in the footsteps of the soldiers who fought and died on September 11, 1777. Natural surface footpaths will extend from the parking lot to a perimeter trail and shorter loop trails that connect key site features, views, and facilities. The trails will provide visitors with many angles from which to view the battlefield. The natural surface (mowed) trails that follow fence lines, hedgerows, and natural areas will also provide purely recreational use for locals who wish to go for a short walk or hike among the undulating hills.

The trail along the south side of Meetinghouse Road extends well beyond the western boundary of the Preserve and offers magnificent views north across the scenic Brandywine valley. The trails on the Preserve could potentially link into a future trail system with added opportunities to experience the historic landscape and interpret the Battle of Brandywine beyond the Preserve. For example, a local trail could transport visitors to other historic assets such as Birmingham Friends Meeting, Lafayette Cemetery, Spackman Farm, and Sandy Hollow Park. This historic trail concept would require local support at the municipal level (Birmingham Township) in order to move forward with a public planning process.

Nature Programs

Natural areas at the Preserve will be used to engage visitors in nature programs. Visitors will come to view wildlife, use nature trails, learn about habitat protection, and learn about cultural landscape restoration. Although the primary inspiration at the Preserve is the history of the Battle of Brandywine, natural areas can be utilized to observe hawks, showcase meadows, explore hedgerows, and stand in awe of mature hardwood trees. The entire Preserve will be available for nature programs as most natural areas will be accessible by natural surface footpaths.

Art Programs

Just as trails will be used to study nature, trails will also provide access to areas of the Preserve that artists will be inspired to draw, paint, or photograph. The Brandywine River Museum of Art and the Chadds Ford Historical Society and other partners will be encouraged to use the Preserve for art classes and plein air events.

Commemorative Events

Birmingham Township is an important partner for Birmingham Hill Preserve and in the past has organized Battle of Brandywine reenactments at Sandy Hollow Park. The reenactments are extremely popular with history enthusiasts and attract up to 20,000 thousand visitors from across the country. The Preserve could be used to support such commemorative events in a manner that is consistent with preservation of its history. For example, visitors could be invited to take tours of the Preserve before or after the reenactment at Sandy Hollow.

Future Facilities and Infrastructure

Visitation Projection

Brandywine Battlefield Park currently serves as the gateway to the Brandywine Battlefield National Historic Landmark and will continue to serve in that manner. In order to estimate the volume of visitors to Birmingham Hill Preserve, visitation data from the Brandywine Battlefield Park was reviewed. The Executive Director of Brandywine Battlefield Park estimates that he leads approximately 10 van tours (eight persons per tour) per year at \$300 for a one-hour session. Those who take the van tours include military personnel from the United States and Great Britain. The busiest season is

during the summer months when approximately 25 individual tours are conducted at \$25 per person.

The visitation levels at Birmingham Hill Preserve by historians are expected to be consistent with visitation levels at Brandywine Battlefield Park. The busiest season will occur during summer months (June, July, August) when we anticipate up to 20 history visitors per day. During the school year from September to June up to 2 groups of 30 school children per month are anticipated. During the winter and early spring, we anticipate as few as 10-20 visitors per month as Brandywine Battlefield Park is closed during the holidays and through January and February.

Visitation levels by locals for recreational use of the hiking trails is estimated based on anecdotal data at Sandy Hollow Park, from adjacent landowners, and from the property manager at the Preserve. The parking lot at nearby Sandy Hollow Park accommodates up to 10 vehicles and during summer and fall months it is frequently full of cars when the weather permits. We expect some Sandy Hollow Park users to visit the Preserve. However, an unknown percentage of these walkers may prefer the paved trail there and may not venture to walk the unpaved trails at the Preserve. Additionally, another unknown percentage of Sandy Hollow Park users will prefer to walk with their dogs at the Park and will not visit the Preserve where dogs are not allowed. Dogs will continue to be permitted along the perimeter trails beside Birmingham Road and Meetinghouse Road, as well as Wylie Road in the future.

It is estimated that during the peak summer and fall months, approximately 10-15 visitors currently come each day to walk the mowed trail at the front of the Preserve. During the winter and early spring months there are fewer visitors of 5-10 per day. We anticipate that once new trails and facilities are in place for walking and hiking, the number of local visitors could increase to 20-30 visitors per day during peak summer months. When combined with

anticipated visits by historians, the Preserve is expected to see 40-50 visitors per day during the peak summer months and between 15-30 per day during off peak months.

Nearby Facilities and Resources

There are many nearby sites that offer supporting facilities (trails, parking, bathrooms, drinking water, internal meeting space, interpretive displays) for residents and visitors that tour the BBNHL. Below is a list of nearby public and quasi-public places and the facilities they provide, listed from closest to farthest from Birmingham Hill Preserve.

- **Birmingham Friends Meeting** (0.1 miles) – parking.
- Birmingham Friends Meeting has made its parking area available for small shuttle bus tours of Birmingham Hill Preserve, the Meeting House, and the Birmingham Octagonal School House.
- **Thornbury Farm** (0.6 miles) – parking, bathrooms, drinking water, outdoor meeting space, indoor meeting space. Thornbury Farm is a popular destination and Community Supported Agriculture (CSA) farm that, in addition to the above, provides live interpretation of the Battle of Brandywine.
- **Birmingham Township Municipal Building** (0.7 miles) – the municipal building provides parking, bathrooms, drinking water, internal meeting space during limited hours. The Birmingham Township Historical Commission is a potential partner for developing interpretive programming and special events. Its members are extremely well-educated with regards to the historic events leading up to and following the Battle of Brandywine and are already involved in providing history tours at the Preserve and Birmingham Friends Meeting.
- **Sandy Hollow Park** (1.1 miles) – parking, paved walking trail, interpretive signage. Park owned by Birmingham Township.
- **Osborne Hill** (1.4 miles) – potential for future parking, trails, outdoor interpretive signage. The property is subject to a conservation easement held by Natural Lands.
- **Cacchio** (1.4 miles) – potential for internal meeting space or interpretive space in the existing concrete block, 2-story garage or barn; potential for trails, parking, bathrooms, drinking water, picnic area. The property is owned by the American Battlefield Trust and its plans for the property are unknown.
- **Strodes Barn** (2.1 miles) – located in the Strodes Mill Historic District in East Bradford Township. The Township owns the property and plans to add trails, parking, outdoor interpretive space at Strodes Barn.
- **Chadds Ford Historical Society** (2.9 miles) – trails, parking, bathrooms, drinking water, internal meeting space, internal exhibit space, outdoor exhibit & special event space, picnic area. The Chadds Ford Historical Society is a potential partner for the display of historical documents and artifacts that potentially could be discovered at the Preserve. The Historical Society is in possession of historic artifacts that could be placed on display to support the interpretation of the Battle of Brandywine.
- **Sanderson Museum** (3.0 miles) – parking, bathrooms, drinking water, internal exhibit space
- **Brandywine Picnic Park** (3.7 miles) – the property is privately-owned but is offered for sale at the time of writing. A possible future acquisition of the Picnic Park could provide future public parking for large events (600 vehicles), trails, outdoor interpretive space, and future interpretive signage.

- **Brandywine River Museum of Art** (3.8 miles) – trails, parking, bathrooms, drinking water, internal meeting space, internal exhibit space
- **Brandywine Battlefield Park** (4.3 miles) – trails, parking, bathrooms, drinking water, internal meeting space, internal exhibit space. Brandywine Battlefield Park currently functions as a satellite of an interpretation network that is centered at the American Revolution Center (ARC) in Philadelphia. It is established as the gateway into the Brandywine Battlefield National Historic Landmark and the many historic assets the Landmark contains, including Birmingham Hill Preserve. Brandywine Battlefield Park is the interpretive arm of the Battle of Brandywine that provides:
 - Visitor center and gift shop
 - Interpretive displays
 - Summer camps
 - Special events
 - Military staff tours to train on past battlefield sites
 - Group & private tours of the BBNHL assets, including Birmingham Hill Preserve
- **Chester County History Center** (5.0 miles) - located at 225 North High Street in West Chester. Founded in 1893, the Chester County Historical Society (CCHS) is the official county history museum, history education center, and historical repository of Chester County. The Center offers educational programs and exhibits.

Due to the many existing assets and facilities that are nearby, only facilities that are deemed necessary should be provided at Birmingham Hill Preserve. Based upon the future needs and priorities, future

activities, future facilities needs, visitation estimates, and nearby assets, the following facilities are proposed at the Preserve.

History Pavilion

One outdoor interpretive facility that accommodates 50 seated visitors, the size of a school classroom, will be required. It would provide shelter from the weather (sun, precipitation) but would be an open sided pavilion that would maximize views of the surrounding landscape. The history pavilion would have electric and WiFi service that would allow visitors to access online interpretive resources. The pavilion could also include traditional interpretive signage that describes the Battle of Brandywine. ADA parking and access will be provided for the history pavilion.

Heritage Center

A permanent indoor exhibition is proposed that will highlight the Battle of Brandywine. The exhibit space to be located in the Log Cabin can be a similar scale as the Marshallton Heritage Center (approximately 400 square feet). The exhibit space can include static and/or interactive components and will be open to the public during the busiest summer months of June, July, and August. It can also be opened for group tours during other seasons, upon request. The Heritage Center could provide drinking water and restroom facilities during the summer months, if feasible.

Lecture Room

Lectures, scholastic research, and school programs will require an indoor lecture space that can be used during colder months in the school year (October to May) and during inclement weather throughout the year. The indoor lecture room will be designed to comfortably accommodate 50 visitors and will have an ADA accessible restroom

for use by invited guests. The lecture room will have electrical service for space heaters and electronic devices, and WiFi service that would allow presenters to access online resources. Temporary parking for 20 vehicles, including ADA parking, will be provided within proximity to the lecture room. ADA access will be provided from ADA parking spaces to the lecture room, and from the lecture room to the History Pavilion.

Trails

A network of natural surface trails will provide visitors with access to much of Birmingham Hill Preserve for history interpretation and for passive recreation. The trails will originate at the visitors parking lot at Birmingham Road and will extend around the perimeter of the Preserve with smaller internal loops that highlight natural and cultural features. The natural surface trails will serve to direct visitors to amenities found on the Preserve including scenic views, the History Pavilion, Lecture Room, and Heritage Center. Accessible, paved trails will provide access from ADA parking areas to key site amenities.

Parking

Parking facilities are currently adequate for the number of visitors to the Preserve. However, it is anticipated that over time as the Preserve begins to add new trails and facilities there will be increased visitation and a need for additional parking facilities. The existing parking facility at Birmingham Road provides parking for 10 cars and there is sufficient space for a van or shuttle bus to turn around in the parking lot. In the future, the parking lot could be expanded to accommodate a total of 20 vehicles, if warranted, including space for a maximum 30-passenger bus to turn around. A portion of hay field could be designated as an overflow parking area for 20 additional vehicles, if warranted.

ADA Access

Visitors to the Preserve are expected to consist of all ages and abilities. It is likely that the Preserve will serve a large constituency of visitors aged 55 and older who are interested in historic battles and may require ADA accessible facilities. ADA accessible facilities will include parking areas, viewing areas, outdoor History Pavilion, Heritage Center, indoor Lecture Room, and accessible paths that connect the parking areas to facilities/features that provide interpretive information.

Supporting Facilities

Standard supporting facilities will be provided, as necessary. Such facilities will include maintenance access and driveways, maintenance structures such as a barn or storage sheds, utilities including power, water, on-site sewer, and internet. Public comfort facilities are not envisioned at the Preserve since they are provided at nearby Brandywine Battlefield Park. However, ADA accessible bathroom and drinking water will be available for tour groups and invited classes that reserve the Lecture Room in advance.

In summary, a limited number of new activities and facilities are envisioned to be introduced at Birmingham Hill Preserve subject to visitor volume and funding. The primary purpose of these activities and facilities will be to advance the interpretation of the Battle of Brandywine. Below is a summary of proposed facilities discussed in this Chapter.

- A. Programs (Brandywine Conservancy and partners)
 - ☐ Walking history tours
 - ☐ On-site lectures
 - ☐ Archaeological research
 - ☐ Battle reenactments
 - ☐ Nature walks (hawk watch)
 - ☐ Plein air painting
 - ☐ School programs
 - ☐ Sunset viewing
- B. Interpretive Opportunities
 - ☐ Historic/cultural
 - ☐ Natural
- C. Interpretive space
 - ☐ Indoors – 50 person capacity + ADA
 - ☐ Outdoors – 50 person capacity + ADA
 - ☐ Permanent exhibition – 400 sq.ft. + ADA
- D. Parking facilities
 - ☐ 30-passenger bus parking and turnaround
 - ☐ 10 existing parking increased to 20 + ADA
 - ☐ 20 parking for Lecture Room + ADA
 - ☐ 20 grass parking for overflow
- E. Supporting facilities
 - ☐ Entrance roads and driveways
 - ☐ Maintenance area
 - ☐ Property manager residence
 - ☐ Equipment storage
 - ☐ Stormwater management
 - ☐ Utilities - electricity, water, septic
 - ☐ Internet
 - ☐ Bathroom – ADA, indoor interpretive space
 - ☐ Drinking water – indoor interpretive space
- F. Passive recreation facilities
 - ☐ Trails – historic/cultural theme
 - ☐ Trails – natural theme
 - ☐ Scenic lookouts + ADA





Chapter 5

Recommendations

The internal assessment, community engagement, and resources and data presented in the previous Chapters provide documentation that informs the following recommendations for Birmingham Hill Preserve. The recommendations are organized and numbered as future site improvements, demolition/removal, and preserve programs.

Future Site Improvements

The proposed site layout and facilities for Birmingham Hill Preserve are illustrated on Map 5.1 Conceptual Master Site Development Drawing. The elements of the Site Development Drawing are described below. All proposed site improvements will be subject to actual/demonstrated needs and will be subject to funding.

1 MAIN ENTRANCE

The existing entrance and parking lot off Birmingham Road will continue to serve as the primary gateway to Birmingham Hill Preserve (Figure 5.1). It will also serve as the trailhead for the trails that direct visitors to the natural and historic features. The Brandywine Conservancy will emphasize to all visitors, most importantly group visitors arriving by bus, to access the Preserve along Birmingham Road and to avoid use of Meetinghouse Road. The following features will contribute to a welcoming arrival to the Preserve.

1.1 Parking Facility – the existing gravel parking lot accommodates 10 vehicles and will be sufficient in the short-term. If visitor volume increases and parking is deemed insufficient, the gravel parking facility will be expanded to accommodate 20 vehicles (including ADA spaces). A Phase 2 archaeological study will be conducted of the proposed disturbed areas.



MAP 5.1 Conceptual Master Site Development Drawing



FIGURE 5.1 Main Entrance

1.2 Overflow Parking – up to 20 vehicles will be accommodated in the meadow during special events. This could be implemented immediately for minimal cost by mowing a portion of the field and roping it off.

1.3 Viewing Terrace – the viewing terrace will be situated at the high point south of the parking facility. It will provide sweeping panoramic views of the Preserve and impressive sunset views towards the western horizon. The viewing terrace will be connected to the parking facility with an accessible pathway. The surface would be of natural materials and would be suitable for ADA access. Stationary seating could be added if warranted. A Phase 2 archaeological study will be conducted of the proposed disturbed areas.

1.4 Signage – the visitor arrival experience will be enhanced with interpretive signage that highlights the Battle of Brandywine the history of the region and signage that orients the visitor to the Preserve, and wayfinding signage that invites visitors to explore the trails and

Terrace precedent: Hudson Valley



features of the Preserve. A new entrance sign will be placed near Birmingham Road in coordination with the Birmingham Township Recreation, Parks, and Open Space Committee, DCNR, and other partners. The signage will be consistent with recommendations in the Brandywine Battlefield Heritage Interpretation Plan and other relevant Brandywine Battlefield planning documents.

1.5 Commemorative Monument – a permanent and unobtrusive monument will be placed at the viewing terrace in observance of the Battle of Brandywine and the NHL. This element could be incorporated directly into the design of the terrace.

2 HISTORY PAVILION

The location of the demolished Odell residence will become a terrace with panoramic views of the surrounding landscape and interpretive panels that describe the Battle of Brandywine and the history of the region (Figure 5.2). Over time, elements will be added including an open-air History Pavilion with electrical service and WiFi service to allow visitors to access online interpretive resources. The Pavilion will be accessed from the main entrance parking facility by mowed grass trails. The trail surface will be continually evaluated for wear and necessary surface improvements. ADA-only access will be provided via the maintenance entrance off Meetinghouse Road and 2 paved ADA parking bays next to the Pavilion.

2.1 Terrace – the terrace will cover the footprint of the former Odell residence and patio at the highest point on the Preserve (which will minimize further site disturbance). It will provide panoramic views of the Preserve and other protected lands to the north, east, west, and south. The terrace will be connected to a paved ADA parking facility by an ADA accessible pathway. Stationary seating may be incorporated into the design of the terrace. An archaeological study

Pavilion precedent: Longwood Gardens



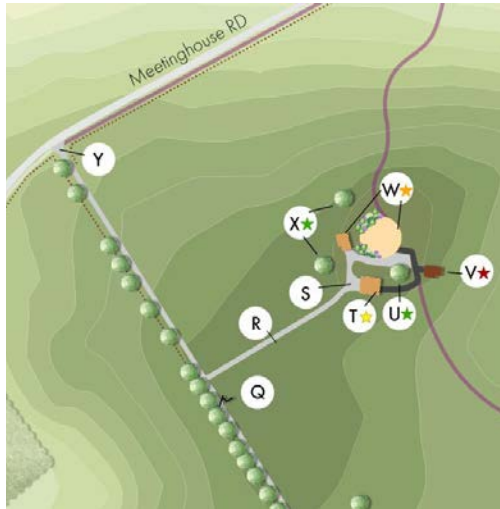


FIGURE 5.2 Terrace and History Pavilion



FIGURE 5.3 Lecture Room Options

will be conducted of the proposed disturbed areas.

2.2 Interpretive Signage – this element will be very low profile to minimize the impact on site aesthetics and views. Such signage could include an aerial photograph of the Preserve and surrounding properties in the context of the Battle of Brandywine and the history of the region and could be integrated into the stationary seating. The majority of interpretive information will be offered online.

2.3 History Pavilion – a rustic shelter will provide refuge from the elements throughout the year. It will have open sides to maximize views to surrounding historic landscapes. Electrical service and WiFi will be freely available. An interpretive online application will illustrate the Battle of Brandywine, as well as other notable cultural elements of the region’s past as the visitor views their 360-degree surroundings. The Pavilion could potentially utilize architectural elements (wooden posts and/or beams) recovered from the stables (to be demolished). Stationary seating will be incorporated into the

design of the History Pavilion. A Phase 2 archaeological study will be conducted of the proposed disturbed areas.

3 LECTURE ROOM

The existing stables and interior offices will serve as a short-term, temporary venue for indoor lectures and meetings. They will be accessed from the maintenance entrance and used only for pre-approved group activities. The location of the stables is less than ideal because of its proximity to the maintenance area and its less-than-optimal views. However, this will be a relatively low-cost means to provide indoor lecture space in a short time. The indoor facilities at the stables will include 2 ADA accessible meeting rooms that will accommodate 25 visitors each, and one ADA accessible bathroom. Over the long-term, there is an option to demolish the stables and construct a new Lecture Room adjacent to the History Pavilion. The new Lecture Room could potentially utilize architectural elements (wooden beams, stable doors) recovered from the stables (Figure 5.3).

3.1 The existing office spaces and bathrooms in the stables will require renovation and upgrades to meet building code regulations and to serve as a lecture room facility. General improvements will include a new roof, electrical upgrade, water, sewer, and security system. Interior improvements will include renovation of lecture room(s) and renovation of bathroom and, possibly entrances, for ADA compliance. Initial investments will be minimal. Should the facility become the permanent solution, additional improvements can be made (in lieu of item 3.2).

3.2 Design and construct new lecture room that will comfortably accommodate 50 people near the History Pavilion. Elements of the demolished stables could be recovered and used as elements of the

Lecture Room precedent: The Barn at Fallingwater



new structure. This improvement would occur only if a decision was made to demolish the renovated stables (described in item 3.1). A Phase 2 archaeological study will be conducted of the proposed disturbed areas.

4 HERITAGE CENTER

The existing log cabin is approximately 400 square feet inside. Although too small for a lecture room, it will be adaptively re-used as a Heritage Center (Figure 5.4). It will house a permanent indoor interactive interpretive display that will be open to the public during specified times. In the short term, the Heritage Center will remain in its current location. However, it could be moved to a different location on the Preserve if deemed appropriate by Conservancy representatives. This element will be implemented in coordination with Chester County, Birmingham Township, the Museum of the American Revolution, and the Brandywine Battlefield Task Force.

4.1 A relocation of the Heritage Center will only be pursued if deemed to be appropriate by Conservancy representatives in order to enhance scenic views. Moving of the structure to a new location on the Preserve will require engineering, permitting, and new site preparation prior to the move. An archaeological study will be

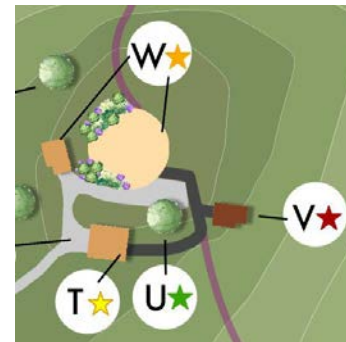


FIGURE 5.4 Heritage Center

conducted of the proposed disturbed areas.

4.2 Repairs and updates to the Heritage Center will be completed when the final location of the Heritage Center is established. The projected list of repairs and improvements include renovations and upgrades to meet building code regulations including ADA accessibility. Improvements will include new roof, log and chinking restoration, window replacements, electrical upgrade, drinking water, sewer, and security system.

4.3 Once the interior of the Heritage Center is renovated, a permanent exhibition will be installed to interpret the Battle of Brandywine as it may have occurred on the Preserve, as well as other notable historic or cultural elements of the region's past, including landscape level preservation efforts by Brandywine Conservancy and others. The design of the exhibit will occur concurrently with the design of the improvements to the Heritage Center to the extent feasible. A design specialist will be consulted to design the exhibition in close coordination with the Conservancy, the Brandywine Battlefield Task Force, and other key partners. Potential interpretive themes include:

- Troop movements and impacts
- The landscape of 1777
- The Quakers and their beliefs
- Indigenous People who predated European settlement
- The wounding of Lafayette
- Captain George Bush of Wilmington, fatality
- Conway's forces at Wylie Rd and Birmingham Road

Heritage Center precedent: Marshallton



5 SPRINGHOUSE

Perhaps the sole structure on the Preserve that is likely to have been in existence before the year 1800 is the stone springhouse south of Meetinghouse Road (Figure 5.5). The springhouse is in disrepair and is subject to vandalism. In the short term the structure will be stabilized to prevent further deterioration and to prevent vandals from accessing the structure. In the long term it will be restored to its historic condition using traditional techniques and materials. The springhouse will offer an opportunity to interpret water resources and the headwater stream that emerges from within it. It can also be interpreted as the only structure that could have been there in 1777.

5.1 Stabilization of the springhouse will require securing the door and covering the roof. Repointing of stone to stabilize the structure and prevent further deterioration will be required.

5.2 Further research will be conducted by an architectural historian to determine the approximate date of the structure, the original owner, builder, and construction techniques consistent with that period.

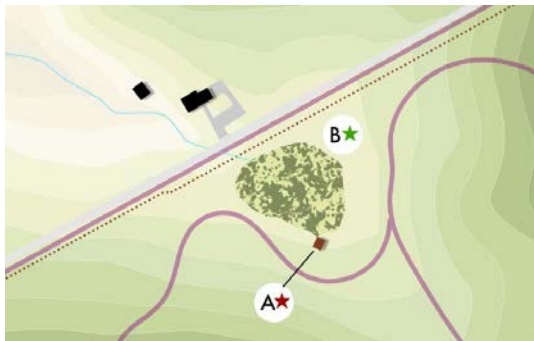


FIGURE 5.5 Springhouse

5.3 Design, engineering, and permitting will be required to restore the stone and wooden elements of the springhouse. An architect that specializes in historic structure restoration will be engaged to prepare the restoration plans and to oversee the restoration. Other specialized trades will include carpenter, stone mason, and structural engineer.

5.4 Interpretive Signage will be placed at the springhouse to describe its history, its function, architectural techniques, and the importance of water quality in the headwaters of a watershed. The wet meadow restoration will be an important project to highlight as a means to enhance water quality (see item 8.2). Interpretive signage could highlight the process of restoring a historic structure, and/or confirm research about the property.

6 HIKING TRAILS

Approximately 1.75 miles of natural surface hiking trails are envisioned at the Preserve (Map 5.1). These grass trails will provide visitors with a variety of opportunities to experience the Preserve and to enjoy its many natural, historic, and scenic attributes. The hiking trails will generally avoid the maintenance area, and access to the area near the property manager's residence will be prohibited. An advantage of hiking trails is that they can allow for access and recreational use of the land quickly at a relatively low cost. They can also be easily modified should issues arise. A disadvantage of natural surface hiking trails is that they generally limit the number and type of trail users due to their minimal width. Dogs, horses, and mountain bikes will not be permitted on the hiking trails.

6.1 Layout and mowing of the hiking trails can be achieved by Conservancy staff and the property manager in the field using the Conceptual Master Site Plan as a general guide. The implementation costs will be low. However, the ongoing maintenance of the hiking trails will require additional staff and resources for mowing.

6.2 Install signage near the parking area that displays permitted uses, hours of operation, acknowledgement of funders, and other relevant information.

6.3 Once the hiking trails are laid out and established and the property manager is satisfied with the layout, wayfinding signage and trail markers will be added that will direct visitors from the parking facility to key historic and natural features at the Preserve. Trail markers and wayfinding signage will be designed to be consistent with other Brandywine Battlefield NHL sites that offer public trails.

6.4 The fence along Wylie Road will be relocated to provide a public trail along the Wylie Road frontage from Birmingham Road to Firethorn Drive, located across the roadway. The Wylie Road trail will connect to the Birmingham Road trail that is maintained by Birmingham Township and dogs will be permitted as they are on other perimeter trails. Portions of the fence may need repair or replacement.

6.5 Amenities will be added over time and as deemed appropriate. Such amenities will include benches and interpretive information (real or virtual) where historic or natural features are present. Interpretation infrastructure, such markers, signage and kiosks, will be situated along the hiking trails at key locations such as near the large White Oak tree near Wylie Road. Signage will be equipped with QR codes or other graphic links that can be scanned by visitors in order to access online media that offers historic interpretation of the site including archaeological activities. This method provides agility for updating interpretative information and minimizes the cost of updates.

7 ADA ACCESSIBLE PATHWAYS

Asphalt or paved pathways provide for the largest population of users and universal accessibility for those with disabilities. Both the Rails to Trails Conservancy (RTC) and AASHTO recommend a multi-use pathway to be ten feet (10') wide, with a minimum width for a two-way trail at eight feet (8') wide. An additional two foot (2') shoulder is recommended on either side of the trail surface to provide clearance from trees, poles, walls, fences or any other lateral obstruction. Height clearance above the trail should be 12'. Site conditions may warrant additional safety measures such as fencing and increased shoulder widths. Flagstone would also serve as a suitable surface that provides universal access.

An alternative to asphalt or flagstone, Trail Surface Aggregate or crushed stone surfaces can also accommodate a large population of users and provide universal accessibility for those with disabilities. Costs and applicability for each option should be evaluated.

7.1 An ADA accessible pathway will be constructed from the main parking lot at Birmingham Road to the viewing terrace (Figure 5.1). The surface material will be consistent with materials used for the viewing terrace. Layout, design, and material selection will be determined through a site design process. A Phase 2 archaeological study will be conducted of the proposed disturbed areas.

7.2 If a new lecture room is constructed near the History Pavilion, an accessible pathway will be constructed from the Lecture Room (see 3.2) to the History Pavilion (Figure 5.2). The surface materials should be consistent with those used at the History Pavilion and viewing terrace. In the short term while the stables serve as the lecture room, ADA access to the History Pavilion will be provided along the maintenance lane (see items 10.1 and 10.2 below).

8 NATURAL AREAS AND VEGETATION

The natural areas at the Preserve provide a variety of benefits such as shade, screening, wind barriers, and habitat for wildlife. There are opportunities to further protect and enhance natural features to improve environmental quality at the Preserve and to ensure the most rewarding experience for visitors (Map 5.1). Other natural features, such as evergreen trees that were not likely present in the 1777 landscape, pose as barriers to scenic views of the surrounding National Historic Landmark.

8.1 All existing white pine trees and other evergreen trees and shrubs will be removed from the Preserve. The majority are in the vicinity of the former Odell house and driveway. Any deciduous trees that are in dead, diseased or dying or obstruct scenic views will also be removed. There are 3 specimen trees that are identified to remain including 2 weeping beech and 1 sugar maple near the former Odell house. The specimen trees will remain unless it is determined by the Brandywine Conservancy that they are in decline, pose a safety risk, or are impediments to scenic views.

8.2 The existing pond is an attractive nuisance and a liability that was not likely present at the time of the Battle of Brandywine. The restoration of the pond to a wetland meadow condition would eliminate liability concerns while providing an attractive habitat for nature interpretation. Perhaps most importantly, the restoration will provide water quality benefits for Renwick Run and properties downstream.

8.3 Over time, portions of the Preserve hay fields could be converted to agricultural crops that were typical of 1777 to allow the visitor an experience of site conditions the day of the Battle. This work would be completed only if deemed appropriate by the Brandywine Conservancy and its layout would be carefully planned. Finding a

farmer able and willing to plan and harvest such crops would also be necessary. The work would be carried out with full consideration of currently-available archaeological data and historic references. The impacts on visitor access and scenic views will be carefully considered before conversion of any meadow area to field crops. An archaeological study will be conducted of the proposed disturbed areas.

8.4 Add buffer vegetation between the maintenance area and the property manager residence to enhance privacy. An archaeological study will be conducted of the proposed disturbed areas.

9 MAINTENANCE AREA

The existing lane off Meetinghouse Road will serve as the maintenance access at the rear of the Preserve (Figure 5.6). From the maintenance road an access road will be constructed to the ADA accessible parking area near the History Pavilion, and the lane beyond the ADA parking area will be gated to prevent visitors from entering the maintenance area. The maintenance area includes the equipment shed to store maintenance equipment and supplies and a metal garage used to store shuttle buses. Both structures have had recent repairs including a new roof on the equipment shed. The maintenance area includes the property manager's residence, barn, and shed further south.



FIGURE 5.6 Maintenance Area

9.1 A secured entry with an electronic gate with key code entry will be installed on the access lane north of the maintenance area. It will include security cameras that can be monitored from the property manager's residence or smart phone. Visitors that attend lectures at the Lecture Room/Stables can be provided with the key code, or the gate can be left open for lectures.

9.2 The barn that is beside the property manager's house will have a new metal roof installed. The barn will be used as storage space for maintenance equipment and vehicles.

9.3 A perimeter split rail or other simple, affordable fence will be installed around the property managers residence and surrounding landscapes. The function of the fence is to deter visitors from approaching the residence and to protect the property manager's privacy. Signage can be attached to the fence indicating a private maintenance area closed to visitors. This element will be installed when deemed necessary by the property manager. A Phase 2 archaeological study will be conducted of the proposed disturbed areas.

10 SUPPORT FACILITIES

Certain new facilities will be necessary to support the proposed recreation and conservation facilities and uses (Map 5.1).

10.1 The existing maintenance lane off Meetinghouse Road will be slightly widened to accommodate ADA vehicles that wish to utilize the ADA parking near the viewing terrace. The widening will also serve as an ADA accessible route between the stables and the viewing terrace. A Phase 2 archaeological study will be conducted of the proposed disturbed areas.

10.2 An ADA only vehicular access lane will be constructed from

the maintenance lane to the History Pavilion. The purpose of the access lane is to allow visitors with accessibility challenges to drive to the History Pavilion, park in an ADA parking space, and visit the features at the History Pavilion. The access lane will be paved as it will also serve as an ADA accessible pathway between the lecture room/stables to the History Pavilion. A Phase 2 archaeological study will be conducted of the proposed disturbed areas.

10.3 Parking for 2 ADA vehicles will be made available near the History Pavilion. There currently exists sufficient paved parking area to accommodate 2-4 vehicles. This improvement will involve design/layout and line striping to delineate parking areas, and signage that indicates that parking at this location is available for ADA visitors.

10.4 The maintenance lane from the stables down to the manager's residence will be repaired and/or realigned to improve access for maintenance equipment. A Phase 2 archaeological study will be conducted of the proposed disturbed areas.

10.5 Lecture room events will require temporary parking for 20 vehicles and ADA parking. In the short term, a temporary parking area will be delineated in the field close to the stables/lecture room. ADA parking will be accommodated in the paved maintenance area. This improvement will require minimal cost for temporary posts, ropes, and signage that can be removed and re-used for the next group. In the long term, a temporary parking area will be delineated in the field close to the History Pavilion where ADA parking already exists.

10.6 Any new structures or parking areas will need to meet stormwater management requirements in the Birmingham Township Subdivision and Land Development Ordinance. The stormwater facilities can serve as opportunities to add visual interest and provide educational information about stormwater, green stormwater infrastructure and water quality. A rain garden and/or vegetated swale will be installed to collect the stormwater

generated by the expanded parking lot at the main entrance. Other paved areas and structures will include these and other creative stormwater management techniques in their design. A Phase 2 archaeological study will be conducted of the proposed disturbed areas.

10.7 The site utilities will require a full review and potential upgrades to electric service, wells for water, installation of water distribution lines, sewer, and cable/internet. Electric facilities will include charging stations for electronic devices and electric vehicles.

10.8 Security cameras will be installed at the maintenance lane gate and at the main entrance parking lot. The cameras will detect motion and will record any activity that occurs on the property. The property manager will be able to monitor the cameras from his residence and/or smart phone. For a full set of recommendations for security and safety improvements, see Safety and Crime Deterrence, Chapter 6.

10.9 Signage and branding will be required to provide directional information to Preserve facilities including parking areas, ADA parking, History Pavilion, information on the Brandywine Conservancy & Museum of Art and lecture room. A design consultant will be used for branding and signage design.

11 DEMOLITION/REMOVAL

Demolition will begin in the short term and will eliminate structures deemed unsuitable for adaptive reuse or not suitable to serve future facilities needs on the Preserve (Map 2.4 Existing Improvements) . The early demolition of the structures listed below will serve three purposes: to demonstrate quick implementation wins; to reduce liability; and to potentially generate revenue through the sale of items that would otherwise be sent to landfill.

To meet the requirements of the American Battlefield Protection Program (ABPP) grant on the smaller 13.6 acre parcel, the Conservancy will need to submit the appropriate Section 106 forms, including a description/scope of demolition and map, to the Pennsylvania Historical and Museum Commission (PHMC) for review and approval. The Conservancy will also notify Natural Lands, the future easement holder on the 13.6-acre parcel, of the demolition plans to keep them apprised of activity on the property.

11.1 The former Odell residence will be demolished; interior components of the house may be salvaged and sold. The flagstones on the patio will be saved for future use and will be left to serve as public viewing area in the short term.

11.2 The former Odell driveway will be removed and returned to a hay field.

11.3 The oil tank beneath the stone patio will be removed.

11.4 The gasoline tank at the east end of the driveway will be removed.

11.5 Two vacant and derelict tenant residences located along the maintenance lane will be demolished.

11.6 The swimming pool will be removed.

11.7 The turnout sheds will be offered to nearby residents if removed at their expense from the Preserve. Those that are not claimed will be demolished.

11.8 The solar array will be sold to the highest bidder and removed by bidder at their expense.

11.9 The riding arena will be demolished, and some components may be salvaged and sold/auctioned.

11.10 The split rail fence in the Cemetery Field will be removed, and materials will be stored for future use on the Preserve or other Conservancy properties.

11.11 Over the long term, demolition might include the stables if a new lecture hall facility is constructed near the history pavilion. Architectural elements from the stables could be salvaged and incorporated into the design of the new lecture room, and other unused architectural elements could be sold/auctioned to offset the cost of demolition.

11.12 The equipment shed and metal garage in the maintenance area could be demolished in the long term if it is determined that they no longer serve a purpose.

12 PRESERVE PROGRAMS

Chapter 4 includes a brief description of 4 programs that will be offered at Birmingham Hill Preserve: History Programs; Research Programs; Nature Programs; and Art Programs. Events in each program theme can be offered by Brandywine Conservancy & Museum of Art and/or by one of the Conservancy's partners. For example, the Brandywine Battlefield Park will continue to be an important partner and serve as the gateway into the BB NHL by providing guided tours to various historic sites, including Birmingham Hill Preserve. The Brandywine Battlefield Task Force will continue to perform research on the Preserve and other historic sites in the NHL. The Conservancy staff will continue to provide quality nature interpretation at the Preserve and will collaborate with other partners to offer nature programs on the property. The Brandywine River Museum of Art and the Chadds Ford Historical Society will be important partners as they assemble artists and visitors for their events, such as plein air painting. Programs will be subject to funding. Therefore, it will be imperative to engage partners and pursue donors and/or grant

funding each year to implement Preserve programs.

12.1 Educational history programs hosted by Brandywine Conservancy and its many partners will be accommodated at the Preserve. The Preserve will continue to be a destination for Brandywine Battlefield Park, Museum of the American Revolution, Brandywine River Museum of Art, Sanderson Museum, Chadds Ford Historical Society, and First State National Historical Park visitors/tours, Chester County History Center, school groups, and other partners. The Preserve will provide a unique opportunity to offer walking history tours and on-site lectures where some of the fiercest fighting during the Battle of Brandywine physically occurred.

12.2 There are many unknowns regarding what precisely occurred on Birmingham Hill Preserve during the battle. It is likely that undiscovered archaeological assets that exist on the Preserve could lead to the discovery of more details of the battle and other cultural artifacts. The Conservancy will partner with scholars, students, museums, and others to facilitate further research on the Battle of Brandywine and to document all archaeological assets found on the Preserve.

12.3 Natural areas at the Preserve will be used to engage visitors in nature programs. Visitors may come to view wildlife, use nature trails, learn about habitat protection, and learn about cultural landscape restoration. Although the primary inspiration at the Preserve is the history of Battle of Brandywine, natural areas can be utilized to observe hawks and other birds, showcase meadows, explore hedgerows, and stand in awe of mature hardwood trees such as the White Oak. The entire Preserve will be available for nature programs and most natural areas will be accessible by natural surface footpaths.

12.4 Just as trails will be used to study nature, trails will also provide access to areas of the Preserve that artists may be inspired to draw, paint, or photograph. The Brandywine River Museum of Art and the Chadds Ford Historical Society and other partners will be encouraged to use the Preserve for art classes and plein air events.

12.5 Plan and execute Battle of Brandywine commemorative events in coordination with key partners.

13 REGULATORY REQUIREMENTS AND DESIGN CONSIDERATIONS

Conservancy staff is currently working with Natural Lands to place an easement on the 13.6-acre parcel as a condition to the ABPP grant (Figure 5.7). The proposed easement contains two separate protection areas: 1) the Minimal Protection Area, which encompasses the existing house, attached garage with caretaker's apartment, swimming pool, patio area, log cabin, access drive from Meetinghouse Road and parking area, and 2) the Standard Protection which comprises the remaining portion of the parcel.

In the Standard Protection Area, proposed easement terms permit:

- the maintenance, repair, replacement, and removal of the existing improvements;
- the construction of fences, gates, a reasonable number of interpretative or educational signs, not to exceed seven (7) square feet per sign;
- habitat enhancement devices;
- Permeable trails, limited to 6 feet in width;
- Subject to review, benches, seats, sheds, and storage buildings/agricultural improvements not to exceed 400

square feet of impervious coverage and 16 feet in height;

- Subject to review, replicas of historic structures or battlefield features, which shall be consistent with and evaluated according to the Secretary of Interior Standards for the Treatment of Historic Properties and/or Cultural Landscapes, and
- Subject to review, utility improvements to service Improvements within the Property.

In the Minimal Protection Area, the proposed easement terms permit:

- Visitor reception facility, education facility, pavilion, and restrooms (all subject to review with a limit of 28 feet);
- Interpretative kiosks and entrance sign, not to exceed ten (10) square feet each (also subject to review); and
- Utility improvements and site improvements.



The springhouse is possibly the only structure standing on the Preserve today that may have been present at the time of the Battle of Brandywine in 1777.

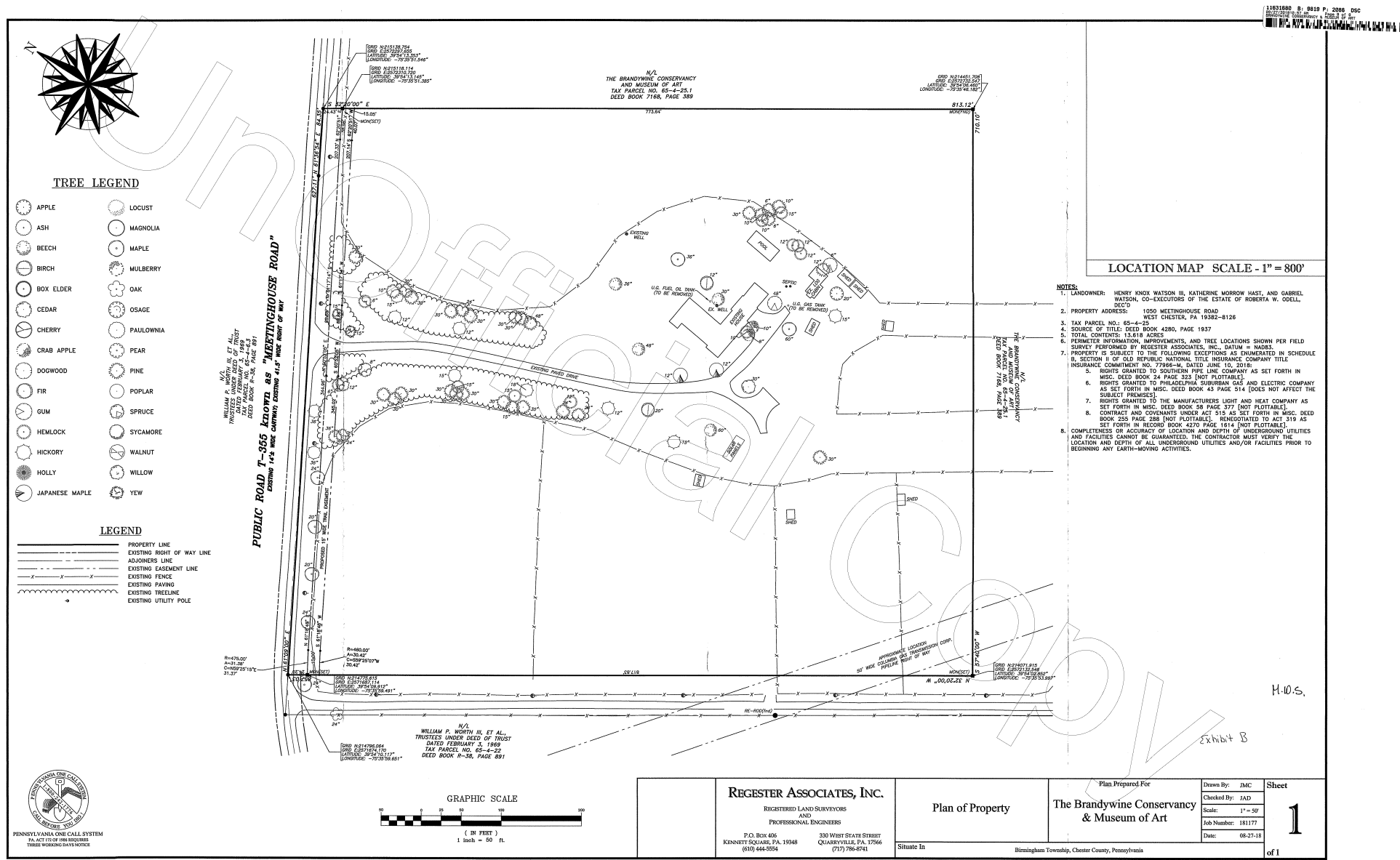


FIGURE 5.7 Draft Exhibit B map

Impervious Coverage is limited to an additional 10,000 square feet above what is existing currently on the parcel.

In most cases, Natural Lands and/or PHMC will need to be at least notified, if not review and approve, future improvements on the property. All future ground disturbing activities on the parcel may require archaeological survey and/or investigation in the opinion of Natural Lands and PHMC that such ground disturbing activity may negatively impact the integrity of the parcel, including known or unknown archaeological sites or deposits. Permitted agricultural uses, such as plowing or disking of soil are exempt from the requirement.

A variety of national, state, and/or local standards will be used to determine the size, dimensions, orientation, slope, buffer areas and setback requirements, open or undisturbed space requirements, etc. for each proposed new facility. At the municipal level, the Birmingham Township Zoning Ordinance and Subdivision and Land Development Ordinance will dictate specific site requirements. Birmingham Township planning and engineering consultants will review land development plans for new facilities. Municipal ordinances will provide the parking standards and specifications, and stormwater management requirements for new facilities such as the viewing terrace, history pavilion, and new lecture room.

Several environmental permits may be required for specific site improvements such as the restoration of the wet meadow and springhouse, and the construction of new facilities such as the lecture room and the history pavilion. The Pennsylvania Department of Environmental Protection must be engaged for underground tank removal. Construction of new facilities may require an NPDES Stormwater Permit for Construction Activities. In some cases, local conservation districts will waive NPDES requirements for small projects that disturb less than one acre. All project phases must comply with the stipulations of PA Code Chapter 102,

Erosion and Sediment Control and reviewed and approved by the local Conservation District prior to the start of any earthmoving project. Depending on the nature of the project and plans, a review through the local conservation district, PA DEP, PA Fish and Boat Commission, and/or Army Corps of Engineers may be warranted.

The Pennsylvania Historical and Museum Commission (PHMC) will review land development plans and the project site for potential effect upon historic and archaeological resources. PHMC requires that information concerning the type of project be provided on an Information Request Sheet. When the Conservancy or its consultants are ready to implement work on the site, the Information Request Sheet and accompanying information must be submitted to PHMC for review and authorization to proceed with the work. The letter and sheet are included in Appendix E.

All new facilities will be designed following the Guidelines and Standards issued under the Americans with Disabilities Act (ADA) Standards for Accessible Design. ADA standards will apply to parking areas, viewing areas, bathrooms, and drinking water fountains. Accessibility for the proposed trails and other facilities should be designed in compliance with the ADA accessibility guidelines for outdoor recreation areas. These guidelines can be found at the ADA website - **www.access-board.gov/PUBS/outdoor-rec-rpt.htm**.



Chapter 6 **Implementation**

During the master planning process, data was gathered, community values were examined, existing resources were reviewed, and stakeholders identified existing needs and gaps. With the data gathered and needs and goals identified, a realistic implementation plan can be laid out based upon current and future resources, partnerships, and scenarios.

The purpose of the implementation plan is to identify realistic goals and to set a timeline to help stay on track for those goals. The site improvements and programs described in Chapter 5 are assigned short, medium, and long-term timeframes with short term as 6-12 months, medium term as 1-3 years, and long term as 3+ years to implementation in Figure 6.1. Preliminary opinions of probable costs were assigned to each recommendation to support and inform future grant and fundraising efforts.

The following Figure 6.1 lists all short-, medium-, and long-term improvements and a preliminary opinion of probable costs. For new construction, the cost of design and engineering are included in the probable cost.

FIGURE 6.1 Future Site Improvements

	FUTURE SITE IMPROVEMENTS	EST. \$	PRIORITY <i>Short</i> <i>Medium</i> <i>Long</i>	NOTES <i>Short 6-12 months</i> <i>Medium 1-3 years</i> <i>Long 3+ years</i>
1.0	Arrival/Entrance			
1.1	Parking lot expansion	\$10,000	L	Or as deemed necessary
1.2	Overflow parking	-	S	No cost, meadow surface
1.3	Viewing Terrace	\$50,000	L	Flagstone & low wall for seating
1.4	Signage	\$2,000	M	Entrance, interpretive, wayfinding
1.5	Monument	\$10,000	L	Commemorative at viewing terrace
2.0	History Pavilion			
2.1	Terrace	\$30,000	M	Flagstone, re-use existing flagstone, low wall for seating
2.2	Signage	\$2,000	M	Interpretive, wayfinding
2.3	History Pavilion	\$100,000	L	Open sided, electrical, includes design and permitting
3.0	Lecture Room			
3.1	Stables upgrade	\$20,000	M	Adaptive re-use, minimal investment
3.2	New facility	\$500,000	L	New facility close to History Pavilion OR major renovations to stables

Continues on next page

Source: United States Department of Agriculture, NRCS, 2013

FIGURE 6.1 Future Site Improvements (Continued from page 65)

	FUTURE SITE IMPROVEMENTS	EST. \$	PRIORITY <i>Short</i> <i>Medium</i> <i>Long</i>	NOTES <i>Short 6-12 months</i> <i>Medium 1-3 years</i> <i>Long 3+ years</i>
4.0	Heritage Center			
4.1	Log cabin relocation (optional)	\$40,000	M	Final location to be determined pending vegetation removal and design of other improvements
4.2	Structural repairs and updates	\$40,000	M	Log repair, roof repair, utilities, ADA access once in its final location
4.3	Exhibit	\$100,000	L	Design and installation including displays, lighting, and other interpretive features.
5.0	Springhouse			
5.1	Stabilization	\$1,000	S	Prevent further deterioration of doorway, roof, masonry
5.2	Research	\$10,000	M	Architectural historian consultant and volunteers. Research original materials and methods, builder, owner, date of structure
5.3	Reconstruction	\$60,000	L	period materials and techniques
5.4	Signage	\$5,000	L	Interpretive, static and online
6.0	Hiking Trails			
6.1	Layout and mowing	-	S	By Brandywine Conservancy staff
6.2	Trailhead signage	\$1,000	S	Coordinate with Birmingham Township and other partners
6.3	Wayfinding signage	\$2,000	M	
6.4	Wylie Road trail	\$10,000	M	Relocate existing fence from Birmingham Road to across from Firethorn Drive
6.5	Amenities	\$10,000	SML	Benches, interpretive materials
7.0	ADA Accessible Pathways			
7.1	Parking lot to viewing terrace	\$20,000	L	Surface materials to be determined during design phase
7.2	Lecture room to History Pavilion	\$10,000	L	If new lecture room facility is constructed (see item 3.2). Surface materials to be determined during design phase

	FUTURE SITE IMPROVEMENTS	EST. \$	PRIORITY <i>Short</i> <i>Medium</i> <i>Long</i>	NOTES <i>Short 6-12 months</i> <i>Medium 1-3 years</i> <i>Long 3+ years</i>
8.0	Natural Areas			
8.1	Tree removal	\$20,000	S	Disfigured, obstructions to views
8.2	Wet meadow restoration	\$60,000	M	Pond near springhouse, engineering, permitting
8.3	Agricultural re-creation	\$30,000	L	In carefully planned areas, pending archaeological studies and further research
8.4	Buffer vegetation	\$10,000	L	Between maintenance area and property manager's residence
9.0	Maintenance Area			
9.1	Maintenance entrance gate	\$10,000	M	Beyond ADA access to History Pavilion
9.2	Barn roof	\$20,000	M	New roof, near manager's residence
9.3	Fence	\$30,000	L	Around property manager's residence
10.0	Support Facilities			
10.1	Maintenance lane widening	\$20,000	L	From Meetinghouse Road to the maintenance entrance gate
10.2	ADA access lane	\$10,000	M	From maintenance lane to History Pavilion, asphalt
10.3	ADA parking	\$5,000	S	At History Pavilion, existing, design, line striping, signage
10.4	Maintenance lane to manager's residence	\$20,000	L	Design and engineering, permits, construction
10.5	Temporary parking	-	S	20 vehicles, meadow near Lecture Room, no cost
10.6	Stormwater management	-	L	As required by municipal ordinance, cost rolled into the cost of improvements
10.7	Utility upgrades	\$50,000	L	Power, water, septic, internet, as required
10.8	Security cameras and other measures	\$31,000	M	Video surveillance, motion detector cameras, gates – for all security recommendations see Safety and Crime Deterrence
10.9	Signage and branding	\$30,000	M	Directions to facilities, design consultant

Demolition/Removals

Existing unwanted structures that will not be utilized for any purpose on the Preserve will be demolished and removed from the property. Most demolition activity should occur in the first year of implementation to reduce liability. Longer-term demolition activities include removal of the stables if a new lecture facility is constructed, and demolition of the metal equipment shed if it is determined to be unnecessary. Figure 6.2 below lists demolition activities and anticipated costs.

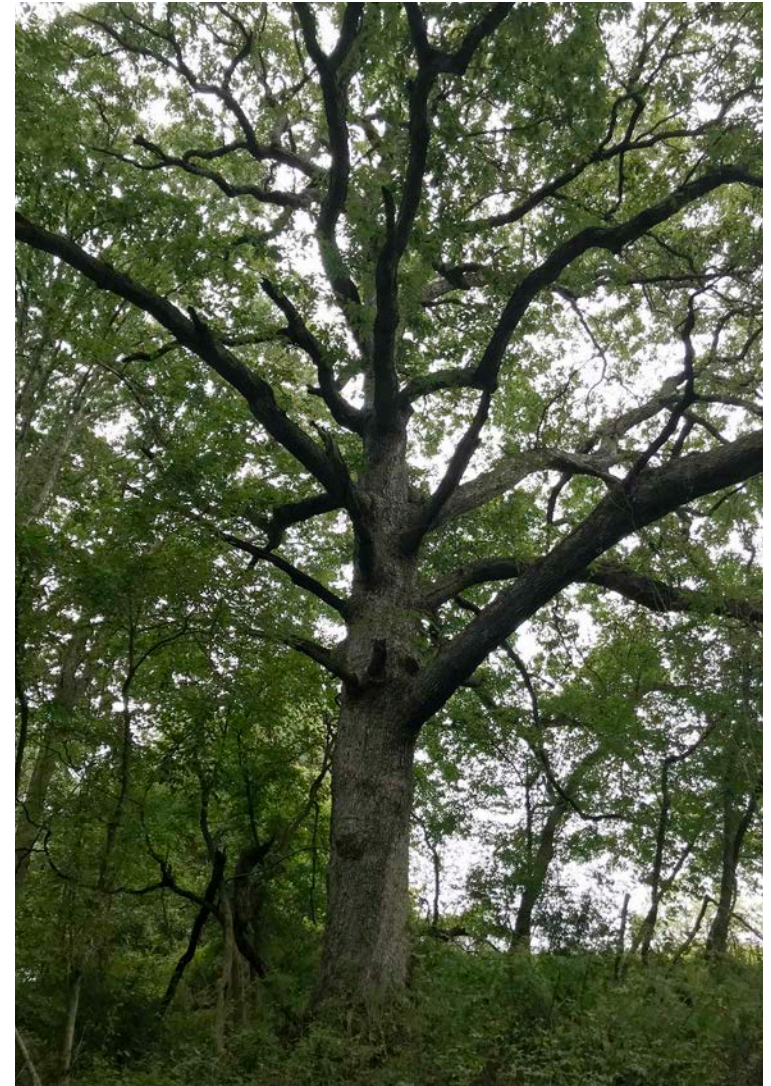
FIGURE 6.2 Demolition Schedule

	DEMOLITION/REMOVAL PROJECTS	EST. \$	PRIORITY <i>Short</i> <i>Medium</i> <i>Long</i>	NOTES <i>Short 6-12 months</i> <i>Medium 1-3 years</i> <i>Long 3+ years</i>
11.0	Demolition/Removal Projects			
11.1	Odell House	\$50,000	S	Includes foundation removal, patio and walls to remain as a temporary viewing terrace
11.2	Odell House driveway	\$10,000	M	To remain for secondary access/equipment storage during demolition of riding arena
11.3	Oil tank under back patio	\$5,000	S	
11.4	Gasoline tank at west end of driveway	\$5,000	S	
11.5	Tenant residences (2)	\$30,000	S	
11.6	Swimming pool	\$20,000	S	
11.7	Turnout sheds (12 @ 200 sf each)	\$22,000	S	By Brandywine Conservancy staff
11.8	Solar Array	\$2,500	S	
11.9	Riding Arena	\$50,000	M	
11.10	Split rail fence	-	M	By Brandywine Conservancy
11.11	Stables	\$15,000	L/TBC	Retain select architectural elements for potential re-use at the new lecture room
11.12	Equipment shed, metal garage	\$10,000	L/TBC	To be retained, only to be demolished if deemed unnecessary
TOTAL		\$219,500		

Implementation Timeline

Short-term Projects/ Quick wins (6- to 12-month implementation)

To build interest in the Preserve and support from the community, it is important to have a few quick wins and set realistic expectations on an implementation timeline that includes programming, capital improvements and maintenance. Below are recommended actions for short-, medium- and long-term projects. Short-term Projects, or quick wins, should be completed within the first 6-12 months of implementation. See Figure 6.3 Short Term Initiatives. Demolition of existing structures represents a large component of short-term projects. Other short-term improvements should include overflow parking area improvements, hiking trail expansion, removal of unwanted vegetation, and stabilization of the springhouse. These improvements will be highly visible from surrounding roads and the expanded trail network will be a welcome amenity for local residents.



This majestic white oak is located in the southern portion of the preserve, east of the property manager's residence.

FIGURE 6.3 Short Term Initiatives

	SHORT TERM IMPLEMENTATION PHASE 1	EST. \$	POTENTIAL PARTNERS	FUNDING OPPORTUNITIES
11.0	Demolition/Removal	Birm. Twp – for permits for all demo work		
11.1	Odell House	\$50,000		
11.3	Oil tank under back patio	\$5,000		
11.4	Gasoline tank at west end of driveway	\$5,000		
11.5	Tenant residences (2)	\$30,000		
11.6	Swimming pool	\$20,000		
11.7	Turnout sheds (12 @ 200 sf each)	\$22,000		
11.8	Solar Array	\$2,500		
1.0	Arrival/Entrance			
1.2	Overflow parking		Birmingham Township	
5.0	Springhouse			
5.1	Stabilization	\$1000	Chadds Ford Historical Society, Birmingham Township, BB Park	
6.0	Hiking Trails			
6.1	Layout and mowing	-	Birmingham Township	
6.2	Trailhead signage	\$1,000	Birmingham Township	
8.0	Natural Areas			
8.1	Tree removal	\$20,000	PECO	
10.0	Support Facilities			
10.3	ADA parking	\$5,000	Birmingham Township	
10.5	Temporary parking	-		
TOTAL		\$161,500		

Medium-term Projects (1–3 years)

Once demolition and removal of smaller structures on the Preserve is complete, there will be more space to stage the demolition of the riding arena. The driveway to the Odell residence can serve as temporary construction and demolition equipment storage area and can be restored to a field condition after demolition of the riding arena is complete.

Improvements should be made in order to better accommodate visitors and organized lectures. New facilities should include signage at the main entrance, terrace and interpretive signage at the former Odell residence, renovation to the office areas at the stables for a lecture facility and restrooms, and renovations to the log house for the heritage center. Other key projects include building repairs and restoration of the wetland meadow. See Figure 6.4 for Medium Term Initiatives.

FIGURE 6.4 Medium Term Initiatives

	MEDIUM TERM IMPLEMENTATION: PHASE 2	EST. \$	POTENTIAL PARTNERS	FUNDING OPPORTUNITIES
11.0	Demolition/Removal			
11.2	Odell House driveway	\$10,000		
11.9	Riding Arena	\$50,000		
11.10	Split rail fence	-		
1.0	Arrival/Entrance			
1.4	Signage	\$7,000	Birmingham Township, BB Task Force	
2.0	History Pavilion			
2.1	Terrace	\$30,000		
2.2	Signage	\$7,000		

FIGURE 6.4 Medium Term Initiatives (Continued)

3.0 Lecture Room				
3.1	Stables upgrade	\$20,000	Chester County	
4.0 Heritage Center				
4.1	Log cabin relocation (optional)	\$40,000	Birmingham Township	
4.2	Structural repairs and updates	\$40,000		
5.0 Springhouse				
5.2	Research	-	Archaeologist, Architectural Historian, Structural Engineer, Chester County History Center, Chadds Ford Historical Society, Birmingham Township	
6.0 Hiking Trails				
6.3	Wayfinding signage	\$2,000	Volunteers	
6.4	Wylie Road trail	\$5,000	Birmingham Township	
8.0 Natural Areas				
8.2	Wet meadow restoration	\$60,000	Birmingham Township, CCCD, DEP, USACE	
9.0 Maintenance Area				
9.1	Maintenance entrance gate	\$10,000		
9.2	Barn roof	\$20,000		
10.0 Support Facilities				
10.2	ADA access lane	\$10,000		
10.8	Security cameras and other measures	\$16,000		
10.9	Signage and branding	\$30,000		
TOTAL \$357,000 (Includes optional \$40,000 cabin relocation)				

Long-term Projects (3+ years)

Projects that are larger and require significant fundraising efforts will be completed over a longer time frame. The parking lot expansion would be designed and constructed in tandem with the viewing terrace, commemorative monument, and ADA accessible pathway. With public visitation reaching its full potential after 3 years of public use, significant investment in the History Pavilion, Heritage Center, and possibly the new Lecture Room would be appropriate. Associated support facilities, such as driveway widening and security systems, would be added or enhanced as projects are completed. A Phase 2 archaeological survey of the Skirmish Hill parcel will be completed in partnership with educational institutions and other non-profit organizations over time. The Phase 2 archaeological survey will be especially critical before the siting and design of new facilities (see also Chapter 5 recommendations for Phase 2 archaeological surveys).

Restoration of the springhouse will have great public appeal and can be done in partnership with a restoration architect, architecture students, carpenters, and/or volunteer groups. Finishing touches along the grass trail network would enhance the visitor experience and provide volunteer project opportunities. See Figure 6.5 Long Term Initiatives.

FIGURE 6.5 Long Term Initiatives

	LONG TERM IMPLEMENTATION: PHASE 3	EST. \$	POTENTIAL PARTNERS	FUNDING OPPORTUNITIES
11.0	Demolition/Removal			
11.11	Stables (optional)	\$15,000		
11.12	Equipment shed, metal garage (optional)	\$10,000		
1.0	Arrival/Entrance			
1.1	Parking lot expansion	\$10,000	Birmingham Township, Chester County	
1.3	Viewing Terrace	\$50,000	Birmingham Township, Chester County	
1.5	Monument	\$10,000	Birmingham Township Battlefield Park, Museum of the American Revolution, Chester County History Center, Chester County, Amer. Battlefield Trust, Sons of the Revolution, Society of Cincinnati	
2.0	History Pavilion			
2.3	History Pavilion	\$100,000	Birmingham Township, Battlefield Park, Chester County	
3.0	Lecture Room			
3.2	New facility (optional)	\$1,000,000	Chester County	

FIGURE 6.5 Long Term Initiatives (Continued)

4.0 Heritage Center				
4.3	Exhibit	\$100,000		
5.0 Springhouse				
5.3	Reconstruction	\$60,000	Restoration architect, Birmingham Township	
5.4	Signage	\$5,000		
6.0 Hiking Trails				
6.5	Amenities	\$10,000	Volunteer groups	
7.0 ADA Accessible Pathways				
7.1	Parking lot to viewing terrace	\$20,000	Chester County	
7.2	Lecture room to History Pavilion	\$10,000	Chester County	
9.0 Maintenance Area				
9.1	Maintenance entrance gate	\$10,000		
9.2	Barn roof	\$20,000		
8.0 Natural Areas				
8.3	Agricultural re-creation	\$30,000	Chadds Ford Historical Society, Chester County History Center	
8.4	Buffer vegetation	\$10,000	Volunteers	
9.0 Maintenance Area				
9.3	Fence around manager's residence	\$30,000	Volunteers	
10.0 Support Facilities				
10.1	Maintenance lane widening	\$20,000		
10.4	Maintenance lane to manager's residence	\$20,000		
10.6	Stormwater management	-		
10.7	Utility upgrades	\$50,000		
10.8	Security cameras and other measures	\$15,000		
TOTAL \$1,575,000 (Includes \$1,025,000 optional improvements)				

Preliminary Estimate of Probable Development Costs

The preliminary estimate of probable design and construction costs is based upon proposed site improvements shown on the Conceptual Site Plan and is listed in the tables of short, medium, and long-term implementation recommendations above. The anticipated costs are based on construction costs for 2020 including standard prevailing wage rates associated with the public sector. Costs should be adjusted each year to account for general inflation or cost variations and availability for specific materials.

The preliminary estimate of cost includes an allowance for design and engineering. Design and engineering costs may vary greatly depending on the requirements of the funding agency. DCNR (State) funded projects typically require and allow 15% of construction funding to be used for design and engineering.

Many of the proposed improvements could be developed as a project sponsored by the Brandywine Conservancy with help by local volunteers and civic/social organizations to offset costs. Local Boy Scout Troops often seek community service hours and some proposed improvements at the Preserve are appropriate for an Eagle Scout project.

SUMMARY

Phase 1	\$161,500
Phase 2	\$ 357,000
Phase 3	\$ 1,575,000
Construction Total (design and engineering included)	\$ 2,093,500
Contingency (10% construction)	\$ 209,350
Permits/Fees	\$ 10,000
Environmental Assessment/Sampling/Removal (does not include asbestos removal)	\$25,000
GRAND TOTAL	\$ 2,337,850

Educational Programs

Programs can be introduced to the Preserve gradually over time beginning with programs currently offered at other Brandywine Conservancy preserves and nearby public sites. The educational history program can be offered in the short term in partnership with Birmingham Township and the Brandywine Battlefield Park.

- Continue to collaborate and share data with Chester County Historic Preservation Network, Chester County Historical Society, and other key stakeholders
- Partner with Brandywine Battlefield Park Associates, the Museum for the American Revolution, and Birmingham Township Historical Commission to offer interpretive history tours of the Preserve
- Engage specialists, scholars, and volunteers to conduct a thorough archaeological investigation of the property

Develop educational programs around active archaeological investigations

In the short-term, Brandywine Conservancy staff could offer pop-up nature programs transferrable from other Conservancy preserves. Longer term programming can include educational art classes when an indoor lecture room is available. Events to commemorate the Battle of Brandywine can be implemented once the Preserve is fully operational.

Figure 6.6 lists programming opportunities and anticipated program development costs (staff time and materials) per year.

FIGURE 6.6 Educational Programs

	PROGRAMS	EST. \$	PRIORITY <i>Short</i> <i>Medium</i> <i>Long</i>	NOTES <i>Short 6-12 months</i> <i>Medium 1-3 years</i> <i>Long 3+ years</i>
12.1	Educational history program development	\$5,000	S	Partner with historians, BB Park, MAR, Birmingham Township, and others
12.2	Historic and archaeological research	\$10,000	M	Partner with non-profits and educational institutions
12.3	Educational nature program development	\$2,000	S	Partner with non-profits and educational institutions
12.4	Educational art program development	\$2,000	M	Partner with non-profits and educational institutions
12.5	Commemorative event planning and execution	\$5,000	L	Cost estimate for each event. Partner with non-profits and educational institutions
TOTAL		\$24,000		

Security, Safety, and Crime Deterrence

Basic Preserve rules, such as opening the Preserve from dawn until dusk and holding random police and maintenance patrols, is the best way to deter crime for this site. The actual hours of operation and Preserve rules and regulations will be determined by the Preserve manager and the Brandywine Conservancy. Birmingham Township police have been keeping the parking lot under surveillance and will be asked to continue that activity to deter vandalism. The property manager's regular presence on

the Preserve will also serve to monitor activities and deter crime. Limiting public access to certain locations will control the number of areas that need to be kept under surveillance.

Initially, while trail use is low and users become acquainted to what is expected of them while on the Preserve, there may be a greater occurrence of unwanted activity such as littering, vandalism, and underage drinking. As more trail users populate the trail, they will help to become the eyes and ears of authority. Many trail users are likely to carry cell phones, and people engaged in negative behavior will not wish to be seen performing these activities so they will usually stop or go elsewhere. Trail users can also help the Conservancy monitor the trails. When there are issues, such as trail blockage or damaged property, trails users can notify the property manager about the problems. The property manager will be responsible for enforcing Preserve regulations. It is important that the Conservancy's phone number and email address, as well as notices to call 911 in case of Emergency, are posted at the various trail heads as a part of trail signage and at the entrances to the Preserve.

Due to the remoteness of some of the areas within the Preserve, it may be beneficial to form a neighborhood watch group or "Friends of the Preserve" that can serve as extra eyes and ears for the Conservancy. Trail groups and history clubs can also be used to keep the Preserve under watchful eyes thus keeping the image up that it is a treasured resource.

Hiking trails should be wide enough, approximately 10', made of stable soils and have proper height clearance, approximately 12', for a maintenance vehicle or gator to travel on. Emergency vehicles will be able to get reasonably close to remote areas by Wylie Road, Meetinghouse Road, the maintenance lane, and tractor paths.

A gate will be installed on the maintenance lane to keep private vehicles from entering the maintenance area beyond the History

Pavilion. When lectures are scheduled at the lecture room/stables, the gate can be left open or visitors can be given a temporary code to open the gate. Security cameras will be installed at the maintenance gate and at the main parking lot. The cameras will be monitored from the property manager residence and smart phone. The cost for a third party contractor to monitor the security system once installation is complete is approximately \$4,000 per year. See Figure 6.7 for a summary of recommended security features.

Preserve Management

The Conservancy's Land Management Program staff are responsible for the stewardship of Birmingham Hill Preserve consistent with the Birmingham Hill Interim Management Plan, 2019. The Preserve Management Plan is updated each year to reflect improvements and changes to the Preserve and will be updated to reflect recommendations in the Master Plan.

The Natural Resources Manager assumes primary responsibility for the property with assistance provided by the part-time staff member who resides on the Preserve, and seasonal interns as needed. The Natural Resources Manager reports to the Director of the Conservancy. The Preserve will continue to be managed by a part-time property manager with guidance from the Natural Resources Manager. Funding for Preserve management is provided through an endowment that covers the part time property manager position and minor maintenance costs. The hay fields will continue to be leased to a farmer to harvest the hay. If it is decided to introduce other agricultural crops based upon what may have grown on the Preserve in 1777, the lease will be updated.

The introduction of new trails will require additional time and resources to maintain. They should be mowed weekly during the growing season to a minimum width of 5 feet and cleared of

FIGURE 6.7 Security Features

	LOCATION OF SECURITY FEATURES	EST. \$	PRIORITY <i>Short</i> <i>Medium</i> <i>Long</i>	SECURITY IMPROVEMENTS <i>Short 6-12 months</i> <i>Medium 1-3 years</i> <i>Long 3+ years</i>
1.0	Arrival/Entrance			
1.1	Parking lot expansion	\$3,000	L	Manual Security gate, long term electronic gate optional
1.5	Monument	\$5,000	L	Security camera(s) - security camera WiFi if possible to save cost
2.0	History Pavilion			
2.1	Terrace	\$2,000 \$2,000	L	Security camera, WiFi if possible to save cost, include security system and software. Security gate
2.3	History Pavilion	\$2,000	L	Security camera
3.0	Lecture Room			
				Interior, exterior, motion, key pad, door alarm/internal security system
3.1	Stables upgrade	\$8,000	M	Security system (and cameras), software, monitors for various cameras, keypad, motion detectors
3.2	New facility	\$8,000	L	Security system (and cameras), software, monitors for various cameras, keypad, motion detectors
4.0	Heritage Center			
4.2	Structural repairs and updates	\$8,000	M	Security system (and cameras) base station, software, monitors for various cameras, keypad, motion detectors
5.0	Springhouse			
5.3	Reconstruction	\$1,000	M	Security camera, low cost
9.0	Maintenance Area			
9.3	Near property manager's residence	\$1,000	L	Security camera/motion detector
TOTAL		\$40,000	<i>Incorporated into medium- and long-term recommendations costs</i>	

obstructions a minimum of 10-12' high. This task alone will require 10 hours per week. The Conservancy should consider bringing in a summer intern to help with maintenance during the summer months to help with mowing, facility use, and other management tasks. Trails that are showing signs of over-use (bare soil, erosion, wet depressions) will be evaluated to determine whether the trail should be realigned, or more resilient surface treads should be installed.

Routine maintenance tasks are few and pertain mostly to maintaining fence lines and lawn areas around the buildings and structures. The Preserve's use and management priorities are to ensure the resource values of the property are not degraded and the scenic views are maintained. These tasks are listed below:

- Conduct an annual inspection of the entire property
- Conduct quarterly perimeter inspection
- Maintain and replace, as needed, property boundary signs
- Monitor invasive plants annually to detect for any new infestations
- Ensure that Hayfield 2 is cut biannually
- Ensure hay tenant mows Hayfield 1 pastures twice per year; once after June 1st and the second time a minimum of forty days after the first cutting
- Maintain post and rail fences as needed
- Mow trails through hayfields as needed
- Mow and maintain around building and structures

Volunteers will become an important resource for preserve management. For example, volunteers from the community can be engaged every day to walk the trails, check for safety issues, clear debris, collect trash, and perform simple maintenance tasks.

Funding Plan

There is an approximately \$2 million endowment for the Preserve, the income of which pays for staff time and management expenses. An employee currently resides on the Preserve rent free and is responsible for the day-to-day routine maintenance of the Preserve. At this time, the repair and maintenance budget that has been adopted is adequate for routine and on-going maintenance of the property. However, if new initiatives and recommendations described in the Master Plan are to be implemented, separate fundraising opportunities and sources must be pursued. The following is a summary of prominent sources of funding that could be pursued to support implementation of recommendations in the Birmingham Hill Preserve Master Plan.

Chester County

The Chester County Preservation Partnership Program supports Conservancy-led and other priority projects. The Public Benefit Improvement Grants are intended for construction of publicly accessible trails and trail-related amenities such as trailheads, parking areas and signs. If pre-approved by the Chester County Department of Parks and Open Space Preservation for inclusion in a grant proposal, improvements such as restrooms, water fountains, and improvements to buildings that benefit the general public may be funded. For trail related projects, the site must be open to the general public at regularly scheduled and posted days and times, and the land upon which the trail and any accessory structures are proposed must be permanently designated for public use prior to the release of any County funds. Applications are usually due in spring of each year. A 50% local match is required. A list of eligible projects listed in the 2020 grant manual is provided below.

- A. Construction of publicly accessible trails.
- B. Construction of trail-related amenities such as trailheads, trail-side facilities, parking areas, and signs.
- C. If pre-approved by the Department of Parks and Open Space Preservation for inclusion in the grant application, improvements such as restrooms, water fountains, and construction of or improvements to structures and buildings that make a significant contribution to the benefit the trail provides to the general public. (Preapproval for inclusion in the application does not guarantee or imply funding or approval by the County Commissioners.)
- D. Improvements that facilitate access and use of trails by persons with disabilities.
- E. Restoration or rehabilitation of trails, including rerouting or repair of areas damaged by trail use, flooding, or erosion; rehabilitation of trail tread and other facilities that have deteriorated over time.
- F. Small-scale, nature-based improvements on permanently preserved land that will benefit water quality or contribute to habitat restoration, such as riparian buffer plantings, native plantings, and rain gardens. (For projects on land preserved through the County Agricultural Land Preservation Program, the non-profit is not required to own or hold a legal interest in the site of the improvement.)

State of Pennsylvania

The Pennsylvania Department of Conservation and Natural Resources (DCNR), Bureau of Recreation and Conservation, offers grants through the Community Conservation Partnership Program (C2P2). Grants are available for community projects to acquire land for, develop, or rehabilitate greenways and trails facilities.

The open application period is between January and April. DCNR generally requires a 50% local match. Non-cash local match may include donations of funds, materials, services, or new right-of-way from any project sponsor, whether a private organization or public agency. For more information, visit DCNR's website: <http://www.dcnr.state.pa.us/brc/grants>.

The Environmental Stewardship and Watershed Protection Act authorizes the Department of Environmental Protection (DEP) to allocate nearly \$547 million in grants for acid mine drainage abatement, mine cleanup efforts, abandoned oil and gas well plugging and local watershed-based conservation projects. These projects can include: watershed assessments and development of watershed restoration or protection plans; implementation of watershed restoration or protection projects (stormwater management wetlands, riparian buffer fencing and planting, stream bank restoration, agricultural best management practices); construction of mine drainage remediation systems; reclamation of previously mined lands; and demonstration/education projects and outreach activities. These grants are available to a variety of eligible applicants, including watershed organizations such as the Brandywine Conservancy involved in the restoration and protection of Pennsylvania's environment. These grants will support local projects to clean up non-point sources of pollution throughout Pennsylvania.

The Pennsylvania Department of Community and Economic Development (DCED) administers a Greenways, Trails and Recreation Program (GTRP) grant opportunity. Act 13 of 2012 establishes the Marcellus Legacy Fund and allocates funds to the Commonwealth Financing Authority (the "Authority") for planning, acquisition, development, rehabilitation and repair of greenways, recreational trails, open space, parks and beautification projects using the Greenways, Trails and Recreation Program (GTRP). Eligible projects involve development, rehabilitation and

improvements to public parks, recreation areas, greenways, trails and river conservation. Eligible applicants include watershed organizations such as the Brandywine Conservancy.

Federal

Under its Urban Waters Small Grant Program, the Environmental Protection Agency will award up to \$3.8 million for projects that help restore urban waters by improving water quality and supporting community revitalization. The program will fund research, studies, training, and demonstration projects. Applicants can include local governments and non-profit organizations. Grants typically range from \$40,000-60,000. A minimum cost-share match of \$2,500 is required.

The National Park Service through its American Battlefield Preservation Program provided planning grants to eligible organizations for battlefield sites in the United States. Funded activities include Site Identification and Documentation Projects, Planning and Consensus Building Projects and Interpretation or Educational Projects. In 2019, grant awards ranged from \$32,000 to \$150,000.

Foundations

Ten foundations generously provided financial support to acquire the Preserve. It is reasonable to expect that these same foundations would be willing support various proposed projects at the Preserve. Additionally, there are many other local, regional and national foundations whose interests, mission, or focus meets in some way to those of the Preserve, to whom applications for funding could be made.

Volunteers

Volunteers can play an important role in the maintenance of a preserve. Although not a source of cash, in-kind donations of time and services by volunteer partners will be a vital source of support for Birmingham Hill Preserve. Partners such as Brandywine Battlefield Park Associates, Brandywine Battlefield Task Force, and the Museum for the American Revolution will be critical for the planning and implementation of history programs at the Preserve. Groups such as the Boy Scouts, the Chester County Trail Club, and the Wilmington Trail Club could be asked to provide labor for specific management initiatives such as trail maintenance, tree plantings, and minor trail construction. The Brandywine Conservancy may choose to recruit residents, trail clubs, and other interest groups to participate in preserve activities. Volunteers can be used to coordinate fundraising events – such as battle reenactments and history tours – that can help raise funds for special projects.