

# Mineral Hill Area Parks

Delaware County, PA

Prepared by



## MASTER SITE PLAN

June 2014

# ACKNOWLEDGEMENTS

This Plan is dedicated to the memory of John E. Pickett, P.E., AICP, who served as Director of the Delaware County Planning Department for 28 years. John was a tireless advocate for Delaware County and continually sought to use sound planning principles to move the County towards a bright and prosperous future.

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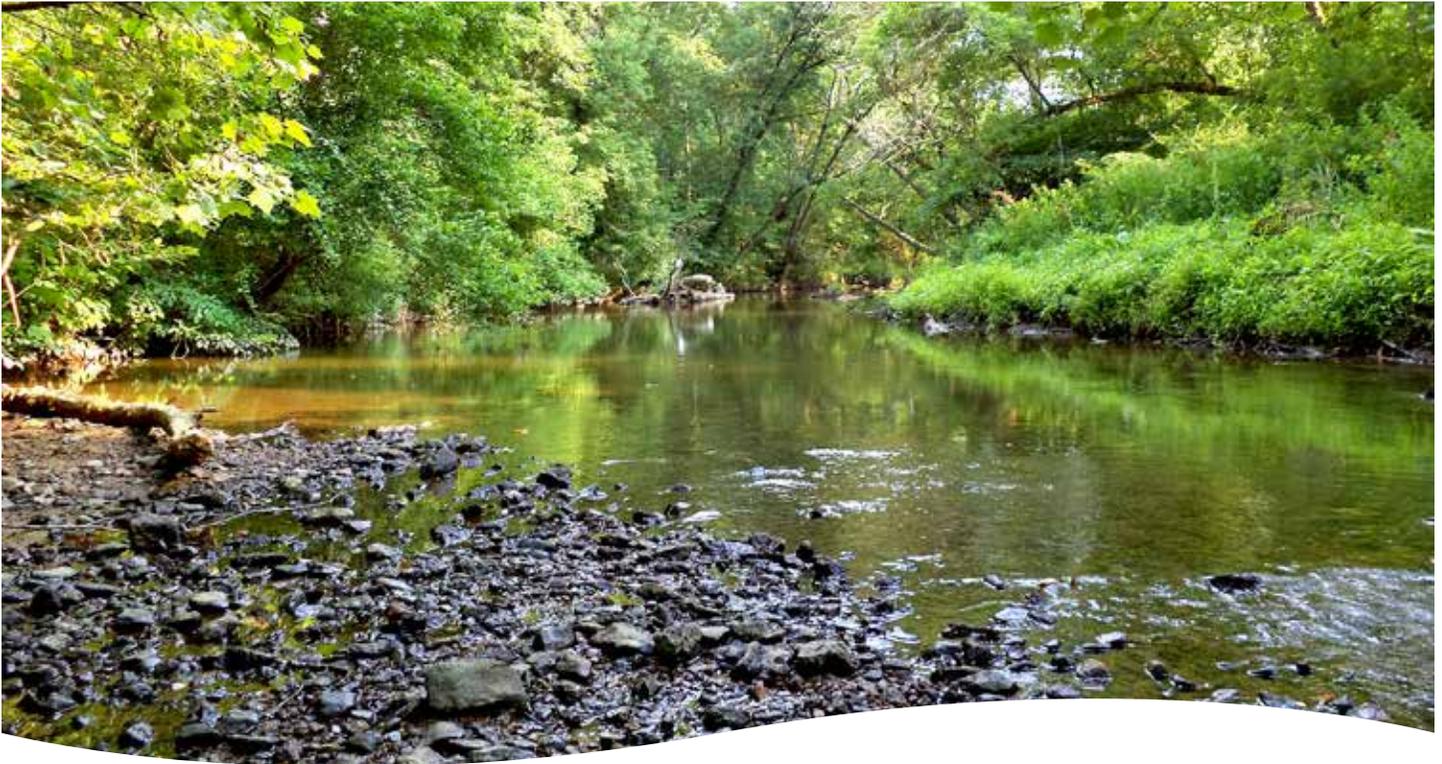
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# Mineral Hill Area Parks

## Delaware County, PA

June 2014



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[www.natlands.org](http://www.natlands.org)

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# I EXECUTIVE SUMMARY

## BACKGROUND

The *Mineral Hill Area Parks Master Plan* is intended to create an overarching vision of three adjoining parks—Delaware County’s Mineral Hill County Park, Upper Providence Township’s Louis Scott Park, and Middletown Township’s Memorial Park—that allows each of the municipalities to develop its respective park while limiting redundancy, increasing public benefit, and ensuring environmental quality.

Improving access to the parks can have tremendous benefits to the community and out-of-town visitors. Those who come to the parks can experience the of myriad physical and mental health benefits associated with time spent in nature. Exploration of the parks may also improve knowledge of natural systems and help to forge a lasting relationship with nature.

However, encouraging park access is not without its challenges. Greater access inevitably results in greater

impact on natural and historical resources and a higher chance of conflicts between different groups of users. Managing community engagement also requires a greater investment of human resources.

A Master Plan involving the community is an essential first step in enhancing park public engagement. A Master Plan provides recommendations for uses, site amenities, partnership and volunteer programs, monitoring and maintenance, and implementation priorities and phasing required to offer an excellent experience for park users while protecting the integrity of the site.

## Mineral Hill Area Parks

The establishment of the parks began in 1998 with Middletown Township’s sublease from Aqua Pennsylvania to create and manage the 13-acre



Memorial Park. The 26-acre southern portion of Louis Scott Park became a park in the 1990's and was expanded in 2004 when Upper Providence Township acquired ±37 acres known as the Lavin Tract—creating the 63-acre park. With the acquisition of the 47-acre Mineral Hill County Park by Delaware County in 2010, the Mineral Hill Area Parks System totals 123 acres of contiguous public open space. Natural features of the parks include significant natural habitats of forests, wetlands, floodplains, and the Ridley Creek main stem.

## Site Analysis

The Master Plan process includes an analysis of the existing conditions on the parks, including the parks study area context, natural resources, structures and infrastructure, and trail assessment.

## Parks Study Area Context

The Mineral Hill Area Parks are located in the piedmont ecoregion of southeastern Pennsylvania between West Chester and Philadelphia and are within the Ridley Creek watershed, a tributary to the Delaware River, which flows into the Delaware Bay. They are located within Middletown and Upper Providence Townships, Delaware County, Pennsylvania. The expansive natural area of the parks is encircled by the Route 1 Media Bypass, Baltimore Pike, and North Ridley Creek Road. A high volume of people pass by these parks on a daily basis and it is likely that few of them are aware of the relatively undisturbed natural area just outside their vehicles.

With their location in the Ridley Creek Watershed, the parks are part of a much larger conserved greenway. Other land owned by Upper Providence and the Heilbron Homeowner Association land are within 200 feet to the north; Delaware County's Glen Providence Park is within 400 feet to the west; and Middletown Township's Smedley Park is within 900 feet to the east. In addition, Tyler Arboretum, Okehocking Preserve, and Ridley Creek State Park are approximately 4,500 feet upstream.

## Natural Resources

The area is known as Mineral Hill due to the interesting and unusual minerals derived from the previous quarry located at the site. The hydrologic features of the parks include the main branch of Ridley Creek, first- and second-order tributaries, floodplain, wetlands, springs, seeps, seasonal pools, and hydric soils. The topography of the parks ranges from flat areas and gentle slopes along Ridley Creek and within its floodplain to very steep slopes rising from the floodplain and along the hillsides leading to the borders of the parks. The parks contain eight vegetation communities/units that offer a variety of habitat areas for plants and animals. Additionally, the Media Wetlands and Mineral Hill are listed on the Pennsylvania Natural Heritage Inventory (PNHI)—an inventory of critical biological resources in Pennsylvania—sites are located within the parks.

## Structures and Infrastructure

The parks are primarily accessed through two parking lots at Louis Scott Park along North Ridley Creek Road and one parking lot at Memorial Park off of Baltimore Pike. The signage at the parks is inconsistent and includes a mixture of park identification, kiosks, rules and regulations, dog waste stations, and trail markers. Some of the signage is outdated and some trail markers are defaced. Amenities offered at the parks include picnic tables, pavilions, benches, and a fishing pier. A few remnant historical structures are located on the parks that lend character to the properties including a historical bridge, remnant stairs to a washed-out bridge, and a historical wall associated with the Brookwood retirement home. Other remnant structures may be considered hazardous—such as deteriorating restroom facilities, former Boy Scout bunk house, and a well opening.

## Trail Assessment

The existing 2.45-mile trail system at the three Mineral Hill Area parks provides scenic views and access to woodlands, meadow, wetlands, and Ridley

Creek. Currently, all trails on the parks are pedestrian trails, serving hikers, joggers, dog walkers, birders, and anglers. Bicycles and motorized vehicles are not permitted on the trails. The existing trails have varied surfaces including gravel, wood chips, and compacted earth. The overall trail system is limited, offering few loop trails and many dead-end trails with access to only portions of the parks. The parks' trails vary in structure and maintenance. With the exception of the Millennium Trail, the trails of the three parks are not named and not marked. Kiosks located at the three parking areas greet visitors, provide them with some basic information about the park, and state the park rules, but do not provide trail guides with a map of the parks.

## Profile of Parks

A review of the park users, funding for land stewardship and parks and recreation staff, partnerships and programs, and opportunities and concerns is part of the Master Plan process.

The types of uses which currently take place at the parks appear to be appropriate and consistent with both natural resource management and public engagement goals. Hiking, dog walking, fishing, birding, and mineral collection are the most prevalent uses and have a long history at the parks. Other historic uses include camping, ice skating, and navigation of Ridley Creek. The current use levels at the parks are appropriate at this time and appear to have little to no impacts.

Dedicated staff presence and funding to underwrite the costs of stewarding the parks is minimal to nonexistent. These limited resources are an impediment to both natural resource stewardship and visitor/community outreach. The neighbors who live in close proximity to the parks are an important asset. They are some of the most-frequent visitors and many have assumed a sense of ownership. Neighbors often act as additional eyes and ears, keeping watch over the parks and taking part in volunteer tree planting and trail maintenance.

Throughout the master plan development process, the Steering Committee and community expressed their concerns and offered potential opportunities

related to the parks. In general, the concerns at the parks are relatively minor and are consistent with those experienced at many local parks and open space areas. The opportunities suggested are consistent with the vision of the parks to remain as natural settings offering passive education with an area for activities. The opportunities and concerns are divided into five categories: natural resources and uses; volunteers and education; parking and amenities; trails; and signage.

## Recommendations

### Vision

The Vision for the parks was developed by the Steering Committee as follows: Mineral Hill County Park, Memorial Park, and Louis Scott Park create an integrated park system with access over Ridley Creek. They are situated in a way that benefits the community and the natural features. The Mineral Hill Area Parks system allows the municipalities to develop their respective parks so as to limit redundancy, increase public benefit, and ensure environmental quality, while providing for varying recreational opportunities and levels of accessibility. The *Master Plan* recommends that Mineral Hill County Park and portions of Memorial Park and Louis Scott Park remain quiet areas for passive recreation and minimum intrusion with some areas limiting off-trail access and others allowing more opportunity for exploration. The *Plan* also recommends that Memorial Park and Louis Scott Park allow for semi-active recreation, including a fishing pier, a mown area for activities, a playground with outdoor exploration (i.e., bug door, wildlife footprints), and exercise stations. Picnic shelters and bathroom facilities will be provided near the primary parking areas.

### User Experience

The serene natural setting of the Mineral Hill Area Parks—amid the surrounding residential and commercial development—offers an opportunity to transport visitors to a seemingly wild place where they can experience both deciduous and coniferous woodlands, meadows, wetlands, floodplains, and

the banks of Ridley Creek while traversing the varied terrain along an expansive trail system. Thus, recommendations in this Plan should prioritize activities and amenities that enhance access to and understanding of the natural and historical features. Providing areas for people to connect to nature in the parks should accommodate community activities, fishing, and picnicking.

A variety of trail experiences are available at the parks. Where the terrain allows, handicap accessibility standards will be met to provide Americans with Disability Act (ADA) accessible trails. Other trails will be maintained as pervious paved or natural earthen trail surfaces. The terrain and trail surfaces will create trails varying in difficulty from easy to challenging, providing a sense of adventure. Signage should provide necessary orientation and interpretation of important natural and historical features but the overall impact of signs should be minimal. Benches, stream crossings, or other structures should be natural in appearance, reminiscent of the history and natural features, and generally consistent throughout the three parks. More formal structures, with the exception of the Ridley Creek bridges, should be avoided unless required to ensure visitor safety or to meet applicable regulations.

### **Integration of Parks**

To create a cohesive Mineral Hill Area Parks system the respective owners/managers will need to continue to communicate, market, and develop amenity designs and standards for the three parks. These unifying designs and standards should be integrated into trail widths, surfaces, linkages between the parks—including color-coding and naming, and appropriate uses; bridges that connect the parks over Ridley Creek; a signage system that creates the look and feel

of the parks as a whole while incorporating elements of the individual owners/managers established municipal parks signs—including kiosks that contain the same rules and park system map and the parking lots of all the parks; and benches, picnic tables, and bathroom facilities.

Communication and marketing about the parks and events at the parks should be coordinated with the all of the owners/managers. The information should be shared on the websites and publications of the municipalities and other recreational information resources.

Additionally, the creation of the Friends of Mineral Hill Area Parks volunteer corps will assist in bringing the community together with the park owners/managers and assist with consistency in managing and monitoring of the parks. The Friends group is not intended to work as an entity on its own, but rather serve as a volunteer extension of the County Parks Department and municipal parks and recreation committees and staff, carrying out the tasks as specified by the park owners and managers.

### **Implementation**

Implementation of the Mineral Hill Area Parks Master Plan is a multiple year process that institutes gradual changes. This process will allow the landowners and leaseholders to reassess and refine strategies as well as acquire and allocate the necessary financial and staffing resources. The higher priority items, including development of the trail system, building the southern-most bridge over Ridley Creek (between Memorial Park and Louis Scott Park), increasing volunteerism, establishing partner relationships and programming, and instituting signage are included as the first priorities on the implementation schedule.

# II INTRODUCTION

## OBJECTIVE

The Mineral Hill Area Parks Master Plan is intended to create an overarching vision of three adjoining parks—Delaware County’s Mineral Hill County Park, Upper Providence Township’s Louis Scott Park, and Middletown Township’s Memorial Park—that allows each of the municipalities to develop its respective park while limiting redundancy, increasing public benefit, and ensuring environmental quality.

As the project consultant, Natural Lands Trust has solicited input from landowners, land managers, and community members about what they would like the park experience to entail through meetings with the Steering Committee and public. The Steering Committee includes members from Delaware County Planning Department, Delaware County Parks and Recreation, Upper Providence Township, Middletown Township, Media Borough, Aqua PA, Elwyn, Inc., PECO, Delaware County Conservation District, Chester-Ridley-Crum Watersheds Association, and Natural Lands Trust.

Improving access to the parks can have tremendous benefits to the community and out-of-town visitors. Those who come to the parks can experience the myriad physical and mental health benefits of time spent in nature. Exploration of the parks may also improve knowledge of natural systems and help to forge a lasting relationship with nature.

However, encouraging park access is not without its challenges. Greater access inevitably results in greater impact on natural and historical resources and a higher chance of conflicts between different groups of users. Managing community engagement also requires a greater investment of human resources.

Natural Lands Trust owns and manages more than 15,000 acres of land that is used daily by visitors. To achieve the goal of “connecting people with nature” while protecting and enhancing its natural resource management objectives, Natural Lands Trust has developed an approach that includes:

- determination of appropriate uses
- amenity development
- education through signage based on Leave No Trace’s principles for low-impact use
- volunteer participation and training
- partner and community outreach

A Master Plan involving the community is an essential first step in enhancing park public engagement. A Master Plan provides recommendations for uses, site amenities, partnership and volunteer programs, monitoring and maintenance, and implementation priorities and phasing required to offer an excellent experience for park users while protecting the integrity of the site.



1. Aerial photography from DVMRC.  
 2. Parcels and roadways from Delaware County.  
 3. Project boundary from Delaware County parcel data and adjusted using property surveys.  
 This map is a portion of the full "Mineral Hill Area Master Plan." See report for data disclaimer.

**Study Area**  
**MINERAL HILL AREA MASTER PLAN**  
 (+/- 123 acres)  
 Upper Providence and Middletown Townships, Delaware County, PA

**Natural Lands Trust**  
 1031 Palmers Mill Road, Media, PA 19063  
 610-553-5587 ~ www.natlands.org

## SIGNIFICANCE OF THE PARKS

The establishment of the parks began in 1998 when Middletown Township entered into a sublease agreement with Aqua Pennsylvania on ±13 acres, owned by Media Borough and leased to Aqua, to create and manage Memorial Park. Also in the late 1990’s, volunteers began managing the southern portion (±26 acres) of Louis Scott Park, which is leased to Aqua Pennsylvania from Media Borough. The size of Louis Scott Park increased in 2004 when Upper Providence Township acquired ±37 acres known as the Lavin Tract. Currently, Louis Scott Park totals ±63 acres. In 2010, Delaware County acquired the ±47-acre Mineral Hill County Park. Approximately 41 acres were acquired fee simple and an additional six acres were acquired as a conservation easement. These three adjoining parks total approximately 123 acres in Upper Providence and Middletown Townships, Delaware County.

The parks feature significant natural habitats in the forests, wetlands, floodplains, and Ridley Creek

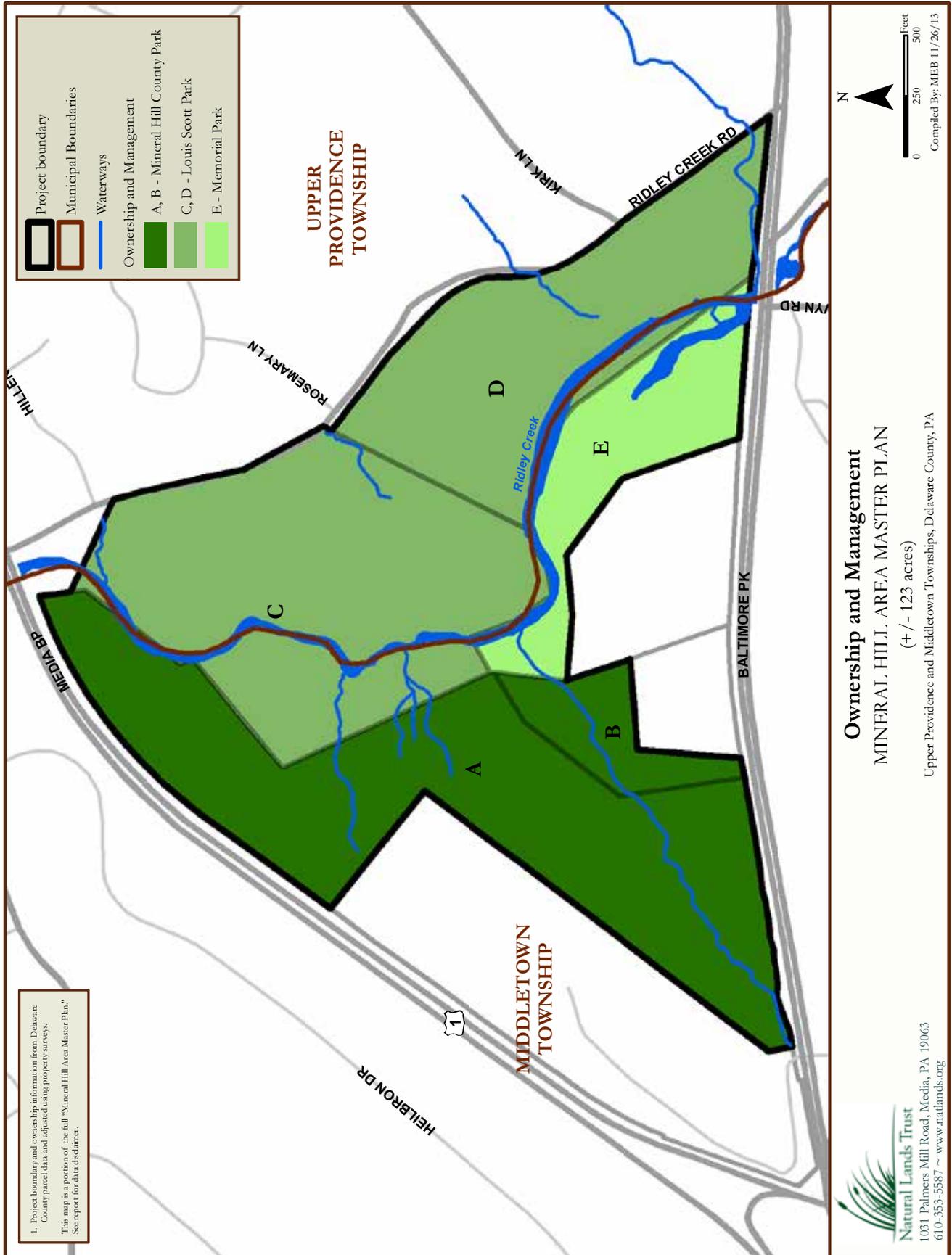
main stem. The expansive natural area of the parks is encircled by the Route 1 Media bypass, Baltimore Pike, and North Ridley Creek Road. A high volume of people pass by these parks on a daily basis and it is likely that few of them are aware of the relatively undisturbed natural area just outside their vehicles.

## FUNDERS’ VISION AND RESTRICTIONS

Mineral Hill County Park and the northern portion of Louis Scott (Lavin Tract) Park were purchased in part with funding provided by the Pennsylvania Department of Conservation and Natural Resources (DCNR). DCNR provides grant funding to protect critical natural areas and open space; develop greenways and trails; provide park, recreation, and conservation opportunities; and to improve the quality of life in Pennsylvania’s communities. The terms associated with accepting funding from DCNR require that the land remain as open space.

## OWNERSHIP AND MANAGEMENT (see map on following page)

MAP ID	TAX PARCEL AND ACREAGE	OWNER	LEASED TO	SUB-LEASED TO	MANAGED BY
A	27-22-058 ±41 acres	County of Delaware	N/A	N/A	County of Delaware
B	27-22-059 ±6 acres of 10.033 acres in a conservation easement	Elwyn, Inc.	N/A	N/A	County of Delaware
C	35-25-004 ±37 acres	Upper Providence Township	N/A	N/A	Upper Providence Township
D	27-22-058 ±26 acres	Media Borough	Aqua PA	N/A	Volunteers
E	27-23-001 ±13 acres	Media Borough	Aqua PA	Middletown Township	Middletown Township



# III SITE ANALYSIS

## PARKS STUDY AREA CONTEXT

### The Region

The parks are located in the Piedmont Ecoregion of southeastern Pennsylvania between West Chester and Philadelphia. They are within the Ridley Creek Watershed, a tributary to the Delaware River, which flows into the Delaware Bay.

Situated in central Delaware County near the Media Borough border, the parks are accessible to several large population centers. West Chester Borough (to the west) and the cities of Philadelphia (to the east) and Wilmington, Delaware (to the southwest) are all located within a 30-minute drive of the parks. In addition, the Pocono Mountains are located approximately two hours to the north and the New Jersey beaches are approximately one and one-half hours to the east.

### The Community

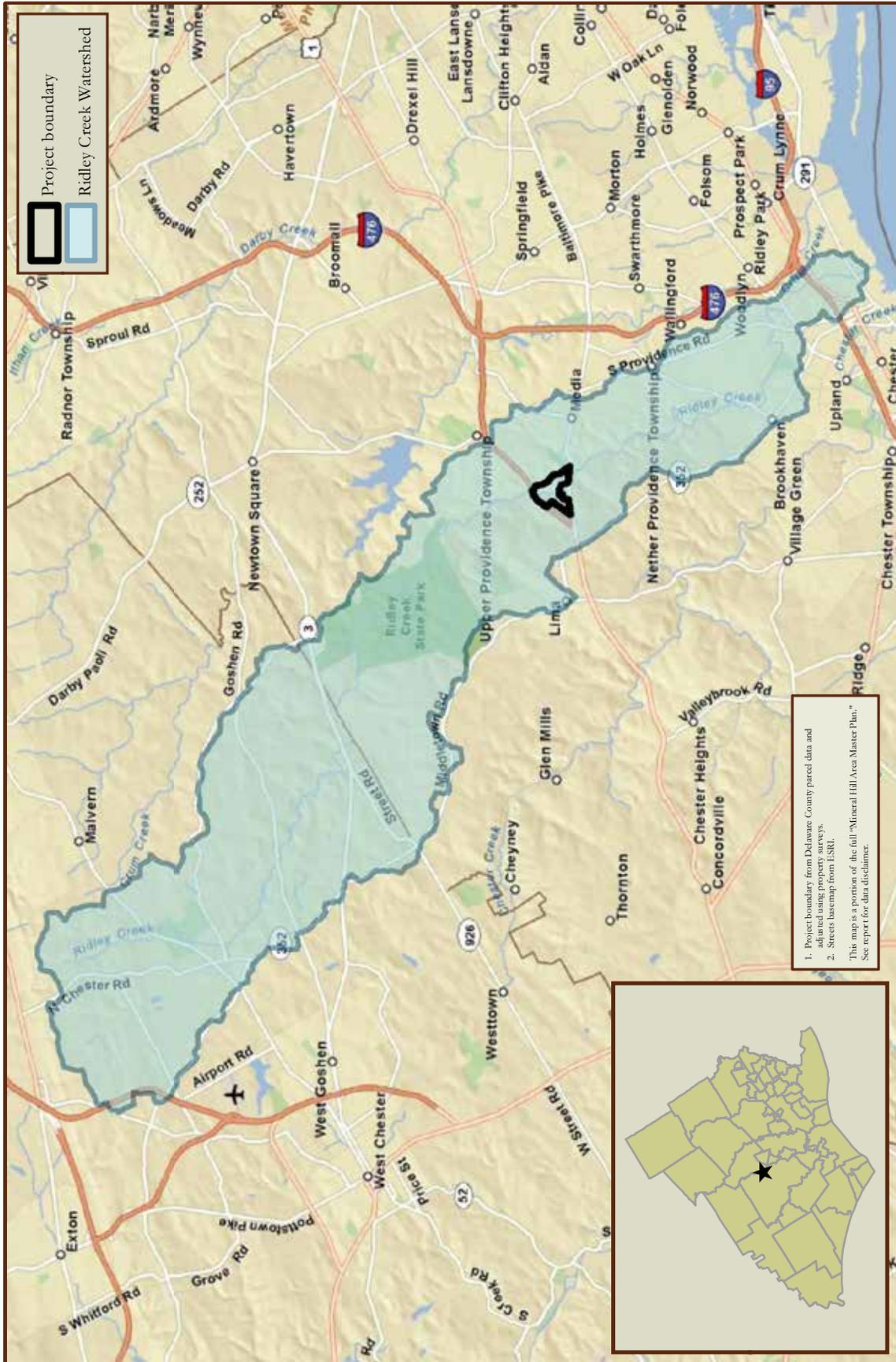
The parks are located in Middletown and Upper Providence Townships, Delaware County, Pennsylvania. Major roadways include the Route 1 Media Bypass and Baltimore Pike, which border the parks on two sides. Other major roadways nearby include Route 476 (Blue Route), and Routes 252/North Providence Road, 352/Middletown Road, and 452/Pennell Road.

Between 2000 and 2010 the population of Middletown Township increased by 16.8 percent and Upper Providence has decreased by 2.9 percent, adding up to a population total of 25,949 in the two townships. The parks are proximate to Media Borough whose population of 5,327 has grown 3.8 percent since 2000. The median household income in Middletown Township in 2010 was \$81,448. The median age of the population is 49.4 and 25.3 percent of the population consists of children under the age of 18. The median

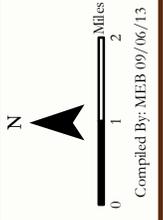
household income in Upper Providence Township in 2010 was \$88,073. The median age of the population is 43.9 and 28.7 percent of the population consists of children under the age of 18. The demographics of Media Borough are similar though the population is slightly younger (median age of 40) with fewer children under age 18 (12.8 percent) and the median household income is approximately \$20,000 less than in Middletown and Upper Providence Townships.

The nearest town center is Media, approximately 5 minutes east of the parks. Multiple shopping opportunities are present in Media and the Granite Run Mall is approximately four minutes to the west located on Baltimore Pike between Routes 352 and 452. Several new housing developments adjacent to the parks have been completed recently, are under construction, or have approved plans. The parks are located in the Rose Tree Media School District, which includes four elementary schools (grades 1–5), one middle school (grades 6–8), and one high school (grades 9–12). Many colleges and universities are in the area including Swarthmore College, Neumann University, Penn State Brandywine Campus, Delaware County Community College, Cheyney University, and Widener University within a 10-15 minute drive and West Chester University, Villanova University, St. Joseph's University, University of Pennsylvania, and Drexel University within a 20–30 minute drive.

With their location in the Ridley Creek Watershed, the parks are part of a much larger conserved greenway. Other land owned by Upper Providence and the Heilbron Homeowner Association land are within 200 feet to the north, Delaware County's Glen Providence Park is within 400 feet to the west, and Middletown Township's Smedley Tract is within 900 feet to the east. In addition, Tyler Arboretum, Okehocking Preserve, and Ridley Creek State Park are approximately 4,500 feet upstream.

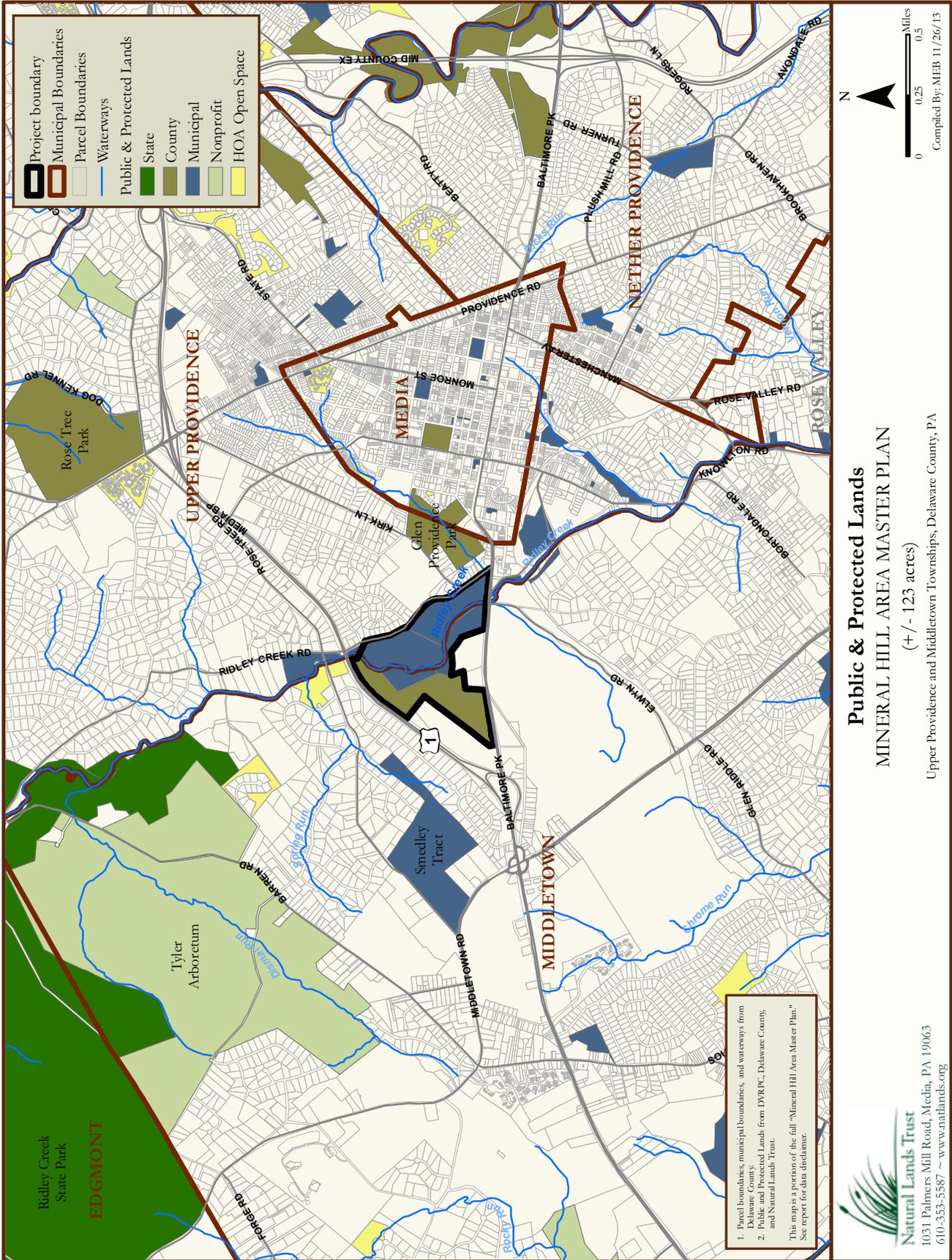


1. Project boundary from Delaware County parcel data and adjusted using property surveys.  
 2. Streets basemap from ESRI.  
 This map is a portion of the full "Mineral Hill Area Master Plan." See report for data disclaimer.



**Regional Context**  
**MINERAL HILL AREA MASTER PLAN**  
 (+ / - 123 acres)  
 Upper Providence and Middletown Townships, Delaware County, PA

  
 Natural Lands Trust  
 1031 Palmers Mill Road, Media, PA 19063  
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## NATURAL RESOURCES

### Geology and Soils

The area is known as Mineral Hill due to the interesting and unusual minerals derived from the previous quarry located at the site. Rock collectors still find this area to be a source of these minerals.

The parks are underlain by two geologic formations. The Wissahickon formation (Xw), approximately 99 acres, is located under Memorial Park, Louis Scott Park, and the northern portion of Mineral Hill County Park. Underlying the southern portion of Mineral Hill County Park is Serpentinite, Ultramafic rocks (Xn). Serpentinite is an uncommon geologic formation in southeastern Pennsylvania.

When this type of bedrock is close to the soil it supports a specialized plant community. However, the soil depth is too great to provide the appropriate habitat for this plant community.

The soils of the parks are diverse. Approximately 54.6 acres (44 percent) of the parks soils are considered to have high water table soils—divided between hydric and partially hydric soils—following the water courses on the properties. Also, 96.92 acres (79 percent) of the parks soils are considered important for agriculture, which is also a determination of their ability to support all plant growth. Some of the soils are both partially hydric soils and prime farmland soils.

CHARACTERISTIC	SOIL TYPE	ACRES	IMPLICATIONS FOR PLAN
Hydric	Wehadkee (We)	16.95 acres	Trails are likely to have wet areas seasonally
Partially Hydric	Congaree silt loam (Cn) Glenville (GnB, GnB2)	35.04 acres	Wet areas may occur intermittently in these soils
Open Water	Water (W)	2.61 acres	Standing water
Prime Farmland	Chester (CdB2) Congaree silt loam (Cn) Glenelg (GeB) Glenville (GnB, GnB2)	58.62 acres	The same properties of these soils that make these soils good for farming are also important for forests and good for trails
Statewide Important Farmland	Chrome (CkC3) Glenelg (GeC, GeC2) Manor (MgC2)	38.3 acres	Same as prime farmland





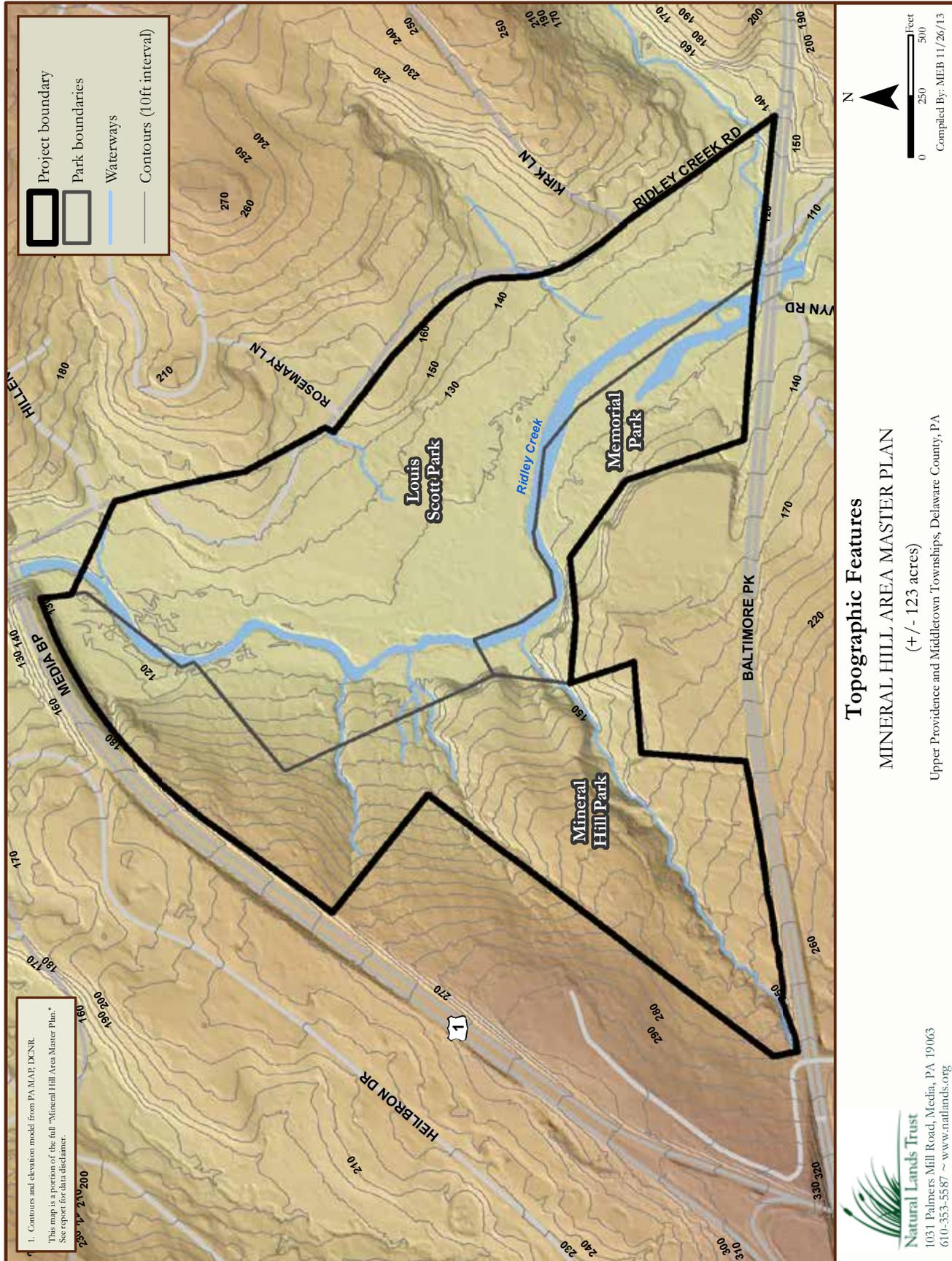
## Topography

The topography of the parks ranges from flat areas and gentle slopes along Ridley Creek and within its floodplain to very steep slopes rising from the floodplain and along the hillsides leading to the borders of the parks.

Mineral Hill County Park's topography is covered with steep slopes, with the exception of the northeastern portion within Ridley Creek's floodplain. Slopes greater than 25 percent grade are primarily located along the tributaries of Ridley Creek and within the northern section of the park. There are minimal scattered areas of the park that have slopes less than 8 percent. The rest of the park contains slopes ranging from 8 to 25 percent. Elevations of Mineral Hill County Park range from 116 feet above mean high sea level along Ridley Creek in the northeastern portion of the park to 266 feet above mean high sea level along the property's western boundary between the two southern Ridley Creek tributaries.

Memorial Park has steep slopes, primarily 15 to 25 percent along its western boundary and flat-to-gentle topography within Ridley Creek's floodplain. Elevations of Memorial Park range from 114 feet above mean high sea level along the property's southern boundary near Baltimore Pike to 152 feet above mean high sea level in two locations along the western boundary.

Louis Scott Park has areas of steep slopes (15 to greater than 25 percent) close to its eastern border and on the west side of Ridley Creek. Much of the park has a gentle topography or is flat, particularly along the eastern side of Ridley Creek in the floodplain. Elevations of Louis Scott Park range from 108 feet above mean high sea level along the property's southern boundary near Baltimore Pike to 168 feet above mean high sea level along the eastern boundary near Rosemary Lane.





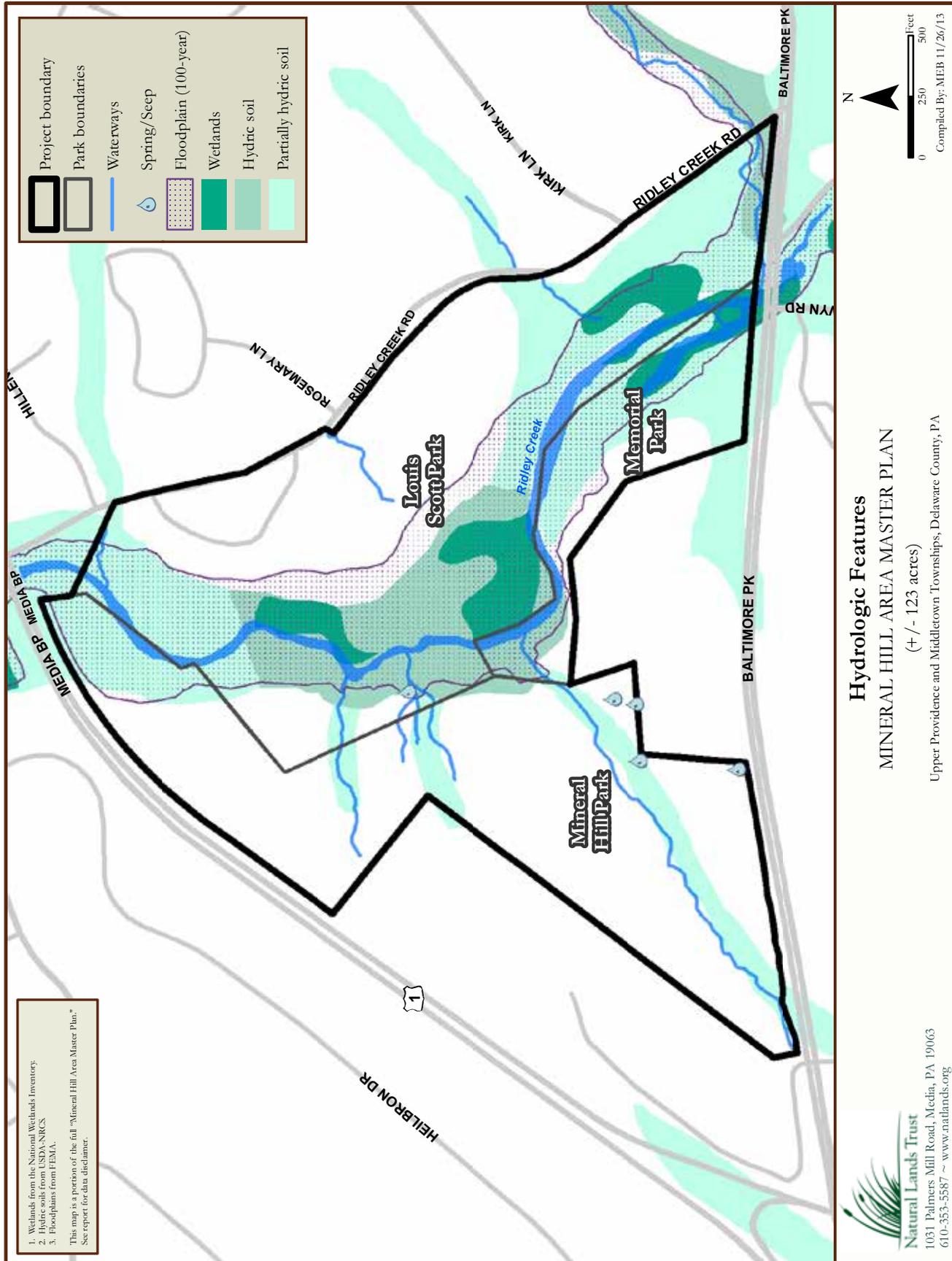
## Hydrology

The hydrologic features of the parks include the main branch of Ridley Creek, first- and second-order tributaries, floodplain, wetlands, springs, seeps, seasonal pools, and hydric soils. The parks are in the Ridley Creek Watershed, a tributary to the Delaware River, which flows into the Delaware Bay. The main branch of Ridley Creek flows north-to-south through the parks. It has significant water flow and often floods during large storm events. The associated 100-year floodplain runs along the length of Ridley Creek in the parks and is relatively intact. However, some erosion is occurring due to the velocity during storm events. The hydric soils are located along Ridley Creek and its tributaries. The wetlands in the parks include the Media Wetlands Pennsylvania Natural Heritage Inventory (PNHI) site (see PNHI section, page 18, for more information). Seeps and seasonal pools are present throughout the parks, primarily associated with the waterways.

Mineral Hill County Park contains headwaters and three tributaries feeding into Ridley Creek. The northern portion of the park includes a small section of Ridley Creek and its associated floodplain. Seeps, seasonal pools, and a spring are located in the southernmost section of Mineral Hill County Park.

Memorial Park is generally bounded to the east by Ridley Creek. A large wetland complex, identified on the National Wetlands Inventory (NWI), is located along the creek on the property. Being closely associated with these hydrologic features, more than half of the park is within the floodplain and contains hydric soils.

Ridley Creek flows through the full length of Louis Scott Park. In sections, the creek is the western border of the park and in other areas the creek channel is entirely within the park. Three wetland complexes, identified on the NWI, adjacent to Ridley Creek are located within the park. In addition, extensive floodplain and hydric soils encompass approximately half of the park.



1. Wetlands from the National Wetlands Inventory.  
 2. Hydrologic soil data from USDA NRCS.  
 3. Floodplains from FEMA.  
 This map is a portion of the full "Mineral Hill Area Master Plan."  
 See report for data disclaimer.



### **Pennsylvania Natural Heritage Inventory (PNHI)**

The Pennsylvania Natural Heritage Program (PNHP) studies the critical biological resources of Pennsylvania and creates an inventory, county by county. Containing two PNHI sites, Media Wetlands and Mineral Hill, the parks are almost entirely included in Delaware County’s inventory.

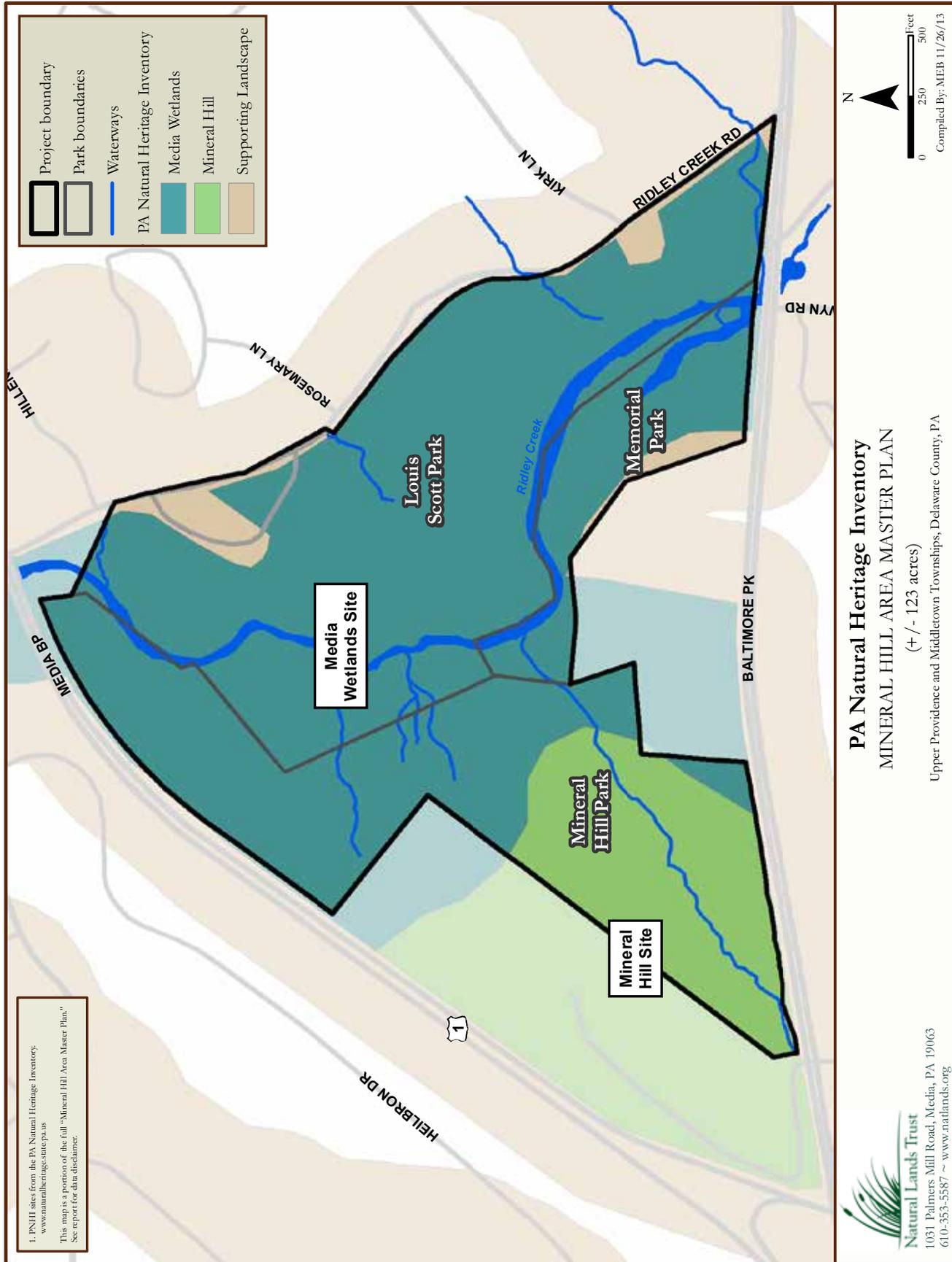
- Media Wetlands is classified in the 2011 report as Local Significance. It is described as a complex of forest, scrub/shrub, and emergent wetlands that are important for their functions to filter and clean water and provide habitat for plants and animals.
- Mineral Hill is classified in the 2011 report as Notable Significance. It is a forest with a mosaic of mixed-age canopy trees. It is further described as being underlain by serpentinite bedrock, a rare geology that provides habitat for specialized vegetation. This site includes a 300-square-foot area with common serpentine plants.



### **Pennsylvania Natural Diversity Inventory (PNDI)**

The Pennsylvania Natural Diversity Inventory (PNDI) Project Environmental Review Receipt, produced by DCNR, indicates that there is a potential impact on two plant species—*Ageratina aromatica* (Small White-snakeroot) and *Scleria pauciflora* (few-flowered nutrush). The PNDI Receipt also returned an avoidance measure from U.S. Fish and Wildlife Service as follows: “Do not conduct this project/activity within 300 feet of any wetlands.”

Response letters (see Appendix C) were received from both Pennsylvania Department of Natural Resources Bureau of Forestry (DCNR) and US Fish and Wildlife Service (USFWS). DCNR’s response letter dated April 15, 2014 states “No Impact anticipated because no new earth disturbance is planned at this time” and “if any earth disturbance is planned in the future, additional review and coordination will be necessary”. In order to receive clearance from USFWS before designing and installing the boardwalk over wetlands, a Phase 1 Bog



1. PNH sites from the PA Natural Heritage Inventory.  
[www.naturalheritagesurvey.com](http://www.naturalheritagesurvey.com)  
 This map is a portion of the full "Mineral Hill Area Master Plan."  
 See report for data disclaimer.

**Natural Lands Trust**  
 1031 Palmers Mill Road, Media, PA 19063  
 610-353-5587 ~ [www.natlands.org](http://www.natlands.org)

**PA Natural Heritage Inventory**  
**MINERAL HILL AREA MASTER PLAN**  
 (+/- 123 acres)  
 Upper Providence and Middletown Townships, Delaware County, PA

Compiled By: MEB 11/26/13

Turtle Habitat Assessment will need to be completed to determine if the Boardwalk location will need to be adjusted to the southeast out of the wetland or to span the wetland.

## Vegetation Units

Natural Lands Trust staff conducted field inspections of the property on July 24, 2012; November 20, 2012; and January 17, 2013. The vegetation units were assessed and documented during these field inspections by field notes and photographs. The property currently contains eight general vegetation



*Red oak–mixed hardwood forest*



*Tuliptree–beech–maple forest*

units as described below with invasive species highlighted in **bold** type. They include red oak–mixed hardwood/tuliptree–beech–maple forest, red maple terrestrial forest, sycamore–box-elder floodplain forest/woodland, mixed hardwood forest, conifer plantation, silky dogwood palustrine shrubland, wet meadow/marsh, and terrestrial meadow/old field. The remaining area (approximately two acres) is parking, lawn, and a PECO transmission station.

### Red oak–mixed hardwood/tuliptree–beech–maple forest

A 35.0-acre mature forest best described as a blend of red oak–mixed hardwood and tuliptree-beech-maple forest covers more than half of the east-facing slope west of Ridley Creek in Mineral Hill County Park, Louis Scott Park, and Memorial Park. In most of the unit, the red oak–mixed hardwood type is dominant. Large (up to 37" diameter at breast height) red oaks (*Quercus rubra*) dominate the canopy, which also includes tuliptree (*Liriodendron tulipifera*), black oak (*Quercus velutina*), beech (*Fagus grandifolia*), white oak (*Quercus alba*), and bitternut hickory (*Carya cordiformis*). Sub-canopy tree species include red maple (*Acer rubrum*), beech, black birch (*Betula lenta*), tuliptree, black-gum (*Nyssa sylvatica*), hornbeam (*Carpinus caroliniana*), sassafras (*Sassafras albidum*), and black cherry (*Prunus serotina*). The tuliptree–beech–maple community type is more prominent in the northern tip of the unit where beech and tuliptree dominate the canopy. The shrub layer has been highly impacted by deer overbrowsing throughout the unit, resulting in a very open understory and scattered, small shrubs. Understory species include maple-leaved viburnum (*Viburnum acerifolia*), spicebush (*Lindera benzoin*), witch-hazel (*Hamamelis virginiana*), roundleaf greenbrier (*Smilax rotundifolia*), black-haw (*Viburnum prunifolium*), American holly (*Ilex opaca*), low-bush blueberry (*Vaccinium* sp.) **multiflora rose** (*Rosa multiflora*), and **Japanese barberry** (*Berberis thunbergii*). Vines are generally light and include **oriental bittersweet** (*Celastrus orbiculata*), Virginia creeper (*Parthenocissus quinquefolia*), and grape (*Vitis* sp.). Herbaceous plants present during the summer site visits included New York fern (*Thelypteris noveboracensis*), hog peanut (*Amphicarpa bracteata*), partridge-berry (*Mitchella repens*),

Jack-in-the-pulpit (*Arisaema triphyllum*), clearweed (*Pilea pumila*), Christmas fern (*Polystichum acrostichoides*), sedges (*Carex spp.*), spotted wintergreen (*Chimaphila maculata*), **Japanese stiltgrass** (*Microstegium vimineum*), and **garlic mustard** (*Alliaria petiolata*).

### Red maple terrestrial forest

A 14.0-acre young to maturing red maple terrestrial forest lies on the southern and western edges of the red oak–mixed hardwood/tuliptree–beech–maple forest in Mineral Hill County Park and Louis Scott Park. These areas were released from agriculture approximately 70 years ago. The forest canopy is dominated by red maple, particularly the expression in the northwest part of the property approaching Route 1. Other canopy trees include tuliptree, red ash (*Fraxinus pennsylvanica*), black cherry, American sycamore (*Plantanus occidentalis*), black-gum, red oak, shagbark hickory (*Carya ovata*), black locust (*Robinia pseudoacacia*), and **tree-of-heaven** (*Ailanthus altissima*). The few understory trees within this young forest include crabapple (*Malus sp.*), red maple, flowering dogwood (*Cornus florida*), bitternut hickory, black cherry, red cedar (*Juniperus virginiana*), sassafras, **tree-of-heaven**, and umbrella magnolia (*Magnolia tripetala*). This forest has a moderately dense shrub layer. Greenbrier (*Smilax rotundifolia*) is the clear dominant. It is joined by wineberry (*Rubus phoenicolasia*), **oriental bittersweet** (*Celastrus orbiculatus*), grape, poison ivy (*Toxicodendron radicans*), and **Japanese barberry**. This forest has a dense herb layer, but it is mostly covered by the invasive **Japanese stiltgrass**. Other herbs include New York fern, sensitive fern (*Onoclea sensibilis*), **common reed** (*Phragmites australis*), white wood aster (*Eurybia divaricata*), **garlic mustard**, bottlebrush-grass (*Elymus hystrix*), Asiatic dayflower (*Commelina communis*), and Jack-in-the-pulpit.

### Sycamore–box-elder floodplain forest/woodland

This 28.8-acre maturing forest/woodland community (forests have canopy coverage of greater than 60 percent; woodlands have canopy coverage of 10 to 60 percent) occurs on the Ridley Creek floodplain on both sides of the creek in Mineral Hill County Park,

Louis Scott Park, and Memorial Park. Dominant species include silver maple (*Acer saccharinum*), red ash, American sycamore, and box-elder (*Acer negundo*). Other canopy species include black walnut (*Juglans nigra*), willow (*Salix sp.*), swamp white oak (*Quercus bicolor*), and pin oak (*Quercus palustris*). Sub-canopy elements include red maple and box-elder. The generally sparse shrub layer is dominated by **multiflora rose**, spicebush, and **privet** (*Ligustrum sp.*). Other shrubs include American elder (*Sambucus canadensis*) and alder (*Alnus sp.*). Canopy trees are lightly impacted by vines, with the exception of moderate to heavy impact to trees along the forest edge or scattered



Red maple terrestrial forest



Sycamore–box-elder floodplain forest



Mixed hardwood forest



Conifer plantation



Silky dogwood palustrine shrubland

within the more open woodland areas. Vine species include **Japanese honeysuckle**, **oriental bittersweet**, and grape. The herb layer—frequently disturbed by flooding—includes stinging nettle (*Urtica dioica*), reed canary-grass (*Phalaris arundinacea*), **common reed**, **garlic mustard**, **Japanese stiltgrass**, **lesser celandine** (*Ranunculus ficaria*), and **Japanese knotweed** (*Fallopia japonica*). The expression of this forest on the east side of Ridley Creek is broken by several herb- and shrub-dominated communities (see below). The expression on the west side of the Creek is largely continuous. There are several small seasonal pools within the eastern floodplain.

### Mixed hardwood forest

A 28.1-acre maturing mixed hardwood forest with trees averaging 12" to 20" in diameter borders the upslope edge of the floodplain forest on both sides of the creek—primarily on the east side of Ridley Creek where it extends to Ridley Creek Road. This forest is in Mineral Hill County Park, Louis Scott Park, and Memorial Park. The only clear dominant in the canopy is red ash. It is joined by numerous species including white oak, black cherry, black locust, black walnut, sugar maple, **Norway maple** (*Acer platanoides*), sweet cherry (*Prunus avium*), and tuliptree, along with a few large (>30") scattered specimens of bitternut hickory, white pine (*Pinus strobus*), and red oak. Sub-canopy trees include sassafras, sugar maple (dominant), box-elder, and crabapple (*Malus* sp.). The shrub layer—generally light to moderate, but very dense in forest gaps—is heavily browsed by deer and dominated by spicebush and **multiflora rose**. It also includes **Japanese barberry**, **shrub honeysuckle** (*Lonicera* sp.), blackhaw, and **wineberry**. The herb layer is dominated by **Japanese stiltgrass** and **garlic mustard**.

### Conifer plantation

The remains of conifer plantations, totaling 8.1 acres, exist on both sides of Ridley Creek. A white pine plantation lies on the east side of the creek in Louis Scott Park. The canopy is dominated by 50 to 60-year-old white pines that average approximately 24" in diameter. They are joined by scattered tuliptrees that

have occupied gaps created by suppression mortality or windthrow. Young box-elder, **tree-of-heaven**, crabapple, and black cherry are also scattered within these gaps. The moderately dense shrub layer is dominated by spicebush and also contains linden viburnum (*Viburnum dilatatum*), and **wineberry**. Vines are generally light and include **oriental bittersweet** and **Japanese honeysuckle**. The herb layer is dominated by invasive exotics, namely **Japanese stiltgrass** and **Japanese knotweed**. Two smaller plantations lie on the west side of Ridley Creek in Louis Scott Park and Memorial Park. The canopy trees are smaller in size on average, but have similar species compositions, with the addition of Norway spruce (*Picea abies*), red ash, and American sycamore in the understory. The shrub layers in these areas are more open.

### Silky dogwood palustrine shrubland

A 0.2-acre shrub swamp lies under the power lines on the east side of Ridley Creek in Louis Scott Park. It consists entirely of silky dogwood (*Cornus amomum*).

### Wet meadow/marsh

The floodplain forest (east side of Ridley Creek) is broken by a complex of wet meadow and marsh in Louis Scott Park. This community also persists in part of the powerline right-of-ways on both sides of the creek in Louis Scott Park and Memorial Park. The wet meadow areas, totaling 5.4 acres, contain a mixture of herbs including reed canary-grass, tussock sedge (*Carex stricta*), rushes (*Juncus* spp.), **common reed**, **Japanese knotweed**, and stinging nettle (*Urtica dioica*). The wetter marsh areas are dominated by common cat-tail (*Typha latifolia*) and sedges (*Carex* spp.)

### Terrestrial meadow/old field

A 1.4-acre terrestrial meadow/old field community occupies most of the powerline right-of-way area west of Ridley Creek in Memorial Park and adjoins the northern end of the parking lot. This area is maintained by mowing every few years. Dominant plant species include various goldenrods (*Solidago* spp.) and asters (*Symphotrichum* spp.), **Japanese stiltgrass**,



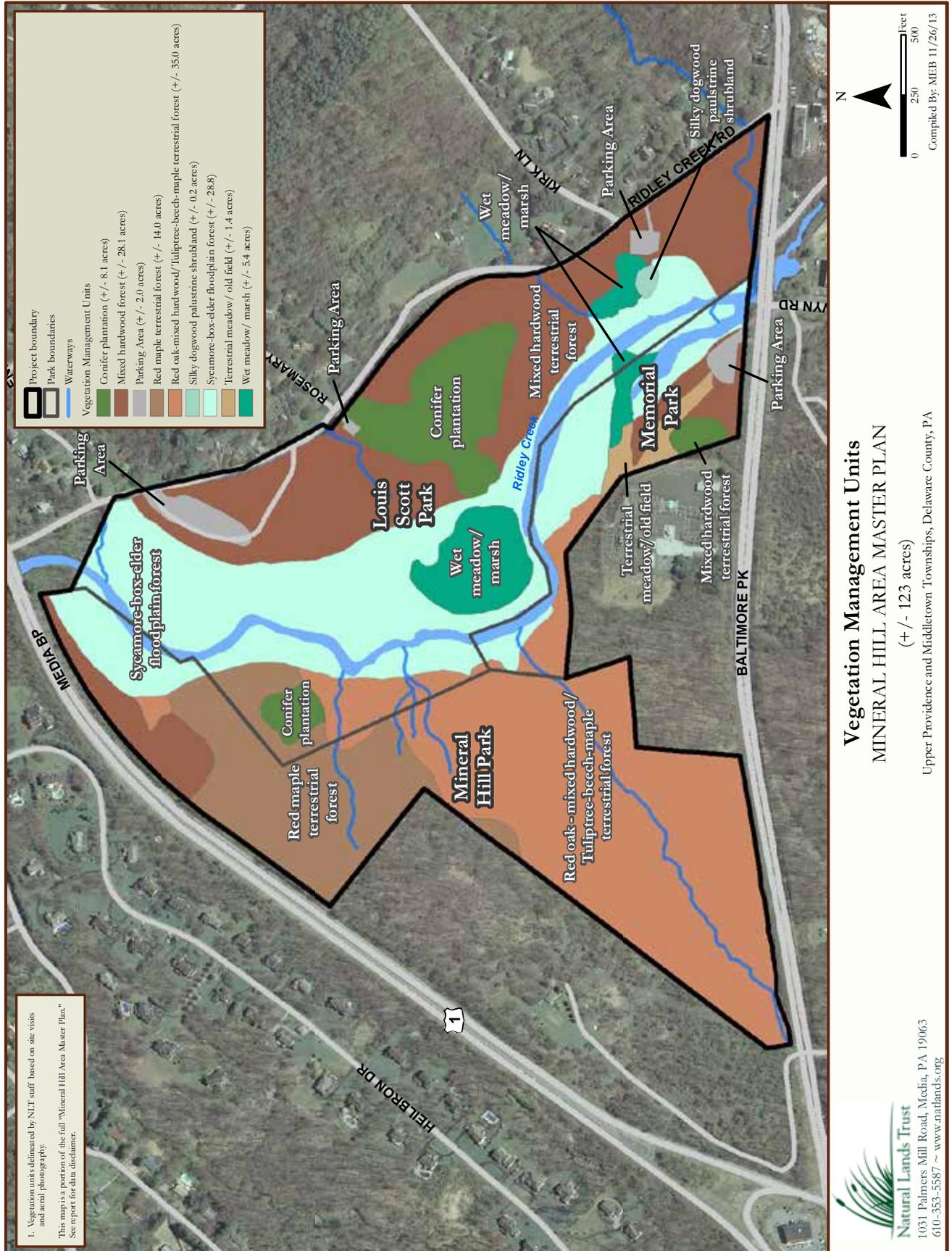
Wet meadow/marsh



Cat-tail marsh



Terrestrial meadow/old field



1. Vegetation units delineated by NLT staff based on site visits and aerial photography.  
 This map is a portion of the full "Mineral Hill Area Master Plan." See report for data disclaimer.

**mile-a-minute**, broom-sedge (*Andropogon virginicus*), **common reed**, **Japanese plumegrass** (*Miscanthus sinensis*), along with several shrubs, including blackberry and raspberry (*Rubus* spp.), **shrub honeysuckle**, Japanese angelica-tree (*Aralia elata*), elderberry (*Sambucus canadensis*), and silky dogwood.

## STRUCTURES AND INFRASTRUCTURE

### Parking and Access

The parks are primarily accessed through three existing parking lots. Mineral Hill County Park does not have an existing parking lot or direct entrance. The entrance to Middletown’s Memorial Park is located on Baltimore Pike, just west of Ridley Creek. Upper Providence’s Louis Scott Park has two entrances along North Ridley Creek Road; one south of Hillendale Road and a smaller one across from Rosemary Lane.

Other access to the parks is from adjacent properties. Pull-off parking along North Ridley Creek Road between Rose Tree Road and the Route 1 overpass has been established by those fishing in the creek. Though this parking area is north of the park boundaries, this area does provide access to the parks. Neighboring residents are also able to access the parks through trailheads along Ridley Creek Road.



*Memorial Park parking lot 2*



*Louis Scott Park primary parking lot*



*Memorial Park parking lot 1*



*Louis Scott Park secondary parking lot*



*Millenium Trail marker*



*Fussell Recreational Skating Area*



*Louis Scott Park signs at primary parking lot*

## Signage

The signage at the three parks includes a mixture of park identification, kiosks, rules and regulations, dog waste stations, and trail markers. Mineral Hill County Park, as it was recently acquired, does not have any signage related to the park. However, a remnant kiosk remains from the previous owner. Memorial Park has a park identification sign at the parking lot entrance, a kiosk near the trailhead with dog waste signage, and trail markers for the Millenium Trail. Many of the trail markers have been defaced. In addition, a sign dedicating the Fussell Recreational Skating Area is located next to the fishing pier. The primary parking area at Louis Scott Park includes a park identification sign, kiosk, rules and regulations, and a dog waste station—all near the trailhead. The secondary parking area also has similar, though smaller, signage.



*Remnant kiosk in Mineral Hill County Park*



*Memorial Park kiosk*

## Seating

The three parks offer varying degrees of seating options. Mineral Hill County Park, being a newly established park, does not contain benches or picnic tables. A pavilion, a picnic table on the fishing pier, and benches along the perimeter are all located at the parking lot for Memorial Park. The park also has benches at a few key locations for people to rest and enjoy the scenery. Louis Scott Park offers resting opportunities with picnic tables at its two parking areas and along the main path off of the secondary parking lot. There are no benches located along its trail system.

## Stream Crossings

A few bridges are located within the parks. In Mineral Hill County Park, a historical stream crossing is located over the southern-most tributary. The crossing is overgrown with vegetation and its structure should be reviewed for stability and safety. In addition, a bridge and stair structure, believed to have been built by the Boy Scouts, is located over the northern-most tributary. Although this structure appears stable, it does not have safety rails and should also be reviewed for structural integrity. Memorial Park and Louis Scott Park have a few bridges crossing over wet areas along their trails. Though the bridges appear new and in good condition, erosion is occurring around them.



*Bench at Memorial Park*



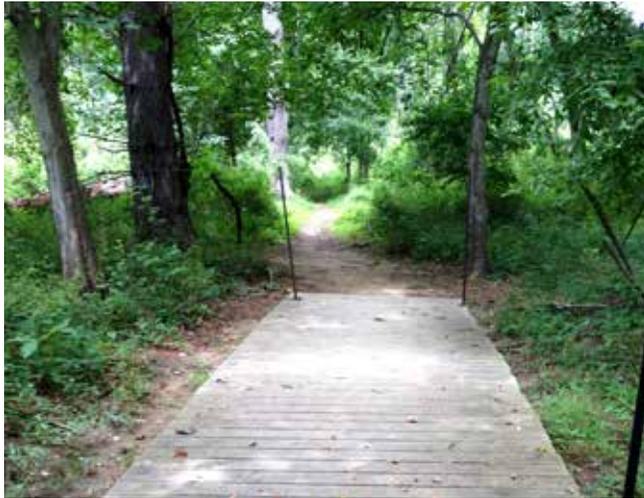
*Picnic table at Louis Scott Park*



*Historical stream crossing in Mineral Hill County Park*



*Bridge and stairs in Mineral Hill County Park*



*Bridge in Louis Scott Park*



*Pavilion at property corner of Mineral Hill County Park*

## **Pavilions and Fishing Pier**

A wooden pavilion with a concrete floor is located on the property corner of three properties: Mineral Hill County Park, Elwyn, Inc, and PECO. The pavilion appears to be in good condition although its current location is problematic. The pavilion and fishing pier at Memorial Park's parking lot are in good condition. The pavilion is located near Baltimore Pike and the fishing pier offers access to Ridley Creek from above as well as stairs to directly access the creek. Louis Scott Park does not have any pavilions located in the park.



*Pavilion at Memorial Park*



*Fishing Pier at Memorial Park*

### Remnant Historical Structures

A few remnant historical structures are located on the parks that lend character to the properties. Mineral Hill County Park includes the historical bridge that is mentioned above in stream crossings. Memorial Park offers a look into its history with a sign describing the previous ice-skating activity on the creek. Louis Scott Park contains both remnant stairs to a washed-out bridge and a historical wall associated with the Brookwood Hotel, which once occupied the property.

### Attractive Nuisance Structures

There are multiple structures that are attractive nuisances—a hazardous area or structure that presents something of interest that may entice some to explore. Mineral Hill County Park was once used as a Boy Scout camp. The bunk house, restroom facilities, tent platforms, and the items once inside the structures fit into this category. These structures are in poor condition and hazardous to park users. Two culverts, located under the former gravel access drive, are open and potential hazards. In addition, near the location of the pavilion mentioned above that is sited on three properties, there is an associated restroom facility in very poor condition and a well opening; these are both hazardous structures. Memorial Park does not have any structures considered attractive nuisances. However, Louis Scott Park does have a fenced area containing large pipes and a broken concrete cover that are considered attractive nuisances.



*Remnant bridge stairs in Louis Scott Park*



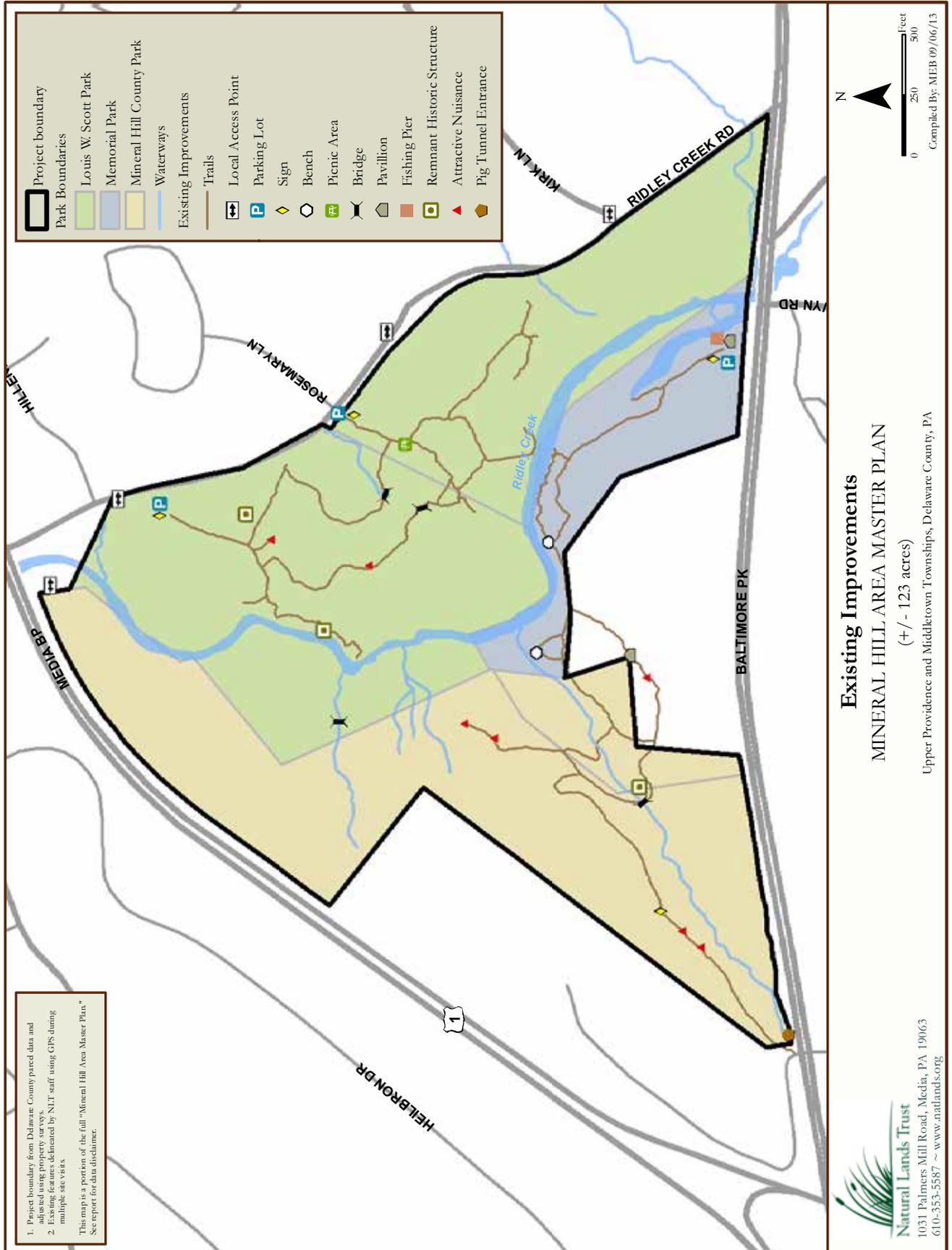
*Brookwood Hotel remnant wall*



*Former Boy Scout bunkhouse in Mineral Hill Park*



*Former Boy Scout restroom in Mineral Hill Park*



1. Project boundary from Delaware County parcel data and adjusted using property surveys.  
 2. Existing features delineated by NLT staff using GPS during multiple site visits.  
 This map is a portion of the full "Mineral Hill Area Master Plan".  
 See report for data disclaimer.

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**Existing Improvements**  
 MINERAL HILL AREA MASTER PLAN  
 (+/- 123 acres)  
 Upper Providence and Middletown Townships, Delaware County, PA

0 250 500 Feet  
 Compiled By: MEB 09/06/13



*Remnant tent base in Mineral Hill Park*



*Well opening near pavilion at property corner in Mineral Hill County Park*



*Culvert in Mineral Hill County Park*



*Fenced pipes in Louis Scott Park*



*Restroom near pavilion at property corner in Mineral Hill County Park*



*Broken concrete cover in Louis Scott Park*

## TRAIL ASSESSMENT

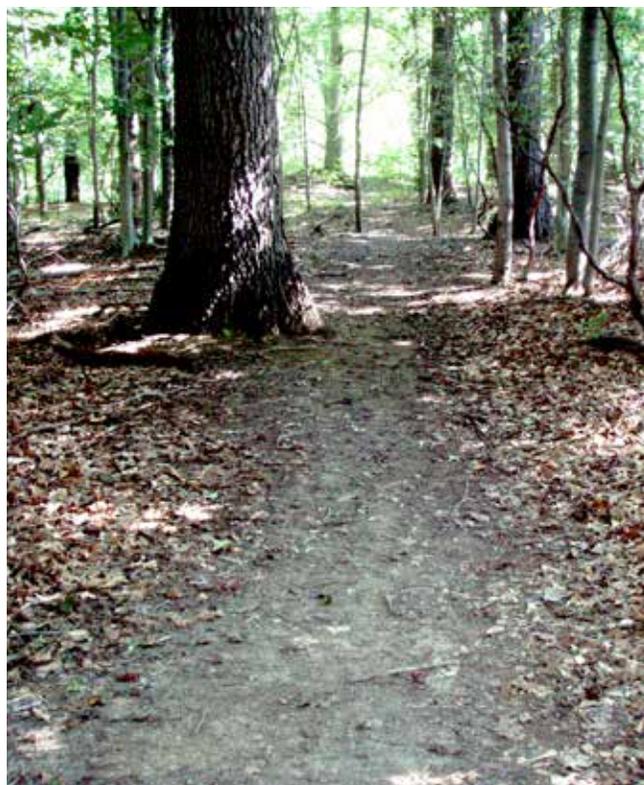
### Current Conditions

The existing 2.45-mile trail system at the three Mineral Hill Area parks provides scenic views and access to woodlands, meadow, wetlands, and Ridley Creek. Currently, all trails on the parks are pedestrian trails, serving hikers, joggers, dog walkers, birders, and anglers. Bicycles and motorized vehicles are not permitted on the trails. The existing trails have varied surfaces including gravel, wood chips, and compacted earth. The overall trail system is limited, offering few loop trails and many dead-end trails with access to only portions of the parks. The parks' trails vary in structure and maintenance.

Mineral Hill County Park contains 0.68 miles of trails in the southern half of the park. The earthen trail (0.44 miles) provides access through the park's woodlands, which are primarily located in the uplands and out of the floodplain. The trail begins at and joins Memorial Park's trail at the boundary of the two parks. Signage is not present to indicate the boundary of the two parks at this location. The trail continues to the west and north terminating at the location of the vacant Boy Scout camp (north) and at a gravel trail (west). The gravel trail (0.24 miles) is a remnant of the previous vehicle access for the property and continues to the intersection with Baltimore Pike. In general, the trails of Mineral Hill County Park are disconnected and do not offer a sufficient system to experience the park. The trails are maintained solely by use and erosion does not appear to be a major issue.

Extending the trail system an additional 0.15 miles, adjoining properties currently contain a connecting trail, creating a loop for trail users. The earthen trail of Mineral Hill County Park leads south to a trail on Elwyn, Inc. property (0.09 miles), which continues east onto PECO property (0.06 miles). The trail then merges with the Memorial Park trail.

Memorial Park offers 0.53 miles of earthen trails with a small section of mown grass primarily out of the floodplain. The primary trail traverses the park from southeast at the parking lot to northwest where it joins the Mineral Hill County Park trail. Significant erosion is occurring on the primary trail. The western portion of this trail is located on a steep grade along



*Earthen trails in Mineral Hill County Park*



*Earthen trail in Memorial Park*



*Earthen trail in Louis Scott Park*



*Erosion on trail in Memorial Park*



*Wood chip trail in Louis Scott Park*



*Macadam trail in Louis Scott Park*



*Earthen and gravel trail in Louis Scott Park*

the ridge above Ridley Creek. In this part of the park, the space between the property boundary and the ridge is very narrow. Three connecting trails offer creek access and views of the park. The southern-most connecting trail provides access into the wetlands and ends abruptly without providing an exit. Throughout the *Master Plan* study, the trail was visible only for a brief time period, and therefore appears to have very limited use. The center connecting trail provides access along Ridley Creek and is primarily used by anglers. The trail varies in width and does show some signs of erosion as it is located at the bank of the creek. This trail connects at both ends to the primary trail. The northern-most connecting trail is part of the Millennium Trail and offers views of rock outcrops and a stream channel leading to Ridley Creek. The area, though marked as a loop trail, is mostly an open area of compacted earth. Erosion is a significant issue on the trails of Memorial Park and maintenance appears to be minimal with some mowing necessary.

Louis Scott Park includes 1.24 miles of trails with approximately half located in the floodplain. The trails vary with gravel, wood chip, and earthen surfaces. The gravel trails extend from each parking lot as they had once provided vehicular access to the structures on the property. The wood chip path is maintained amongst the park's conifer plantation. The remaining trails have an earthen surface. Loop trails and dead-end trails provide access to much of the park, allowing visitors to experience its various landscapes. The large loop trail connects the primary and secondary parking lots and offers the opportunity to extend to a smaller loop trail. Four connecting trails extend from the loop trails and dead end. The northern-most trail splits; the longer trail leads to Ridley Creek and follows it southward and the shorter trail heads north but quickly ends. The center connecting trail offers a view across an expansive wet marsh. The southwestern connecting trail leads to a view of Ridley Creek. The southeastern connecting trail traverses through the conifer plantation and leads to three dead ends. In general, Louis Scott Park offers the beginning of a well-laid-out trail system. Maintenance of the trails appears to be continuous, but not consistent—particularly in the wet areas. Though significant erosion is limited, wet areas are

prevalent along the trail system of the park, which can lead to erosion on the trails.

## Wayfinding

With the exception of the Millennium Trail, the trails of the three parks are not named and not marked. Kiosks located at the three parking areas greet visitors, provide them with some basic information about the park, and state the park rules, but do not provide trail guides with a map of the parks.

# IV PROFILE OF PARKS

## USER GROUPS

The types of uses which currently take place at the parks appear to be appropriate and consistent with both natural resource management and public engagement goals. Hiking, dog walking, fishing, birding, and mineral collection are the most prevalent uses and have a long history at the parks. Other historic uses include camping, ice skating, and navigation of Ridley Creek. The current use levels at the parks are appropriate at this time and appear to have little to no impacts.

### Hiking

Pedestrians make up the largest segment of park users. Those residences in close proximity to the parks appear to provide the largest source of pedestrian visitors. Many of these neighbors have the ability to enter the parks directly from their own properties or by way of local roads. Other pedestrian visitors must drive to the parks.

### Dog Walking

People, particularly nearby neighbors, walk their dogs at the parks. It was noted during site visits to the parks that some dogs walk off leash. Off-leash dogs can create conflicts for other park users. Keeping dogs leashed also helps to protect flora and fauna of the parks.

### Fishing

Ridley Creek offers opportunities for fishing. Memorial Park offers a fishing pier and a stairway to access the creek. Another access point for fishing is just north of Louis Scott Park where users enter and fish along the banks of the creek. The current level of activity

is acceptable; it appears that trash is not being left behind and the streambanks are not suffering excessive erosion.

### Birding

The parks contain a wide array of bird species. The forests, dry meadows, wet meadows, riparian areas, and wetlands offer varying habitat and food sources for birds. At present, no reference materials (bird lists, bird identification books) are available for birders. There are no designated viewing areas. Birders must bring their own reference material and viewing equipment and navigate the sites on their own.

### Mineral Collection

Historically, Mineral Hill County Park's property has been an area for surface mineral collection, primarily for jewelry making. There does not appear to be much disturbance to the natural features related to the mineral collecting, though during site visits it did appear that some digging below the surface was occurring.

### Camping

The Mineral Hill County Park once contained a Boy Scout overnight camp. The camp buildings have been abandoned, leaving them to deteriorate and become hazardous structures. Camping no longer occurs at the parks.

### Ice Skating

Ice skating was once a common activity on the backwater area of Ridley Creek alongside Memorial Park. Due to the lack of freezing in recent years, this historical activity rarely occurs any longer.

## Ridley Creek Navigation

The Boy Scouts' activities included canoeing on Ridley Creek. Due to the dam, navigating the creek has decreased. As mentioned at a public meeting, some people currently tube down the creek and have a take-out point at Louis Scott Park. However, canoeing and kayaking were not mentioned as taking place on the creek.

## FUNDING FOR LAND STEWARDSHIP AND PARKS AND RECREATION STAFF

Memorial Park is maintained by Middletown Township's Public Works Department. The average time spent to maintain the vegetation, trails, and structures is 3–4 hours per week. Mineral Hill Park and Louis Scott Park do not have dedicated staff or source of funds to underwrite the costs of stewarding the properties. As a result, staff presence at each park is minimal to nonexistent. This limited presence is an impediment to both natural resource stewardship and visitor/community outreach. Any recommended programming and land stewardship contained in this plan will require funding for staff time and/or increased volunteer participation.

## PARTNERSHIPS AND PROGRAMS

### Neighbors/Volunteers

The neighbors who live in close proximity to the parks are an important asset. They are some of the most-frequent visitors and many have assumed a sense of ownership. Neighbors often act as additional eyes and ears, keeping watch over the parks. In addition to the informal services they provide during their frequent visits, many of the neighbors take part in volunteer tree planting and trail maintenance events organized by Upper Providence for Open Space. In addition, the pavilion at Memorial Park was built by an Eagle Scout and the Media Rotary Club built the fishing pier.

## Scientific Research and Education

The parks contain natural features of interest for scientific research and outdoor educational study. Informal and infrequent research and education have occurred at the parks. This use is appropriate and consistent with the owners' and managers' desires to further research the parks' natural resources and education as long as it is not detrimental to the natural features of the parks.

## OPPORTUNITIES AND CONCERNS

Throughout the master plan development process, the Steering Committee and community expressed their concerns and offered potential opportunities related to the parks. In general, the concerns at the parks are relatively minor and are consistent with those experienced at many local parks and open space areas. The opportunities suggested are consistent with the vision of the parks to remain as natural settings offering passive education with an area for activities. The opportunities and concerns are divided into five categories: natural resources and uses; volunteers and education; parking and amenities; trails; and signage.

## Natural Resources and Uses

### Concerns

- It is important to maintain the serene natural setting and natural resources at the parks.
- Protection of the water supply and water quality is important.
- Management and removal of invasive plants and stewardship for the natural resources is needed.
- The forest does not have a healthy understory due to deer overpopulation.
- Ball fields for organized sports are not wanted at the parks.
- Monitoring/policing for unwarranted uses is needed.

## Opportunities

- Provide open lawn area for community/family outdoor activities.
- Include accessible play area/playground.
- Maintain fishing areas for families.
- Consider a permitting system for uses such as hunting, camping, and mineral collection.
- Provide areas for picnicking.
- Allow for ice skating on the backwater of Ridley Creek, if appropriately frozen.
- Allow for canoeing, kayaking, and tubing on Ridley Creek with a designated take-out point located at the parks.

## Volunteers and Education

### Concerns

- Volunteer group needs to be organized and led by landowners to implement their plan for the parks.
- Research will need to be approved by landowners and conducted in a manner that does not negatively impact the natural resources.

### Opportunities

- Create a Friends of Mineral Hill Area Parks volunteer corps to assist with stewarding and monitoring the parks.
- The parks' focus can be environmental education experiences for the community and schools.
- There is potential to work with local schools, colleges, and environmental organizations to formalize research and education at the parks—using them as outdoor classrooms.
- Provide hands-on education areas/trail bump-outs.
- Provide brochures at the kiosks about self-guided hikes, native plants, wildlife, etc.

## Parking and Amenities

### Concerns

- Do not provide more daily parking than the parks can handle.
- Pervious material for parking lots and trails should be used.
- Memorial Park requires a better-designed parking lot.

### Opportunities

- Provide overflow parking to allow for events at the community activity area.
- Include future parking expansion in the *Master Plan*.
- Provide signage at parking lots indicating locations of other parking areas.
- Provide restrooms in the parks.
- Provide dog waste stations with compostable bags and disposal area.
- Install bird blinds and observation decks.
- Provide picnic shelters near parking lots.
- Retain and utilize historical features (i.e., Brookwood Hotel wall).

## Trails

### Concerns

- Trails should be minimal-impact pervious surface or natural surface.
- Identify locations where trails can be ADA accessible and in close proximity to parking lots.
- Better directional signs are needed for ease of wayfinding.

## Opportunities

- The trail system should be expanded including trail loops.
- Building bridges over Ridley Creek will unify the parks.
- Create an accessible trail loop around the perimeter of the parks.
- Use boardwalk trails to access or traverse wetlands and wet areas.
- Provide crosswalks on roads to provide access between parks and Glen Providence Park.
- Extend trail system to Rose Tree Road as a future opportunity and use bridge as a pedestrian route.
- Provide trail maps to emergency responders to aid in locating park users, if necessary.

## Signage

### Concerns

- Better signs are needed indicating allowed uses.

### Opportunities

- Create a signage system to unify the three parks.
- Incorporate interpretive signs as passive education.
- Provide wayfinding signs throughout trail system.
- Include trail maps and brochures at kiosks and parking lots.
- Include identification markers on signs to help park users in distress tell rescue workers where they are located.

# V PUBLIC PARTICIPATION PROCESS

## **STEERING COMMITTEE MEETINGS**

### **Summary**

Four full Steering Committee meetings were held to understand the committee members' vision for the parks, gather information about the parks, and to acquire feedback on the proposed *Master Plan*. The first Steering Committee meeting was held on April 25, 2012. The history of conservation at the parks, the *Master Plan* process including initial site analysis, and information regarding the documents required for the DCNR grant was shared. At the second meeting, held on June 27, 2012, a presentation on walkways and boardwalks was given and the summary questionnaire responses from committee members were shared, discussed, and agreed upon with minor changes. The focus of the third Steering Committee meeting on September 11, 2012, was the presentation for the first public meeting. On January 31, 2013, the draft *Master Plan* was shared with the Steering Committee to obtain feedback and the presentation for the second public meeting was discussed.

Three additional partial Steering Committee meetings were held between the September 2012 and January 2013 full Steering Committee meetings; one with each landowner/lease holder to identify specific *Master Plan* design elements for each individual park. On November 20, 2012, a meeting was held with the two Steering Committee representatives from Middletown Township to discuss Memorial Park. A meeting was held with three Steering Committee representatives from Delaware County to discuss Mineral Hill County Park. The third partial Steering Committee meeting was held on December 17, 2012 with Upper Providence Steering Committee representatives to discuss Louis Scott Park.

*Please see Appendix A for agendas and sign-in sheets.*

## KEY STAKEHOLDERS

### Key Stakeholder Questionnaire

In an effort to gain a general consensus on the vision, uses, amenities, etc., a questionnaire was distributed to the Steering Committee members and Upper Providence for Open Space—a citizen group that assists with maintaining Louis Scott Park. Both groups gathered and summarized their responses.

#### Mineral Hill Area Master Plan Steering Committee Questionnaire - Summary of Responses June 27, 2012

*The intention of the Master Plan is to allow each of the municipalities to develop their respective parks so as to limit redundancy, increase public benefit, and ensure environmental quality. The Master Plan will provide recommendations on appropriate park uses, trail system layout, site amenities and stewardship of natural resources. The amenities might be items such as parking, signage, seating, and recreational facilities.*

**1) What is your vision for the Parks? i.e., when the Mineral Hill parks are fully developed, how will your constituents describe the experience of visiting them?**

The joint park system (Park) will be developed in a way that benefits the most and will allow varying recreational opportunities and levels of accessibility. Some areas of the Park will remain as quiet areas for passive recreation and minimum intrusion with some areas limiting off-trail access and other allowing more opportunity for exploration. Another area of the Park will have an area for active recreation, possibly including a field - used for soccer and other activities and a playground with outdoor exploration activities (i.e. bug door, wildlife footprints). Picnic shelters and bathroom facilities will be provided near parking areas.

**2) Are any of these potential passive recreation uses more important to you than some of the others? Are there any that you would not like to see here?**

- a. Trails
  - i. For hikers
  - ii. Dog walkers
  - iii. Equestrian
  - iv. Mountain Biking
- b. Bird watching
- c. Fishing
- d. Educational/interpretive signage
- e. Hands-on education areas
- f. Research
- g. Other

The Park's uses may include:

- trails for hikers, joggers, dog walkers (may be in limited areas),
- bird watching (on trails and other designated areas – bird blinds?)

- fishing (in designated areas)
- educational/interpretive signage - for passive education, limited quantity so to not negatively impact the experience at the Park
- hands-on education areas (provide observation areas for small groups)
- research (approved appropriate research which does not have a negative impact on the natural resources)
- picnicking (near parking areas)

The idea of possibly allowing for mineral collection was discussed including use of a permit system. This idea will be discussed further and the steering committee would also like to hear Marc Manfre's thoughts on this (he was not in attendance)

The Park will NOT include:

- trails for equestrian or mountain bike use
- camping
- dog park

**3) Would you like to offer active recreation? If so, what types? Are there any active uses that you do not want to see here?**

Yes, in appropriate area where it fits into the Park with minimal impacts to the natural resources. It should be kept out of and have appropriate buffers from the floodplain, wetlands, hydric soils, and steep slopes.

Active recreation should include 1) a field - used for soccer and other activities and 2) a playground with outdoor exploration activities (i.e. bug door, wildlife footprints).

*\* Upper Providence has previous plans for active recreation – NLT to acquire from Ed Cashman and review.*

**4) Would you like to offer the Park as an outdoor classroom for Rose Tree Media, Delaware County Community College, Pennsylvania Institute of Technology, West Chester University, Others? Do you know of any other successful local examples of such a program?**

Yes, with appropriate instructor-lead higher education programs and where the natural resources would not be negatively impacted. These may include: Delaware County Community College, Pennsylvania Institute of Technology, West Chester University, Penn State-Brandywine, and Neumann University

Providing outdoor classrooms for local school districts was met with mixed reviews. The concern is that too much activity will negatively impact the Park. If this is considered in the Master Plan, there should be verbiage regarding the need to minimize the number of visits per year, limit the number of students, and require a ratio of educators to students to assist in focusing the students. This is an activity that should be monitored closely for impacts to the Park.

The idea providing an outdoor learning area with log or boulder seating arranged in a circular pattern was discussed. A decision was not made as to include this in the Master Plan or not.

Upper Providence currently offers three seminars per year for adults. This is a successful program and can be used as an example and possibly expanded.

**5) NLT has seen some evidence of heavy browsing by deer. Would you consider management of the deer population to protect the vegetation from overbrowsing?**

All agreed that a deer management program is appropriate for the Park. This could be either a permit system or a professional program. The meat should be taken by the hunters or used in community kitchens.

Extreme care should be taken to keep the hunt away from the PECO powerlines and facilities.

**6) If economically feasible, what new amenities would you like to offer?**

- a. New parking areas**
- b. Bathrooms**
- c. Picnic shelters**
- d. Other**

Parking

- addition of the planned parking area near the new Elwyn development
- improve and possibly expand (particularly near active recreation area) existing parking areas

Bathrooms

- built, composting, or portable (including trailers)bathrooms to be explored further
- near parking areas

Picnic shelters near parking areas

Observation decks

- near natural features to provide interpretive signage and viewing without disturbing the resource
- possibly under or near PECO (if there is enough clearance per PECO) to allow for view through powerline clearance

Fishing piers

Bridge to connect the Park over Ridley Creek

**7) Where would you like to have entrance points for**

- a. Trailheads**
  - b. Maintenance**
  - c. Other**
- At new Elwyn development
  - Access from new development in Upper Providence across N. Ridley Creek Road (pedestrian crossing needed)
  - Improve existing trailheads

**8) Where would you like to have new or relocated parking areas?**

**9) Would you like to provide access**

- a. **Across Ridley Creek, connecting the parks?**
- b. **Under Route 1, connecting to properties north?**
- c. **To Elwyn, across/under (previous pig tunnel) Baltimore Pike?**
- d. **To nearby public and protected land?**
- e. **Other?**

Providing a connection or two across Ridley Creek is critical to create and integrated Park. Possible bridge locations will be suggested by NLT for the Steering Committee to review.

It would be good to connect under Route 1. The major considerations are the type of trail surface due to the flooding potential and the limited space under the bridge.

At existing pig tunnel under Baltimore Pike connecting to Elwyn – in plan but maybe not installed until a later phase of the Master Plan.

Look at potential to connect to nearby public land. Some areas may be difficult through current residential areas. There is a good potential to connect to Glen Providence Park and this should be a priority.

**10) What do you see as the number one priority for the Master Plan (i.e. improved trail systems, educational programming, limited maintenance costs, etc.)**

Creating a Plan that all agree on which creates and integrated Park and allows for both passive and active recreation without major disruption to the natural resources.

## Mineral Hill Area Master Plan Key Stakeholder Questionnaire

*The intention of the Master Plan is to allow each of the municipalities to develop their respective parks so as to limit redundancy, increase public benefit, and ensure environmental quality. The Master Plan will provide recommendations on appropriate park uses, trail system layout, site amenities and stewardship of natural resources. The amenities might be items such as parking, signage, seating, and recreational facilities.*

*Once completed please return the questionnaire to Diane Rosencrance, Conservation Project Manager, Natural Lands Trust – [drosencrance@natlands.org](mailto:drosencrance@natlands.org) or 1031 Palmers Mill Road, Media, Pa 19063*

**Please answer the following question about Mineral Hill Park, Louis Scott Park, and Memorial Park—individually and/or jointly.**

- 1) *What is your vision for the Parks? i.e., when the Mineral Hill parks are fully developed, how will you describe the experience of visiting them?*

—Park should have as light a footprint as possible for enjoyment of the natural setting. The Master Plan should preserve the special natural features of the area. Nothing should be done that could degrade Ridley Creek, create more stormwater and must protect the drinking water.

—Visitors will describe the area as a gem with its diversity and natural features. They will be able to walk along trails to visit the special areas in the park. Students will do their environmental studies at the park and help to improve these special areas; i.e., creek, wood, wetlands, meadow and pond. The property will be known as a good fishing area and a place to view wildlife. There will be places to sit and reflect on nature while bird watching or enjoying the view. The geological and environmental features of the park would be acknowledge with signage. There should be an area for picnicking and informal sport activities.

- 2) *Are any of these potential passive recreation uses more important to you than some of the others? Are there any that you would not like to see here?*

a. *Trails*

- |  |   |  |
|--|---|--|
| <i>i. For hikers</i>                       | - | Very Important                           |
| <i>ii. Dog walkers</i>                     | - | Important                                |
| <i>iii. Equestrian</i>                     | - | No                                       |
| <i>iv. Mountain Biking</i>                 | - | No                                       |
| <i>b. Bird watching</i>                    | - | Very Important                           |
| <i>c. Fishing</i>                          | - | Important                                |
| <i>d. Educational/interpretive signage</i> | - | Very Important                           |
| <i>e. Hands-on education areas</i>         | - | Important                                |
| <i>f. Research</i>                         | - | Somewhat Important                       |
| <i>g. Other</i>                            | - | Wildlife Viewing areas and places to sit |

3) *Would you like to offer active recreation? If so, what types? Are there any active uses that you do not want to see here?*

Area that could be used to a pick up game, kite flying, etc. No organized or formalized sports on defined fields because of the sensitivity and slope of the area.

4) *Would you like to offer the Park as an outdoor classroom for Rose Tree Media, Delaware County Community College, Pennsylvania Institute of Technology, West Chester University, Others? Do you know of any other successful local examples of such a program?*

Yes, this is an environmental treasure. The property is unique in having the Five Major Ecosystems that are the subject of environmental studies in PA: meadow, pond, woods, wetlands and stream. The Media Wetlands were identified in the Delaware County Natural Areas Inventory as “an area of local significance worthy of preservation.” It was also found by the EPA’s Delaware Estuary Program to be of sufficient importance for inclusion in a list of worthy restoration and enhancement projects within the entire estuary.

5) *NLT has seen some evidence of heavy browsing by deer. Would you consider management of the deer population to protect the vegetation from overbrowsing?*

Yes. Need to maintain the forest, protect native species and preserve unique sites.

6) *If economically feasible, what new amenities would you like to offer?*

- a. *New parking areas* - Maybe expand existing areas
- b. *Bathrooms* - Johnny’s on the spot or connect with sewer line in new development
- c. *Picnic shelters* - Like Ridley Creek State Park / multi-use
- d. *Other* - Trail system with signage, interpretive signs for special areas and to identify plants, crossing over creek, pavilion and/or picnic area in Scott Park, ADA accessible path within park, benches along trails.

7) *Where would you like to have entrance points for Trailheads?*

At the parking lots along with trail maps showing ways to get to different areas of park.

8) *Where would you like to have new or relocated parking areas?*

Improve the 3 current parking lots using permeable surfaces. Create a small parking lot in coordination with Elwyn development

9) *Would you like to have access*

- a. *Across Ridley Creek, connecting the parks?* Yes, bridge or stepping stones
- b. *Under Route 1, connecting to properties north?* Yes, for a greenway connection to Ridley Creek State Park/Tyler where possible
- c. *To Ebhyn, across/under (previous pig tunnel) Baltimore Pike?* Yes, for a connection to train station
- d. *To nearby public and protected land?* Yes to Glen Providence Park and Media
- e. *Other?*

10) *What do you see as the number one priority for the Master Plan (i.e. improved trail systems, educational programming, limited maintenance costs, etc.)*

Preservation of the environmentally sensitive areas and protecting the quality of Ridley Creek while enhancing the trail system for enjoyment of the natural area.

Name: Jane Ferry, President, Upper Providence for Open Space (UPOS)

## Upper Providence for Open Space Questionnaire Response and Position

As a result of the June 25 members meeting, list of ideas were consolidated for the Master Plan for the parks along Ridley Creek. A committee was formed to analyze the data and gave their findings to the UPOS Board. As a result, the Board of UPOS prioritized the information and formed our position for the area. Below are our 4 key positions.

### PRESERVATION AND PROTECTION OF AREA

- Plan should have as light a footprint as possible for enjoyment of the natural setting
- Clean-up debris within parcels, e.g. Boy scout camp / Aqua area
- Control Erosion
- Maintain forest; protection of native species; preservation of unique sites—e.g. minerals, wetlands, rock outcropping, etc
- Increase plant diversity
- Control / remove invasive plants

### IMPLEMENTATION OF TRAILS

- Create a looping trail system throughout the parcels along both sides of Ridley Creek
- Naturalized paths with feel of nature
- Seasonal trails to features of parks
- Trails to 5 environmental sites for environmental studies

### STRUCTURES / IMPROVEMENTS

- Bridge over Ridley Creek
- Boardwalk / viewing platform for Media Wetlands
- Benches along trails
- Fix current pavilions
- Signage on Trails / Entrances “You are Here”; interpretive signs for special areas; identifying native and non-native plants, trail maps at entrances
- Improve parking areas (permeable surfaces / small additional parking)
- Pavilion and/or picnic area in Scott Park
- ADA accessible path within park (e.g. Parking lot at Rosemary to Wetlands)

### LINKS TO CONNECTING AREAS

- Connection to Glen Providence Park
- Connection to Elwyn train station (old tunnel under Baltimore Pike?)
- Connection to Ridley Creek State Park / Tyler – a greenway connection for wildlife along with trails in available areas with signage along roads where permission on private property is not given

Cost—Within the constraints of available resources; i.e. grants, fund raisers/donations, recreational impact and other fees available to Townships/County/State

## **Municipal Meetings**

Natural Lands Trust presented the draft *Master Plan* to the Delaware County Council at their February 27, 2013, meeting. Additionally, draft *Master Plan* maps were provided to Steering Committee representatives from Middletown and Upper Providence Townships for them to share at their respective municipal meetings.

## **PUBLIC MEETINGS**

### **Summary**

Three public meetings were held at Delaware County's Council meeting room to gather input from and share the draft and final *Master Plan* with the community. These meetings also helped to build stronger relationships with neighbors, current visitors, and partners. The first public meeting was held on September 25, 2012. The intention of this initial meeting was to provide background information to the attendees about Mineral Hill Area Parks, the *Master Plan* process, and most importantly, to gather comments from the attendees about their current experiences on the parks, improvements they feel would make the parks a better experience, and additional activities, learning experience, and amenities that would enhance enjoyment of the parks. The second public meeting, held on April 23, 2013 provided the community with the first draft of the parks *Master Plan*. The attendees were then asked to share their opinions of the *Plan* and to discuss what is missing, other potential opportunities, and changes they would like to see to the draft document. Information gathered at these meetings was incorporated into the final *Master Plan* for the Mineral Hill Area Parks system. The third and final public meeting was held on January 14, 2014 to present the final *Master Plan* to the community and solicit public opinion related to the *Plan*.

*Please see Appendix B for agendas, sign-in sheets, and meeting notes.*

# VI

## RECOMMENDATIONS: JOINT MINERAL HILL AREA PARKS SYSTEM

### VISION

The Vision for the parks was developed by the Steering Committee as follows: Mineral Hill County Park, Memorial Park, and Louis Scott Park create an integrated park system with access over Ridley Creek. They are situated in a way that benefits the community and the natural features. The Mineral Hill Area Parks system allows the municipalities to develop their respective parks so as to limit redundancy, increase public benefit, and ensure environmental quality. They will allow varying recreational opportunities and levels of accessibility. Mineral Hill County Park and portions of Memorial Park and Louis Scott Park will remain quiet areas for passive recreation and minimum intrusion with some areas limiting off-trail access and others allowing more opportunity for exploration. Memorial Park and Louis Scott Park will allow for semi-active recreation, including a fishing pier, a mown area for activities, a playground with outdoor exploration (i.e., bug door, wildlife footprints), and exercise stations. Picnic shelters and bathroom facilities will be provided near the primary parking areas.

### USER EXPERIENCE

The serene natural setting of the Mineral Hill Area Parks—amid the surrounding residential and commercial development—offers an opportunity to transport visitors to a seemingly wild place where they can experience both deciduous and coniferous woodlands, meadows, wetlands, floodplains, and the banks of Ridley Creek while traversing the varied terrain along an expansive trail system. Thus, recommendations in this *Plan* should prioritize activities and amenities that enhance access to and

understanding of the natural and historical features. Providing areas for people to connect to nature in the parks should accommodate community activities, fishing, and picnicking.

A variety of trail experiences are available at the parks. Where the terrain allows, handicap accessibility standards will be met to provide Americans with Disability Act (ADA) accessible trails. Other trails will be maintained as pervious paved or natural earthen trail surfaces. The terrain and trail surfaces will create trails varying in difficulty from easy to challenging, providing a sense of adventure. Signage should provide necessary orientation and interpretation of important natural and historical features but the overall impact of signs should be minimal. Benches, stream crossings, or other structures should be natural in appearance, reminiscent of the history and natural features, and generally consistent throughout the three parks. More formal structures, with the exception of the Ridley Creek bridges, should be avoided unless required to ensure visitor safety or to meet applicable regulations.

The Vision will be introduced through trail design, signage, and seating placement. By designing the trail system to pass through each of the natural resource areas, visitors are better able to experience the landscapes of the parks. The signage located throughout the parks will further educate visitors about the habitats they are experiencing and assist them in understanding the importance of the natural resources and the history of the parks. Seating is to be located to allow for rest and longer viewing of wildlife and natural scenery.

## **INTEGRATION OF PARKS**

To create a cohesive Mineral Hill Area Parks system the respective owners/managers will need to continue to communicate, market, and develop amenity designs and standards for the three parks. These unifying designs and standards should be integrated into trail widths, surfaces, linkages between the parks—including color-coding and naming, and appropriate uses; bridges that connect the parks over Ridley Creek; a signage system that creates the look and feel of the parks as a whole while incorporating elements of the individual owners/managers established municipal parks signs—including kiosks that contain the same rules and park system map and the parking lots of all the parks; and benches, picnic tables, and bathroom facilities.

Communication and marketing about the parks and events at the parks should be coordinated with the all of the owners/managers. The information

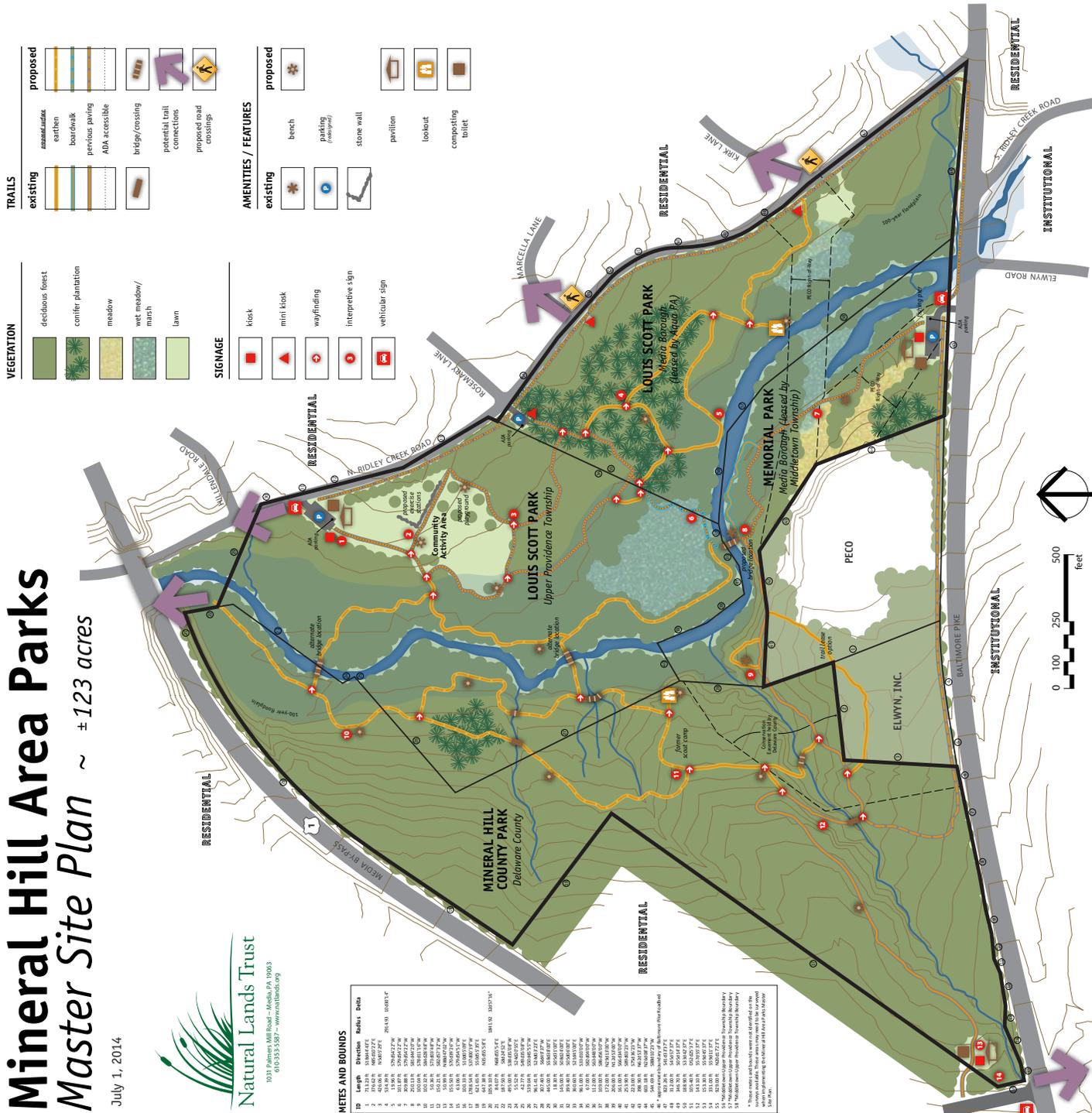
should be shared on the websites and publications of the municipalities and other recreational information resources.

Additionally, the creation of the Friends of Mineral Hill Area Parks volunteer corps will assist in bringing the community together with the park owners/managers and assist with consistency in managing and monitoring of the parks. The Friends group is not intended to work as an entity on its own, but rather serve as a volunteer extension of the County Parks Department and municipal parks and recreation committees and staff, carrying out the tasks as specified by the park owners and managers.

The following sections provide recommendations specific to each of the three individual parks.

# Mineral Hill Area Parks Master Site Plan ~ ±123 acres

July 1, 2014



VEGETATION	
	deciduous forest
	conifer plantation
	meadow
	wet meadow/ marsh
	lawn

TRAILS	
	existing
	proposed
	asphalt/stone
	earthen
	boardwalk
	previous paving
	ADA accessible
	bridge/crossing
	potential trail connections
	proposed road crossings

SIGNAGE	
	kiosk
	mini kiosk
	wayfinding
	interpretive sign
	vehicular sign

AMENITIES / FEATURES	
	existing bench
	proposed bench
	parking (multipurpose)
	store wall
	pavilion
	lookout
	composting toilet

**METES AND BOUNDS**

ID	Length	Direction	Radius	Delta
1	254.02 N	N62°22' E		
2	518.04 E	N0°00' E		
3	518.04 S	S0°00' E		
4	518.04 W	S90°00' W		
5	518.04 N	N90°00' W		
6	518.04 E	N26°22' W		
7	518.04 S	S26°22' W		
8	518.04 W	S62°22' W		
9	518.04 N	N62°22' W		
10	518.04 E	N0°00' W		
11	518.04 S	S0°00' W		
12	518.04 W	S90°00' W		
13	518.04 N	N90°00' W		
14	518.04 E	N26°22' W		
15	518.04 S	S26°22' W		
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27	518.04 S	S0°00' W		
28	518.04 W	S90°00' W		
29	518.04 N	N90°00' W		
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32	518.04 W	S62°22' W		
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100 - Approximate boundary of Delaware Park District



# VII RECOMMENDATIONS: MINERAL HILL COUNTY PARK

Maintaining the rugged, serene setting of Mineral Hill County Park is the desire of both the community and the Steering Committee members. Therefore, trails for passive recreation and limited amenities will be provided at the park. The park melds well with the adjoining Memorial Park and Louis Scott Park, allowing other passive and semi-active recreational uses.

The implementation of the parks trails and amenities are proposed to occur over an extended time frame to meet the fund-raising, engineering, permitting, and staffing needs related to the proposed *Master Plan*.

## PROPOSED STRUCTURES AND INFRASTRUCTURE

### Parking and Access

Mineral Hill County Park does not currently offer a parking lot for park users. Access to the park is obtained by way of Memorial Park or by access along Ridley Creek at the northern area of the park. A parking lot is proposed to be built as part of the development of the adjoining property. Given that the park is intended as a serene natural setting, a parking lot with 10 spaces would be appropriate. The parking lot should be designed with overflow parking (10 additional spaces) to allow for future expansion and parking for volunteer work days or events at the park.

The current access by trails through Memorial Park is proposed to remain. Additional access to the park is proposed by bridges to be built over Ridley Creek from Louis Scott Park. Two future possible trail connections are:

- a) to the north, under the Route 1 Media bypass, to access the Heilbron Homeowner Association land
- b) to the south, through the historic pig tunnel under Baltimore Pike, as a potential regional trail connection.

### Signage

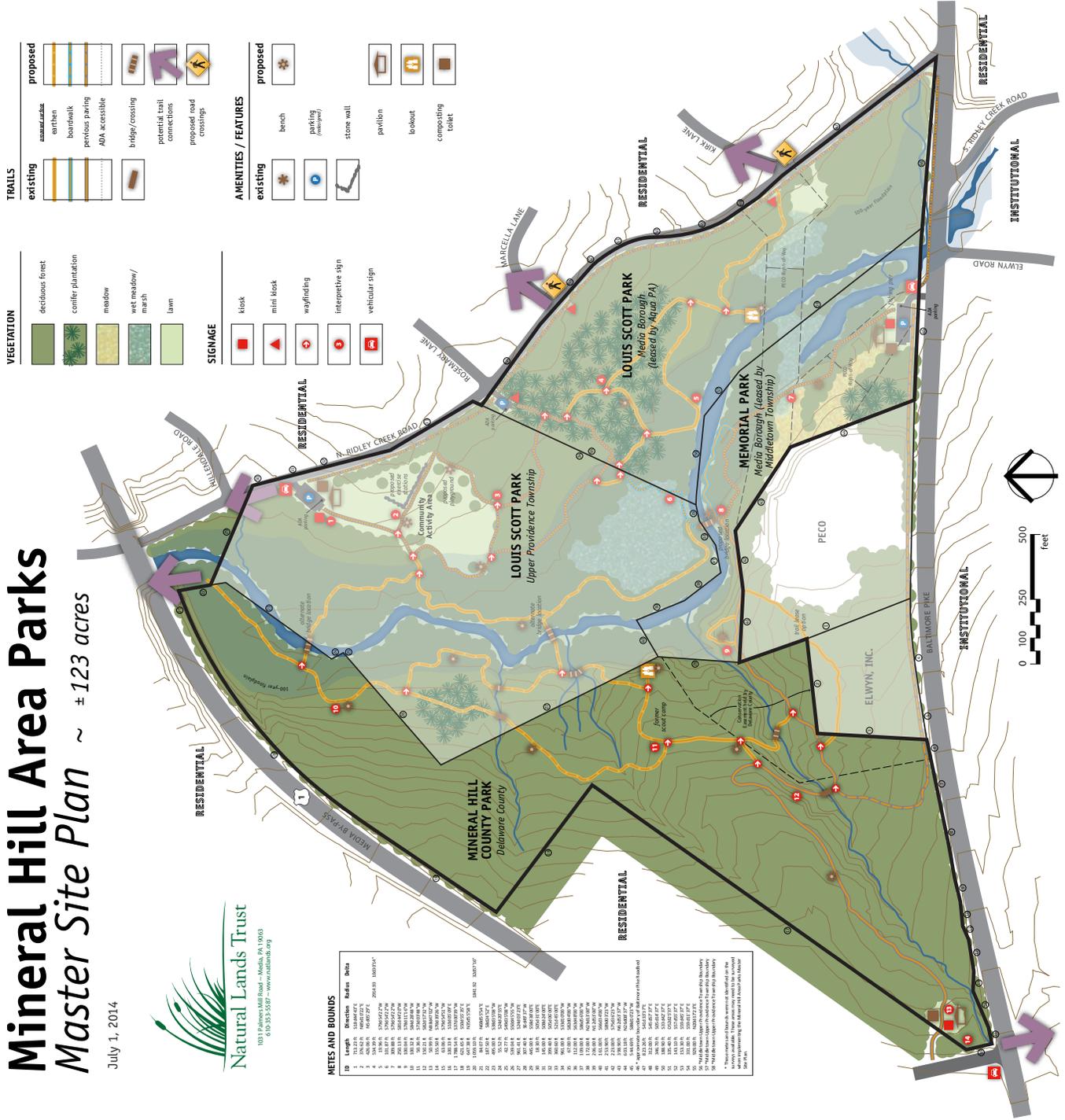
Although the three Mineral Hill Area Parks have separate owners/managers, a cohesive signage system would assist in creating the look and feel of an integrated Mineral Hill Area Parks system. As the parks work together to offer unique experiences and uses for their community, it is recommended that the respective owners develop the signage system together to unify the parks. Understanding that each owner may have a signage system implemented throughout their individual municipal park system, the Mineral Hill Area Parks signage system may be able to incorporate elements of the three municipal parks signage systems to assist in consistency.

The following types of signs and locations are recommended at Mineral Hill County Park:

- a) **Vehicular**—A sign identifying the park located along Baltimore Pike near the entrance to the proposed parking lot.
- b) **Vehicular Directional**—Three (3) directional signs should be located at intersections to direct park users to the parking lots for the three Mineral Hill Area Parks:
  - Route 1 by-pass and Baltimore Pike
  - Baltimore Pike and North Ridley Creek Road
  - Rose Tree Road and North Ridley Creek Road
- c) **Kiosk**—A sign located at the parking area to greet visitors, provide them with basic information about the park and parks system, including a park system map, and states the park rules using Leave No Trace-type language (see “dog waste stations” below). Additionally, the kiosk may contain park brochures with maps, checklists for plants and wildlife, brochures for self-guided walks, and seasonal information such as hunting notices or trail closures. If serving as a trailhead, the kiosk should include information about the trail difficulty level.

# Mineral Hill Area Parks Master Site Plan ~ ±123 acres

July 1, 2014



**MITES AND BOUNDS**

ID	Length	Direction	Bearing	Dist.
1	179.627'	N 88°02'27"E	294.519'	100.00000000"
2	379.627'	N 88°02'27"E	294.519'	100.00000000"
3	539.627'	N 88°02'27"E	294.519'	100.00000000"
4	699.627'	N 88°02'27"E	294.519'	100.00000000"
5	859.627'	N 88°02'27"E	294.519'	100.00000000"
6	1019.627'	N 88°02'27"E	294.519'	100.00000000"
7	1179.627'	N 88°02'27"E	294.519'	100.00000000"
8	1339.627'	N 88°02'27"E	294.519'	100.00000000"
9	1499.627'	N 88°02'27"E	294.519'	100.00000000"
10	1659.627'	N 88°02'27"E	294.519'	100.00000000"
11	1819.627'	N 88°02'27"E	294.519'	100.00000000"
12	1979.627'	N 88°02'27"E	294.519'	100.00000000"
13	2139.627'	N 88°02'27"E	294.519'	100.00000000"
14	2299.627'	N 88°02'27"E	294.519'	100.00000000"
15	2459.627'	N 88°02'27"E	294.519'	100.00000000"
16	2619.627'	N 88°02'27"E	294.519'	100.00000000"
17	2779.627'	N 88°02'27"E	294.519'	100.00000000"
18	2939.627'	N 88°02'27"E	294.519'	100.00000000"
19	3099.627'	N 88°02'27"E	294.519'	100.00000000"
20	3259.627'	N 88°02'27"E	294.519'	100.00000000"
21	3419.627'	N 88°02'27"E	294.519'	100.00000000"
22	3579.627'	N 88°02'27"E	294.519'	100.00000000"
23	3739.627'	N 88°02'27"E	294.519'	100.00000000"
24	3899.627'	N 88°02'27"E	294.519'	100.00000000"
25	4059.627'	N 88°02'27"E	294.519'	100.00000000"
26	4219.627'	N 88°02'27"E	294.519'	100.00000000"
27	4379.627'	N 88°02'27"E	294.519'	100.00000000"
28	4539.627'	N 88°02'27"E	294.519'	100.00000000"
29	4699.627'	N 88°02'27"E	294.519'	100.00000000"
30	4859.627'	N 88°02'27"E	294.519'	100.00000000"
31	5019.627'	N 88°02'27"E	294.519'	100.00000000"
32	5179.627'	N 88°02'27"E	294.519'	100.00000000"
33	5339.627'	N 88°02'27"E	294.519'	100.00000000"
34	5499.627'	N 88°02'27"E	294.519'	100.00000000"
35	5659.627'	N 88°02'27"E	294.519'	100.00000000"
36	5819.627'	N 88°02'27"E	294.519'	100.00000000"
37	5979.627'	N 88°02'27"E	294.519'	100.00000000"
38	6139.627'	N 88°02'27"E	294.519'	100.00000000"
39	6299.627'	N 88°02'27"E	294.519'	100.00000000"
40	6459.627'	N 88°02'27"E	294.519'	100.00000000"
41	6619.627'	N 88°02'27"E	294.519'	100.00000000"
42	6779.627'	N 88°02'27"E	294.519'	100.00000000"
43	6939.627'	N 88°02'27"E	294.519'	100.00000000"
44	7099.627'	N 88°02'27"E	294.519'	100.00000000"
45	7259.627'	N 88°02'27"E	294.519'	100.00000000"
46	7419.627'	N 88°02'27"E	294.519'	100.00000000"
47	7579.627'	N 88°02'27"E	294.519'	100.00000000"
48	7739.627'	N 88°02'27"E	294.519'	100.00000000"
49	7899.627'	N 88°02'27"E	294.519'	100.00000000"
50	8059.627'	N 88°02'27"E	294.519'	100.00000000"
51	8219.627'	N 88°02'27"E	294.519'	100.00000000"
52	8379.627'	N 88°02'27"E	294.519'	100.00000000"
53	8539.627'	N 88°02'27"E	294.519'	100.00000000"
54	8699.627'	N 88°02'27"E	294.519'	100.00000000"
55	8859.627'	N 88°02'27"E	294.519'	100.00000000"
56	9019.627'	N 88°02'27"E	294.519'	100.00000000"
57	9179.627'	N 88°02'27"E	294.519'	100.00000000"
58	9339.627'	N 88°02'27"E	294.519'	100.00000000"
59	9499.627'	N 88°02'27"E	294.519'	100.00000000"
60	9659.627'	N 88°02'27"E	294.519'	100.00000000"
61	9819.627'	N 88°02'27"E	294.519'	100.00000000"
62	9979.627'	N 88°02'27"E	294.519'	100.00000000"
63	10139.627'	N 88°02'27"E	294.519'	100.00000000"
64	10299.627'	N 88°02'27"E	294.519'	100.00000000"
65	10459.627'	N 88°02'27"E	294.519'	100.00000000"
66	10619.627'	N 88°02'27"E	294.519'	100.00000000"
67	10779.627'	N 88°02'27"E	294.519'	100.00000000"
68	10939.627'	N 88°02'27"E	294.519'	100.00000000"
69	11099.627'	N 88°02'27"E	294.519'	100.00000000"
70	11259.627'	N 88°02'27"E	294.519'	100.00000000"
71	11419.627'	N 88°02'27"E	294.519'	100.00000000"
72	11579.627'	N 88°02'27"E	294.519'	100.00000000"
73	11739.627'	N 88°02'27"E	294.519'	100.00000000"
74	11899.627'	N 88°02'27"E	294.519'	100.00000000"
75	12059.627'	N 88°02'27"E	294.519'	100.00000000"
76	12219.627'	N 88°02'27"E	294.519'	100.00000000"
77	12379.627'	N 88°02'27"E	294.519'	100.00000000"
78	12539.627'	N 88°02'27"E	294.519'	100.00000000"
79	12699.627'	N 88°02'27"E	294.519'	100.00000000"
80	12859.627'	N 88°02'27"E	294.519'	100.00000000"
81	13019.627'	N 88°02'27"E	294.519'	100.00000000"
82	13179.627'	N 88°02'27"E	294.519'	100.00000000"
83	13339.627'	N 88°02'27"E	294.519'	100.00000000"
84	13499.627'	N 88°02'27"E	294.519'	100.00000000"
85	13659.627'	N 88°02'27"E	294.519'	100.00000000"
86	13819.627'	N 88°02'27"E	294.519'	100.00000000"
87	13979.627'	N 88°02'27"E	294.519'	100.00000000"
88	14139.627'	N 88°02'27"E	294.519'	100.00000000"
89	14299.627'	N 88°02'27"E	294.519'	100.00000000"
90	14459.627'	N 88°02'27"E	294.519'	100.00000000"
91	14619.627'	N 88°02'27"E	294.519'	100.00000000"
92	14779.627'	N 88°02'27"E	294.519'	100.00000000"
93	14939.627'	N 88°02'27"E	294.519'	100.00000000"
94	15099.627'	N 88°02'27"E	294.519'	100.00000000"
95	15259.627'	N 88°02'27"E	294.519'	100.00000000"
96	15419.627'	N 88°02'27"E	294.519'	100.00000000"
97	15579.627'	N 88°02'27"E	294.519'	100.00000000"
98	15739.627'	N 88°02'27"E	294.519'	100.00000000"
99	15899.627'	N 88°02'27"E	294.519'	100.00000000"
100	16059.627'	N 88°02'27"E	294.519'	100.00000000"

\* The boundary of the park is shown as a dashed line. The boundary of the park is shown as a dashed line. The boundary of the park is shown as a dashed line.

- d) **Additional Parking Locations**—A sign located alongside or as part of the kiosk that indicates the locations of other parking lots related to the Mineral Hill Area Parks system.
- e) **Wayfinding**—Approximately seven (7) wayfinding signs located at major and minor trail intersections. The signage should primarily consist of directional arrows, an indication of trail length and difficulty, and the fastest route back to the parking area. Unique identification numbers should be included to assist local rescue personnel in locating park users.
- f) **Trail Blazes**—In between trail intersections, trails should be marked with painted blazes on trees or rocks indicating trail color and direction. Though this approach is well known to avid hikers, it is possible that not all visitors will know how to read the blazes.
- g) **Boundary**
  - 1. Regulatory—located intermittently along the park boundary indicating the owner and name of the park, and welcoming people to hike the trails.
  - 2. Diamond—smaller signs located between regulatory signs marking the park boundary.
- h) **Interpretive**—A total of five (5) interpretive signs (one of which is for future installation if a regional trail is built under Baltimore Pike) that contain information about natural and historical features, answering the basic how and why questions. Interpretive opportunities include the following:
  - 1. Wetlands and Floodplains—Discusses the functions of wetlands and floodplains along with the habitats they provide for wildlife and vegetation (identified as interpretive sign 10 on the *Master Plan* map).
  - 2. Scout Camp History—Provides a history of the area’s use as a Boy Scout Camp including information about the troop and the activities they enjoyed on the property (identified as interpretive sign 11 on the *Master Plan* map).
  - 3. Serpentine Barrens—Describes the unique qualities of serpentinite geology and the specialized habitat it creates (identified as interpretive sign 12 on the *Master Plan* map).
  - 4. Mineral Hill History and Sustainable Elements—Discusses the history of the Mineral Hill County Park site and the park as a piece of the Mineral Hill Area Parks system. Also contains information about the sustainable elements (i.e., pervious trail system) of the park *Master Plan* (identified as interpretive sign 13 on the *Master Plan* map).
  - 5. Pig Tunnel History (future installation if pig tunnel becomes part of a regional trail)—Discusses the history of the tunnel used by farmer to cross under Baltimore Pike (identified as interpretive sign 14 on the *Master Plan* map).

## Seating

Five (5) locations for benches have been identified along the park’s proposed trail system. With the lack of benches currently at the park, this allows for limited seating, keeping with the feel of a rugged, natural setting desired at the park. The locations have been chosen to provide resting areas within differing scenery and in places where rest may be welcome due to the terrain along the trail. Placement should also allow for seating along differing trail segments and may be located near interpretive signage.

The benches should be designed in conjunction with those for Memorial Park and Louis Scott Park in order to maintain the connected feeling among the three parks. Benches made of natural materials (i.e., wood, stone) are appropriate at the parks. The benches should be monitored and as they display significant signs of wear—when their condition declines to a point where they are uncomfortable to use or are a visual detraction—they should be replaced.

Along with benches, other natural material at the parks can be used as natural seating/resting areas interspersed throughout the park. These may include boulders, tree stumps, and logs.

## Stream Crossings

Three (3) stream crossings—two over tributaries and one over Ridley Creek—are included in the park *Master Plan*. One tributary crossing is an existing historical structure and should be evaluated for structural stability. The second tributary crossing is proposed and located in the southern portion of the park crossing the same tributary as the existing crossing. The proposed crossing over Ridley Creek is located in the northern portion of the park and connects to Louis Scott Park on the other side of the creek. Before beginning work on any structure over a waterway, contact the appropriate entities to receive proper permits.

Crossings should use natural materials when possible while providing safe transit for visitors of varying abilities. All stream crossing should also include safety structures such as rails and bumpers. In addition, any bridges wide enough to allow for vehicular access should include secured, removable bollards to prevent unwarranted access over the bridges.

Monitoring and maintenance of the stream crossings for structural integrity and safety is critical. As each crossing is updated or built, a maintenance schedule should be developed and followed.

## Restrooms

Due to the location and lack of water supply and sewer service, a structure containing composting toilets is recommended to be located adjacent to the proposed parking lot. The structure may also contain a location for disposing of dog waste in compostable bags. If, in the future, water and sewer service becomes available, other types of restrooms facilities may be considered.

## Dog Waste Stations

A dog waste station is recommended, which would supply compostable bags and include signage with Leave No Trace-style language—presenting the park rules in a manner of education: not just the rule but also the why. (Visit the Leave No Trace website [www.lnt.org](http://www.lnt.org) for more information.)

## Pavilion

A pavilion currently exists on the property at the corner shared with Elwyn, Inc. and PECO. If it is feasible, moving this pavilion adjacent to the proposed parking area for picnicking should be considered.

## Lookout/Observation Area

One lookout area is proposed for Mineral Hill County Park. It is located in conjunction with two benches near the former Boy Scout camp. The area offers a scenic view from the top of the hillside across Ridley Creek into Louis Scott Park. The elevation above the creek offers a unique perspective within the parks.

## Attractive Nuisance Structures

There are multiple structures in the park that are attractive nuisances—a hazardous area or structure that presents something of interest that may entice some to explore. These structures and associated materials should be torn down and removed from the park or properly closed to prohibit access by people and animals. They include:

- a) the former Boy Scout camp bunk house, restroom facilities, tent platforms, and the associated trash
- b) the culverts under the former gravel access drive
- c) the restroom and well opening near the property corner shared by Mineral Hill County Park, Elwyn, Inc., and PECO

## Small Gathering Spaces

The proposed width of the trail conveys the ruggedness of the park and allows visitors to feel enclosed by nature. However, in the areas where interpretive signs are located, the trail should be widened to allow a small gathering space for visitors and educators to read and discuss the content of the signs without blocking the trail. These spaces should be large enough for three to five people to stand along the trailside.

## Proposed Structures and Infrastructure Americans with Disabilities Act (ADA)

When designing and developing the structures, infrastructure, and trails recommended in the Mineral Hill Area Parks Master Site Plan, refer to the most recent 1990 Americans with Disabilities Act (ADA) compliance guidelines. The current version is the 2010 ADA Standards for Accessible Design. The document can be found at: <http://www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards.htm>

Language on the wayfinding signage should include an indication of length, trail surface, and difficulty (easy, moderate, difficult) to assist park users in determining their ability to traverse a particular trail.

## PROPOSED TRAIL SYSTEM

A good trail system must provide visitors with options and interest. Mineral Hill County Park provides opportunities for both. With access to the forest, waterways, and wetlands of the park, the 1.15 miles (6,074 feet) of trails allow users to enjoy the sights and sounds of nature. The proposed trail system can provide different experiences for each visitor.

Trail surface and terrain can also play a role in the use of the trails. The terrain of Mineral Hill County Park offers little potential for an ADA-accessible trail. The one existing trail, a gravel path that was previously an access drive, could possibly become ADA accessible. However, the terrain leading to it would likely not allow for the handicap accessibility standards to be met from the parking lots.

Monitoring and maintenance of the trails is important to ensure that conditions do not deteriorate, especially as use increases. Monitoring the trails on a regular basis will alert Delaware County to issues as they begin to arise, instead of waiting until they become major problems that require more work and funding. Maintenance should be consistent and continuous to promote a well-maintained and efficient trail system.

## Surface

The proposed trail system at the park includes pervious paved (i.e., compacted gravel, pervious

pavers) and earthen surfaces. Most of the trail system at Mineral Hill County Park will have an earthen trail surface. This surface offers a more natural experience and is in keeping with the Vision for the park. The earthen trail width in this area should be no more than three to four feet. The exception to this is the existing gravel path mentioned above—which will provide access from the proposed parking lot of Mineral Hill County Park—and an extension of it to intersect with both the Memorial Park's Millennium Trail and the perimeter trail around the three parks. The pervious paved trail should be five to six feet wide to provide room for passing while still allowing a close-to-nature experience.

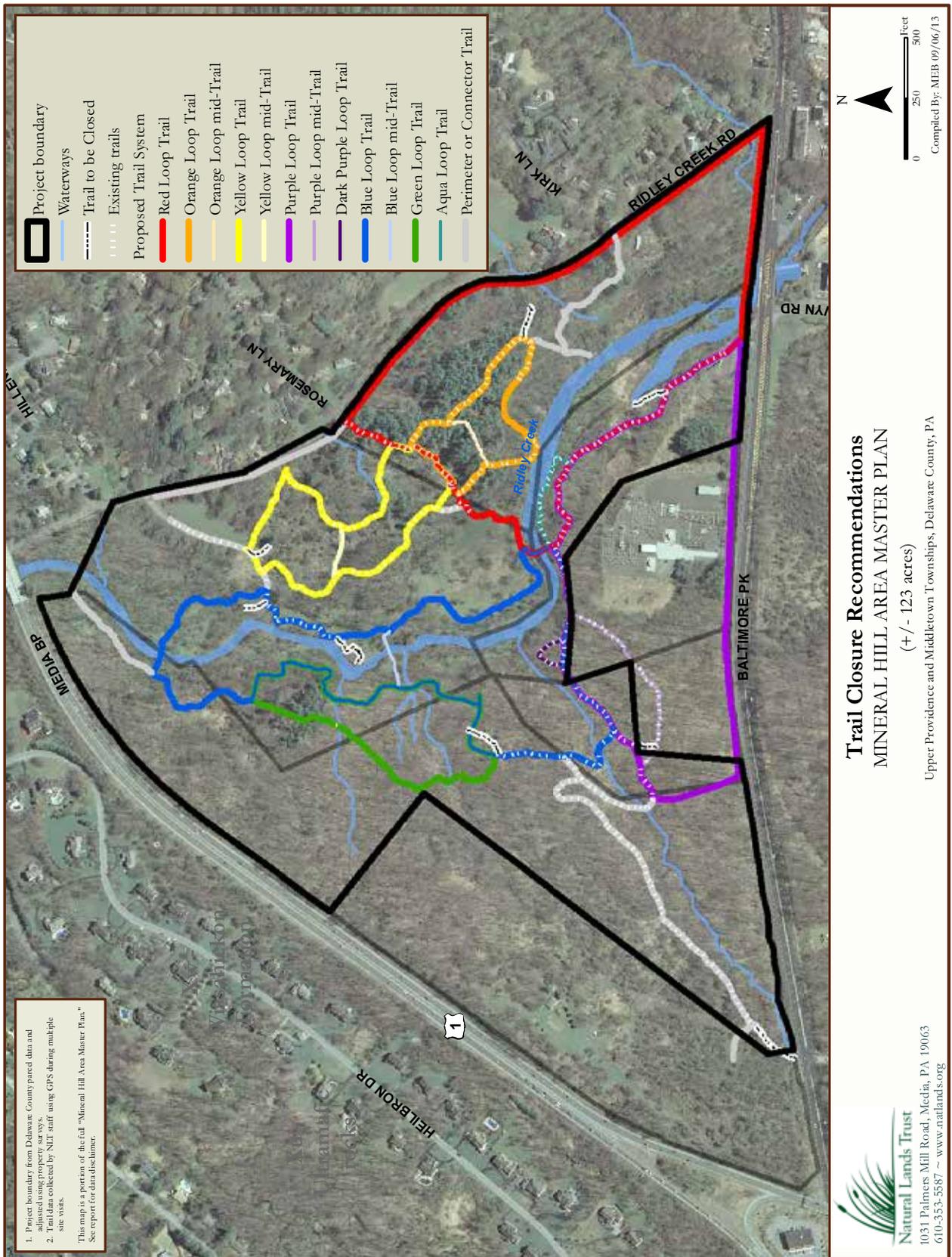
The earthen trails provide opportunities for pedestrians to experience nature on rugged trails; the pervious paved surfaces allow for trail use by bicyclists, off-road strollers, and (potentially) visitors needing wheelchairs.

The final alignment and material selection of the trails will require design specifications and engineering. All trails should be designed and built in a sustainable manner that will allow proper stormwater sheeting and avoid erosion along or deterioration of the trail. The material used should be consistent along all pervious paved trails in the natural area.

## Trail Closure Recommendations

Mineral Hill County Park contains three trail segments recommended for closure (see Trail Closure Recommendations map for locations). The first is a portion of the existing gravel drive that will remain only for maintenance and emergency vehicles to access the property. This segment should be closed at both ends with signage indicating the limited vehicular use and a gate at the entry from the Skycrest development entry drive. The second trail to be closed is located near the former Boy Scout camp where the Blue and Green Loop Trails intersect. The last segment intersects with the Purple Loop Trail on Mineral Hill County Park, however it is located on the Elwyn Inc. property.

It is important to properly close trails that are no longer to be used. If a closed trail still looks like a trail, people will continue to use it. The goal in



closing a trail is to make it appear that no trail was ever there. This can be done by planting native vegetation appropriate to the area. While waiting for the vegetation to become established, the ends of the trail can be blocked by planting larger trees (36"–60" tall)—if the trail is located in a forest—in the middle of the trailway or by placing downed tree limbs, or other natural material to obstruct the entrance. In addition, temporary signs can be placed explaining why the trail has been realigned.

Other reasons to close trails, either temporarily or permanently, include significant erosion, flooding, or wet areas. Should trails become too muddy or experience pooling of water, they may need to be closed for a period of time. Use of the trails in these conditions can lead to long-term damage to the trails and surrounding natural areas. If trails are closed, signage should be installed at trailheads or appropriate intersections to announce and explain the closure.

## Trail Segment Recommendations

The proposed trail system of the three parks incorporates multiple connecting trail loops to allow for varied experiences while at the parks. Each of these loops and the trails that connect them to parking lots and other access points are considered trail segments for purposes of this report. The trail loops have been color-coded in the Conceptual Trail Segments map and are referred to by color below. The connection trails are not color-coded, and therefore are also identified by their end points. Due to overlapping trail loops, some of the trail length is counted more than once.

### Parking Lot Access Trail

Proposed parking lot (Mineral Hill County Park) to Purple Loop Trail

**Existing Trail:** Yes

**Surface:** Pervious paving such as compacted gravel, pervious pavers, etc.

**Total Length (approx.):** 0.36 miles; 1,885 feet

**Length on Mineral Hill County Park:** same as

Total Length

**Width:** 5–6 feet

**Appropriate uses:** Birding, hiking, dog walking

(on-leash), jogging, bicycling (on paved or gravel surface trails only)

1. Consider naming this trail or color coding (grey) to blaze as an access trail to the parking lot.
2. Formalize as a primary trailhead with a kiosk at the parking lot trail entrance (see “Signage” above for details).
3. Install wayfinding signs and trail blazes (see “Signage” above for details).
4. Place interpretive signs at key locations along the trail (see Interpretive #3 and #4 in “Signage” above for details).
5. Widen the trail around the interpretive signs to allow for small gathering spaces.
6. Install a bench along the trail for resting. (See the *Master Plan* map for location and “Seating” above for details).
7. Evaluate existing bridge for structural stability and install safety structures such as railing and bumpers. Do not open this trail until the bridge is deemed safe for use (see “Stream Crossings” above for details).

### Connector Trail

Parking Lot Access Trail to Blue Loop Trail

**Existing Trail:** Yes

**Surface:** Earthen-compacted soil

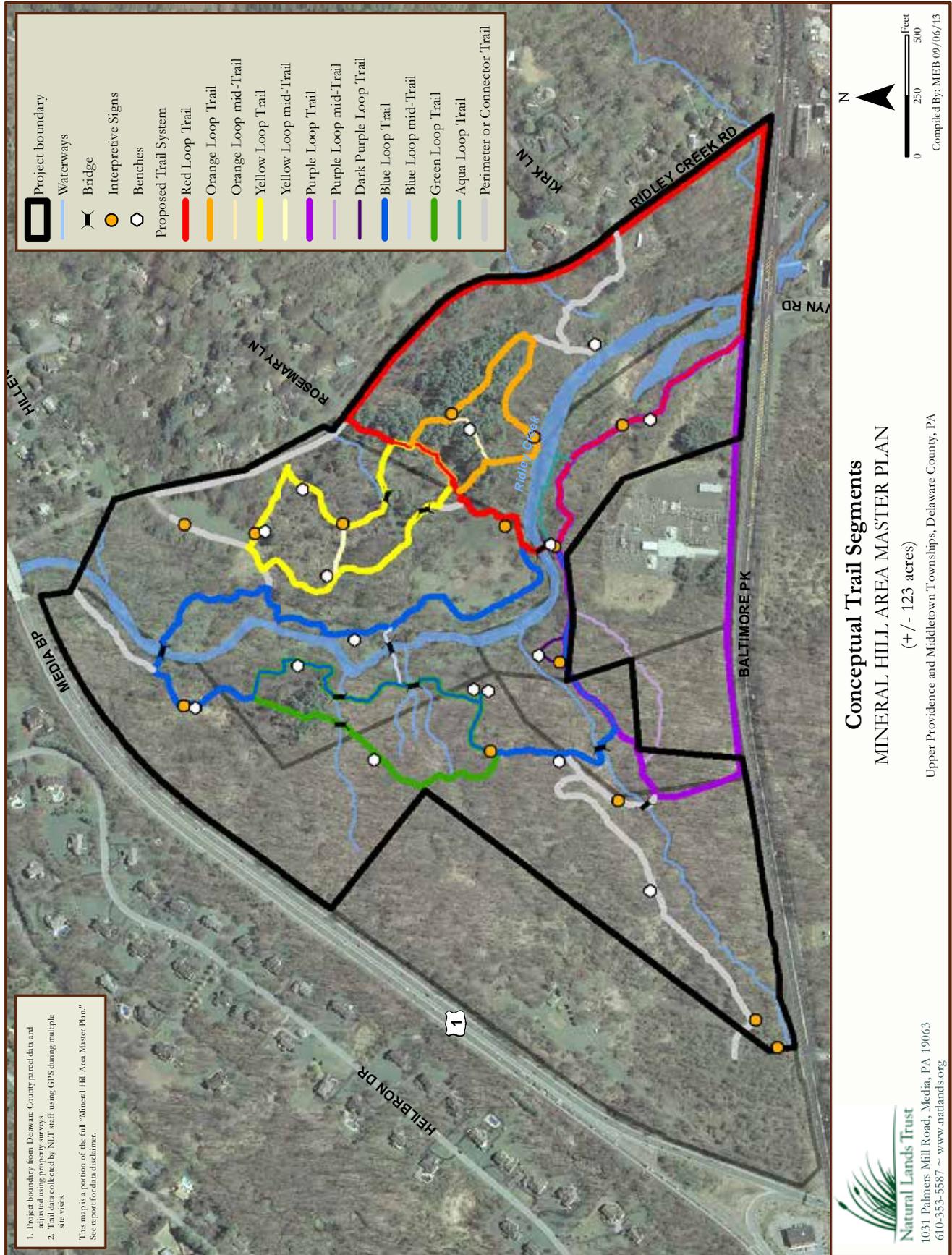
**Total Length (approx.):** 0.02 miles; 122 feet

**Length on Mineral Hill County Park:** same as Total Length

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (light grey) to blaze as a connector trail.
2. Install wayfinding signs and trail blazes (see “Signage” above for details).
3. Install a bench along the trail near the intersection with the Blue Loop Trail for resting. (See the



Master Plan map for location and “Seating” above for details).

### Purple Loop Trail

**Existing Trail:** Partial

**Surface:** Pervious paving such as compacted gravel, pervious pavers, etc.

**Total Length (approx.):** 0.9 miles; 4,737 feet

**Length on Mineral Hill County Park:** 0.2 miles; 1,080 feet

**Width:** 5–6 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash), jogging, bicycling (on paved or gravel surface trails only)

1. Consider naming this trail or color coding (currently purple) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details). A section of this trail overlaps with the Blue Loop Trail; this section should be blazed with both colors and noted on the wayfinding signs
3. Extend the existing trail to create a loop trail heading south to connect to the proposed perimeter trail along Baltimore Pike.

### Purple Loop mid-Trail

**Existing Trail:** Yes

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 0.16 miles; 849 feet

**Length on Mineral Hill County Park:** 0.01 miles; 78 feet

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (currently light purple) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details).
3. Develop trail access agreements with Elwyn, Inc. and PECO for access across their properties.

### Blue Loop Trail

**Existing Trail:** Partial

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 1.17 miles; 6,170 feet

**Length on Mineral Hill County Park:** 0.35 miles; 1,869 feet

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (currently blue) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details). Sections of this trail overlap with the Purple Loop Trail and with the Green Loop Trail; these sections should be blazed with both colors and noted on the wayfinding signs.
3. Extend the existing trail to create a loop trail heading north connecting to Louis Scott Park and to proposed Rose Tree Road access.
4. Place interpretive signs at key locations along the trail (see Interpretive #1 and #2 in “Signage” above for details).
5. Widen the trail around the interpretive signs to allow for small gathering spaces.
6. Install one (1) bench along the trail for resting (see the Master Plan map for location and “Seating” above for details).
7. Formalize the Lookout/Observation Area with two (2) benches to allow viewing of the scenery (see “Lookout/Observation Area” above for details).
8. Create a stream crossing to connect the existing trail over the southern-most tributary. (see “Stream Crossings” above for details).
9. Install a bridge over Ridley Creek to connect Mineral Hill County Park to Louis Scott Park at the north end of the Blue Loop Trail.

### Green Loop Trail

**Existing Trail:** No

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 0.55 miles; 2,910 feet

**Length on Mineral Hill County Park:** 0.24 miles; 1,264 feet

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (currently green) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details). A section of this trail overlaps with the Blue Loop Trail; this section should be blazed with both colors and noted on the wayfinding signs.
3. Create a loop trail beginning at the terminus of the existing trail (also part of the Blue Loop Trail) to create a loop trail heading north connecting through Louis Scott Park on the west side of Ridley Creek.
4. Install one bench along the trail for resting (see the *Master Plan* map for location and “Seating” above for details).

### Connector Trail

Blue Loop Trail to potential Rose Tree Road Access

**Existing Trail:** No

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 0.09 miles; 492 feet

**Length on Mineral Hill County Park:** same as Total Length

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (light grey) to blaze as a connector trail.
2. Install wayfinding signs and trail blazes (see “Signage” above for details).

3. Create an access trail beginning at the northernmost point of the Blue Loop Trail to connect to Rose Tree Road.

### Trail Surface Length

Within the Mineral Hill County Park, estimates for the length per surface type are included below for the total trails, existing trails, new trails to be constructed, and existing trails to be converted to a new surface type. The approximate total length of trails in Mineral Hill County Park is 6,074 feet (1.15 miles).

#### Earthen (approximate length)

Total Trails	3,083 linear feet
Existing Trails	827 linear feet
New Trails	2,256 linear feet

#### Pervious Paved—not ADA (approximate length)

Total Trails	2,991 linear feet
Existing Trails	1,057 linear feet
New Trails	645 linear feet
Earthen to be converted	1,289 linear feet

### Trail Width Recommendations

Earthen trails	3–4 feet wide
Pervious paved trails	5–6 feet wide
Boardwalk trails	3–4 feet wide

TRAIL SURFACE TYPE	APPROX COST PER SQ FT
Earthen surface	\$1.15/sq ft
Granular (non-ADA compliant)	\$1.50/sq ft
Cinder (ADA compliant)	\$1.75/sq ft
Macadam (ADA Compliant)	\$3.50/sq ft
Permeable Aggregate Paving (ADA Compliant)	\$8.00/sq ft
Boardwalk	\$28.50/sq ft

### **Approximate Trail Surface Cost (square foot)**

The following cost estimates are derived using Chester County's *Trail and Path Planning: A Guide for Municipalities* and from other expert estimates. These estimates were derived by others in 2011, 2005, and 2002 and should only be used to evaluate the relative range of costs associated with trail and path construction for differing trail surface types. They may not accurately represent the costs of trail construction within the Mineral Hill Area Parks.

## **PARK USERS**

### **Park Hours**

Instituting hours that the park is open is a good practice for safety at the park. It is recommended that the park be open from sunrise to sunset. Since sunrise and sunset are associated with specific times each day, it is easier to enforce this rule, as opposed to dawn to dusk.

### **Appropriate Uses**

Mineral Hill County Park's trails will offer opportunities for birding, hiking, dog walking (on-leash), jogging, and bicycling (on paved or gravel surface trails only), based upon the trail surface and habitat areas they traverse. In addition, a pavilion will be located near the parking lot to allow for picnicking and the park will allow overnight camping by permit at the site of the previous Boy Scout camp.

### **Levels of Visitation**

#### **Individual Use**

Given the importance of the desired serene visitor experience, regular daily use should be maintained at a level that ensures infrequent encounters with other visitors. To ensure this type of experience on the park's proposed 1.15 miles (6,074 feet) of trails, the maximum desired visitation is about 10 visitors/small groups arriving by car at any one time. With the development under construction adjoining the park, additional users may enter the property from their

adjacent residences so their visits would be in addition to those arriving by car. Current individual use is well below this recommended level, leaving room to increase visitation without degrading the experience.

#### **Group Use**

Occasional use by groups such as trail and birding clubs, schools and colleges, scouting groups, and other community organizations by a permit system is an effective way to increase use of the park without degrading the experience for other visitors or over-stressing staff resources. Additionally, overnight camping for small groups at the site of the previous Boy Scout camp could be provided through a permit system. For groups that do require coordination and/or a guide, Friends of Mineral Hill Area Parks volunteers could be a valuable resource.

Increasing group use should be a priority of future outreach. Focusing on groups that are likely to use the park on weekdays would be appropriate since individual use is likely to be lowest during the week. It is unlikely that demand would be such that multiple groups would be active on the park at the same time. However, that situation should be avoided if possible to ensure a positive experience for group members and other visitors. Permitting group use of the park is a positive way to involve the community, allow them to connect to nature, and has the potential to create a stronger volunteer corps that cares about the park.

### **Programming and Partners**

Feedback from Steering Committee and public meetings indicates that there are opportunities to expand and strengthen existing partnerships and to forge new ones. Formal and informal partnerships may include schools and colleges, scientists and researchers, local governments, private citizens, birding groups and nature clubs, hiking and running clubs, and other organizations related to the Vision for the park. These groups could be a source of potential volunteers; assist with research; utilize the park for their own education programs; lead organized hikes focused on birds, woody and herbaceous plants, minerals, etc.; and provide additional ideas for other types of park-related programming. All of these groups

could also benefit from communication through email alerts, social media, and other electronic means. However, all partnerships should be evaluated carefully to ensure that they do not yield too much visitation or overwhelm staff and volunteer resources.

## Volunteers

Natural Lands Trust has developed methods to involve trained and invested volunteers. Similar volunteer opportunities could be implemented at the park for engaging the community and the Friends group. The two effective methods of engaging volunteers are:

### Work Parties

Work parties accommodate groups, families, and individuals interested in a day of service. Designed to both educate and engage volunteers, work parties are an opportunity for all age groups to plant trees, control invasive plants, count birds and butterflies, and learn more about the Mineral Hill Area Parks system. Work parties should be considered an important part of the programming.

### Natural Lands Trust's Force of Nature<sup>SM</sup>

#### Volunteer Training Program

Natural Lands Trust has developed a volunteer program called Force of Nature<sup>SM</sup>. The volunteers have participated in an in-depth training, preparing them to assist with stewardship and visitor outreach as either a Trail Ambassador or Team Leader. Trail Ambassadors walk the trails of preserves, greeting visitors and helping with preserve care. Team Leaders lead volunteer groups or help with ongoing volunteer projects in our offices and on our preserves.

### Friends of Mineral Hill Area Parks

The Friends of Mineral Hill Area Parks system can take the role that Natural Lands Trust's Force of Nature<sup>SM</sup> volunteers do. Both the Trail Ambassador and Team Leader roles have the potential to enhance the Mineral Hill Area Parks system stewardship and engage more people to feel a vested interest in the

vitality of the parks. The Trail Ambassadors and Team Leaders should be a part of the Friends group and coordinate with the park owners and lease holders. The Friends group is not intended to work as an entity on its own, but rather serve as a volunteer extension of the municipal parks and recreation committees and staff, carrying out the tasks as specified by the park owners and lease holders.

## MANAGEMENT, MONITORING, AND MAINTENANCE

Monitoring the effects of public use on the natural resources and wildlife habitat of the park is an ongoing necessity. Signage and amenities associated with public use will also need to be maintained to ensure that they remain attractive and to optimize longevity. Development of a *Stewardship Plan* is the first step toward addressing the needs of the natural resources and scheduling the associated tasks. Therefore, it is recommended that this plan is created to guide the staff and volunteers at the park. It will be necessary to determine and budget for appropriate staff time and financial resources for these maintenance and monitoring functions. Due to its budget constraints, the park will need to rely heavily on trained volunteers for monitoring, providing an opportunity to increase the frequency and reduce the costs of this activity.

## Trails

Monitoring and maintenance associated with the trails primarily includes assessing changes in the vegetation, noting soil erosion, and looking for the formation of social trails (trails formed by users' desired paths). Vegetation may be affected by foot traffic, which can damage roots, introduce invasive seeds, and widen trails allowing sunlight to penetrate areas previously shaded. Assessment of the vegetation may lead to a determination that a trail should be re-routed to avoid sensitive roots or that invasive plant removal is necessary.

Soil erosion due to continual use is a common problem on trails. As trails develop ruts, natural surface drainage patterns are interrupted and these ruts then intercept more surface water, further

accelerating soil erosion. Not only does the trail itself endure irreversible changes, the soil transported off of the trails can cause problems elsewhere as it may smother vegetation, provide a place for invasive plants to thrive, or be washed into waterways where it can change the drainage patterns of the streams and harm aquatic organisms and vegetation. Once erosion begins, efforts to correct the cause need to be undertaken quickly. Corrective action may include strategically placed dips and rises, water bars, swales to redirect water flow, culverts, or relocation of the trail to a less erosion-prone location.

Social trails, or desire paths, worn by trail users are often poorly located since topography, drainage, and habitat were not considered when they were created. Therefore, these trails tend to erode more quickly and cause degradation to the surrounding vegetation and habitat. If social trails develop, it is important not only to close the trails but also to understand why they occurred. Typically they develop because trail users are interested in a feature on the site, or they are simply cutting off a corner. Re-routing the trail may be necessary to prevent re-occurrence.

## Structures and Infrastructure

Monitoring and maintenance of signage, seating, parking, and other visitor amenities are important for a positive visitor experience. Signs should be inspected regularly and cleaned or replaced as necessary. Some signs become popular perching spots for birds, necessitating frequent cleaning, particularly in the spring. Volunteer Trail Ambassadors can be assigned the task of monitoring and cleaning signs as part of their regular visits. They can also be encouraged to pick up trash in parking areas and promptly report problems with other amenities.

## Dog Management

The current dog management policies that are in place at all of Natural Lands Trust's preserves (and outlined in a "Nature's Best Friend" brochure) are simple and relatively effective. Based on Leave No Trace principles, the existing policies rely on educating dog owners about the need to keep their pet leashed at all times and to pack out their waste.

These same techniques should be considered for use at the park.

Signage, brochures, dog waste stations, and loaner leashes can assist in informing park users about appropriate dog management. Signage should include Leave No Trace messages (see [www.Int.org](http://www.Int.org) for more information). Consider including a dog-focused "Nature's Best Friend" brochure to be made available in the kiosk, which should describe relevant regulations and explains the reasoning behind them in clear and concise language. Dog waste stations located at the parking lots should include compostable bags and a sign indicating they can be discarded in the composting toilets (or side dog waste chute if available). Should problems with off-leash dogs increase, additional signage can be installed away from trailheads to remind visitors of the guidelines and possibly provide a place to hang loaner leashes that are donated to the park.

## Deer Management Program

Deer overabundance is a problem that affects most natural areas in our region, including the Mineral Hill Area Parks system. The recommended deer density to allow for adequate tree regeneration is 20 deer per forested square mile (one deer per 32 acres). However, to perpetuate a healthy native forest with a diversity of native shrubs and wildflowers, the recommended deer density is 10 deer per forested square mile (one deer per 64 acres).

The habitat value of forests is greatest where there is an extensive unbroken canopy of mature trees with a diversity of native understory species that includes tree, shrubs, and herbaceous plants. Deer impact forest health by consuming native plant seeds (particularly acorns) and browsing on seedlings, shrubs, and herbaceous plants. As deer population density increases, this activity can adversely affect populations of other wildlife species, especially songbirds, through a decrease in plant species and structural diversity within the forest.

Deer overabundance is also detrimental to the deer and to human health. Because there is a lack of a good food source, the deer are not able to maintain a nutritional diet. Deer are also a host species for black-legged ticks, the primary vector of Lyme disease.

Additionally, deer nocturnal movement frequently results in collisions with vehicles.

A deer management program within the park would be beneficial to the overall health of the park and surrounding community. Natural Lands Trust has maintained a deer management program within its system of 42 nature preserves. The program is designed to help reduce deer populations on the preserves to a sustainable level. Enrolled hunters are required to pass a proficiency test to ensure that they are familiar and competent with their weapons. Strict safety standards are enforced and all hunters must wear a bright Natural Lands Trust armband that allows preserve managers and others to tell from a distance if a hunter has permission to hunt on the preserve. The program is having a measurable effect on the local deer population. This program does not appear to conflict with the public uses taking place at the preserves, and is consistent with Natural Lands Trust's natural resource stewardship mission.

Hiring professional sharpshooters and bow-hunters to assist with the deer management is another option. These professionals are typically hired to come at night when the parks are closed so that interaction with park users obeying the open hours of the park will not occur. In addition, the venison can be supplied to local food banks.

Implementation of a deer management program at the park should be considered. It is important to include advance notice of deer management with dates and times on all of the kiosks and mini-kiosks at the Mineral Hill Area Parks system. Monitoring the effects of deer browsing and educating the public about the effects of overabundant deer will be critical to the success of any future deer management program. One option to visually demonstrate and monitor the impact of deer browsing is the installation of small (10 meters square) exclosures. The growth of vegetation within these exclosures is often dramatically different than in surrounding areas with unrestricted deer access. Ideally, exclosures (with accompanying interpretive signage to educate the public about the importance of controlling the deer population to maintain forest health) should be erected in forested areas on relatively flat ground and near public trails. The setup and monitoring of

deer exclosures is a valuable educational exercise that could be undertaken by local schools and colleges.

## IMPLEMENTATION PRIORITIES

Implementation of the *Mineral Hill Area Parks Master Plan* is a multiple year process that institutes gradual changes. This process will allow the landowners and leaseholders to reassess and refine strategies as well as acquire and allocate the necessary financial and staffing resources. The higher priority items, including development of the trail system, building the southern-most bridge over Ridley Creek (between Memorial Park and Louis Scott Park), increasing volunteerism, establishing partner relationships and programming, and instituting signage are included as the first priorities on the implementation schedule.

The implementation table includes columns that list the Priority classification and the Actions with Sequence/Phase for their completion. Within each Priority classification, actions are identified—sorted by category (i.e., signage, trail, etc)—and assigned a sequence/phase number to further assist in prioritizing each action within the Priority classification. Please note that some categories contain multiple action with the same sequence/phase and that some categories skip some sequence/phase numbers.

Maintaining the serene setting of Memorial Park for passive and semi-active outdoor recreation is the desire of both the community and the Steering Committee members. Therefore, trails and a picnic area will be provided for passive recreation, and access to Ridley Creek for fishing will be maintained. The park melds well with the adjoining, Mineral Hill County Park and Louis Scott Park, which allow for other passive and semi-active recreational uses.

The implementation of the parks trails and amenities are proposed to occur over an extended time frame to allow for fund-raising, engineering, permitting, and staffing needs related to the proposed *Master Plan*.

MINERAL HILL COUNTY PARK IMPLEMENTATION PRIORITIES AND PHASES		
PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
1	<p><b>Parking and Access</b></p> <ol style="list-style-type: none"> <li>Continue to work with the Skycrest developer and Elwyn, Inc. to create the parking lot along the Skycrest entry drive</li> </ol> <p><b>Signage</b></p> <ol style="list-style-type: none"> <li>Work with Upper Providence and Middletown Townships to develop a cohesive signage design and dog waste station design plan</li> <li>Install trail blazes</li> <li>Install the Vehicular sign to identify the park entrance once the parking lot along the Skycrest development entry drive is created by the builder</li> <li>Include information about additional parking locations with the Vehicular sign</li> <li>Install Kiosk at trail entrance near parking lot on Mineral Hill County Park property</li> </ol> <p><b>Stream Crossings</b></p> <ol style="list-style-type: none"> <li>Evaluate historical stream structure for structural stability and install safety structures such as rails and bumpers</li> <li>Work with Upper Providence and Middletown Townships to identify funding, design, engineer, acquire permits, and construct southern-most bridge over Ridley Creek—connecting Memorial Park to Louis Scott Park</li> <li>Install stream crossing over southern tributary along the Blue Loop Trail</li> </ol> <p><b>Restrooms and Pavilion</b></p> <ol style="list-style-type: none"> <li>Work with Upper Providence and Middletown Townships to develop a cohesive design plan for structures, including restrooms and pavilions</li> </ol> <p><b>Attractive Nuisance Structures</b></p> <ol style="list-style-type: none"> <li>Demolish structures at the former Boy Scout camp including the bunkhouse, restroom structure, and tent platforms. Remove the debris surrounding the structures</li> <li>Assess the culverts under the former gravel road for safety and stability. Install safety grates over ends to allow for water to pass through but obstruct people and animals from entering the culverts</li> </ol> <p><b>Trails</b></p> <ol style="list-style-type: none"> <li>Develop trail access agreements with PECO and Elwyn, Inc. for use of the Purple Loop mid-Trail</li> <li>Re-surface the Parking Lot Access Trail and convert the existing portion of the Purple Loop Trail to a pervious paved surface (i.e., compacted gravel, pervious pavers, etc.). Approx. 2,574 ft long x 5 ft wide=12,870 sq ft in Mineral Hill County Park</li> <li>Close the three trail segments in Mineral Hill County Park as indicated on the trail closure map</li> <li>Work with Upper Providence Township and the Friends of Mineral Hill Area Parks volunteer corps to create the Green Loop Trail. The creation of the Green Loop Trail extends the Blue Loop Trail along their shared segment. End the Blue Loop Trail at the point where it is routed away from the Green Loop Trail until such a time when the access under Route 1 Media Bypass is established. Approx. 2,938 ft long x 3 ft wide=8,814 sq ft in Mineral Hill County Park and Louis Scott Park</li> </ol>	<p>No cost</p> <p>\$40,000</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>\$7,500</p> <p>Staff time</p> <p>*</p> <p>\$5000</p> <p>\$19,500 [granular] or \$103,000 [permeable aggregate paving]</p> <p>**Staff or volunteer time</p> <p>\$10,200 [earthen]</p> <p>**Staff or volunteer time</p>

continued

MINERAL HILL COUNTY PARK IMPLEMENTATION PRIORITIES AND PHASES		
PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
1	<p><b>Volunteers</b></p> <ol style="list-style-type: none"> <li>Identify specific tasks for volunteers to assist with. These may include trail creation, tree plantings, monitoring, maintenance, visitor outreach and other items identified in the <i>Master Plan</i></li> <li>Work with Upper Providence and Middletown Townships to recruit members for the Friends of Mineral Hill Area Parks volunteer group</li> <li>Establish a training program for volunteers such as Natural Lands Trust's Force of Nature<sup>SM</sup> program</li> </ol> <p><b>Management, Monitoring, and Maintenance</b></p> <ol style="list-style-type: none"> <li>Develop a stewardship management and monitoring plan for the natural resources of the Park</li> <li>Develop a monitoring and maintenance plan to evaluate and repair structures related to safety, structural integrity, and defacing. The plan should include signage, seating, stream and wet area crossing structures, restroom, and pavilion</li> </ol>	<p>Staff time</p> <p>Staff time</p> <p>\$33,000/yr (incl. staff &amp; direct costs)</p> <p>\$15,000</p> <p>\$10,000</p> <p><b>\$132,700–\$216,200</b></p>
<b>PRIORITY 1: TOTAL COSTS (as able to be estimated)</b>		
2	<p><b>Signage</b></p> <ol style="list-style-type: none"> <li>Install wayfinding signs</li> <li>Install boundary signs</li> <li>Install interpretive signs</li> </ol> <p><b>Dog Waste Station</b></p> <ol style="list-style-type: none"> <li>Install a dog waste station at trail entrance near parking lot on Mineral Hill County Park property</li> </ol> <p><b>Pavilion</b></p> <ol style="list-style-type: none"> <li>Determine the feasibility of moving the existing pavilion that is located on the property corner with Elwyn, Inc. and PECO to the trail entrance near the parking lot. If it is not feasible, demolish pavilion structure as it is an attractive nuisance in its current location</li> </ol> <p><b>Small Gathering Spaces</b></p> <ol style="list-style-type: none"> <li>At the location of interpretive signs, widen the trail to create a small gathering space for visitors and educators to gather and discuss the information presented</li> </ol> <p><b>Trails</b></p> <ol style="list-style-type: none"> <li>Consider naming the trails along with color-coding them</li> </ol>	<p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>Staff time</p> <p>**Staff or volunteer time</p> <p>Staff time</p>

continued

MINERAL HILL COUNTY PARK IMPLEMENTATION PRIORITIES AND PHASES		
PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
2	<p><b>Programming and Partners</b></p> <ol style="list-style-type: none"> <li>Promote volunteer opportunities and programs to the local community</li> <li>Contact existing partners to identify programs that they would be willing to conduct</li> </ol> <p><b>Volunteers</b></p> <ol style="list-style-type: none"> <li>Identify and appoint Trail Ambassadors for the parks and arrange for volunteer-led hikes</li> <li>Hold volunteer work parties as needed</li> </ol>	<p>**Staff or volunteer time **Staff or volunteer time</p> <p>**Staff or volunteer time **Staff or volunteer time</p> <p><b>N/A</b></p>
<b>PRIORITY 2: TOTAL COSTS (as able to be estimated)</b>		
3	<p><b>Signage</b></p> <ol style="list-style-type: none"> <li>Install vehicular directional signs</li> </ol> <p><b>Seating</b></p> <ol style="list-style-type: none"> <li>Install benches along trail system that have been designed with Upper Providence and Middletown Townships</li> </ol> <p><b>Stream Crossings</b></p> <ol style="list-style-type: none"> <li>Work with Upper Providence and Middletown Townships to identify funding, design, engineer, acquire permits, and construct northern-most bridge over Ridley Creek connecting Mineral Hill County Park to Louis Scott Park</li> </ol> <p><b>Restrooms</b></p> <ol style="list-style-type: none"> <li>Install a composting toilet facility at trail entrance near parking lot on Mineral Hill County Park property. Research ability to include a chute for disposing of compostable dog waste bags</li> </ol> <p><b>Lookout/Observation Area</b></p> <ol style="list-style-type: none"> <li>When installing the two benches situate them to allow for the lookout/observation area over Ridley Creek</li> </ol> <p><b>Trails</b></p> <ol style="list-style-type: none"> <li>Work with Upper Providence Township to complete the Blue Loop Trail to the west of Ridley Creek from the Green Loop Trail to the property boundary once the northern-most bridge is built over Ridley Creek or an access is created under the Route 1 Media Bypass. Approx. 593 ft long x 3 ft wide=1,779 sq ft in Mineral Hill County Park and Louis Scott Park on the west side of Ridley Creek</li> <li>Work with Middletown Township, Upper Providence Township, Elwyn, Inc., and PECO to develop the proposed perimeter trail from the Memorial Park parking lot to the Louis Scott Park primary parking lot. The trail should be constructed with pervious paved surface (i.e., compacted gravel, pervious pavers, etc.) and to allow for ADA accessibility, if possible. Approx. 3,886 ft long x 5 ft wide=19,430 sq ft in Memorial Park and Louis Scott Park</li> </ol>	<p>*</p> <p>*</p> <p>Staff time</p> <p>*</p> <p>No additional cost</p> <p>\$2100 [earthen] **Staff or volunteer time</p> <p>\$34,000 [cinder] or \$156,000 [permeable aggregate paving]</p>

continued

<b>MINERAL HILL COUNTY PARK IMPLEMENTATION PRIORITIES AND PHASES</b>		
<b>PRIORITY</b>	<b>ACTIONS WITH SEQUENCE/PHASE</b>	<b>ESTIMATED COST</b>
3	<p>3. Extend the Purple loop Trail to create a loop trail from the intersection with the Parking Lot Access Trail heading south and continue to create proposed perimeter trail and connect to the Red Loop Trail. The Purple Loop Trail should be constructed with pervious paved surface (i.e., compacted gravel, pervious pavers, etc.) and to allow for ADA accessibility, if possible. Approx. 2,172 ft long x 5 ft wide=10,860 sq ft in Mineral Hill County Park, Elwyn Property, PECO property, and Memorial Park</p> <p><b>Programming and Partners</b></p> <ol style="list-style-type: none"> <li>1. Work with Upper Providence and Middletown Townships to research and reach out to potential partners including but not limited to schools/colleges; scientists/researchers; community members; birding groups/nature clubs; hiking/running clubs</li> <li>2. Develop a permit system for allowing programmed overnight camping at the Park</li> </ol> <p><b>Management, Monitoring, and Maintenance</b></p> <ol style="list-style-type: none"> <li>1. Develop, monitor, and enforce dog management policy (i.e., keep dogs on leash; clean up waste)</li> <li>1. Develop a deer management program related to deer overabundance</li> </ol>	<p>\$19,000 [cinder] or \$87,000 [permeable aggregate paving]</p> <p>Staff time \$3,000</p> <p>**Staff or volunteer time \$3,000</p> <p><b>\$61,100–251,100</b></p>
4	<p><b>Parking and Access</b></p> <ol style="list-style-type: none"> <li>2. Determine feasibility of creating an access point to the Heilbron Homeowners' Association land extending the trail system north under Route 1 Media Bypass</li> </ol> <p><b>Stream Crossings</b></p> <ol style="list-style-type: none"> <li>1. Work with Upper Providence and Middletown Townships to identify funding, design, engineer, acquire permits, and construct center bridge over Ridley Creek—connecting the eastern and western portions of Louis Scott Park</li> </ol> <p><b>Trails</b></p> <ol style="list-style-type: none"> <li>3. Create the Connector Trail from the northern point of the Blue Loop Trail when access is created under the Route 1 Media Bypass. Approx. 492 ft long x 3 ft wide=1,476 sq ft in Mineral Hill County Park</li> </ol>	<p>\$5,000</p> <p>Staff time</p> <p>\$1,700 [earthen] **Staff or volunteer time</p> <p><b>\$6,700</b></p>
	<p><b>PRIORITY 4: TOTAL COSTS (as able to be estimated)</b></p> <p><b>Parking and Access</b></p> <ol style="list-style-type: none"> <li>1. If the opportunity arises to connect to a trail on the other side of Baltimore Pike, determine the feasibility of creating an access point under Baltimore Pike through the historic pig tunnel</li> </ol> <p><b>FUTURE: TOTAL COSTS (as able to be estimated)</b></p>	<p><b>\$5,000</b></p> <p><b>\$5,000</b></p>
	<p><b>TOTAL COSTS (as able to be estimated)</b></p>	<p><b>\$205,000–\$479,000</b></p>

\*Estimated cost, cannot be determined until design is finalized; \*\*Costs can vary significantly if completed by staff or by volunteers

# VIII RECOMMENDATIONS: MEMORIAL PARK

## PROPOSED STRUCTURES AND INFRASTRUCTURE

### Parking and Access

Memorial Park is accessed by a parking lot off of Baltimore Pike, just west of Ridley Creek. The parking lot does not have lined parking spaces or bumpers and, therefore, is difficult for users to determine where to park vehicles. Two short access drives are located on either side of the park identification sign, causing confusion for park users as to which drive to use for entry and exit. Due to these design elements, it is recommended that the parking lot be re-designed to allow for fifteen (15) parking spaces with bumpers. Two (2) of these spaces should be designed to meet ADA standards. In addition, the access to the parking lot should include only one point of ingress/egress. Closing one access drive will allow the remaining portion of the drive to be re-purposed for the wood chip pile to be used by Middletown Township residents. Given that the park is intended to provide a serene natural setting with access to trails and the creek for fishing, a parking lot with 15 spaces would be appropriate.

Please see the Memorial Park Master Plan map as an example of how the parking lot may be designed to minimize the parking surface while allowing for the appropriate number of parking spaces and the recommendations for the access drive.

The current access by trails through Mineral Hill County Park is proposed to remain. Additional access to the park is proposed by a bridge to be built over Ridley Creek from Louis Scott Park.

### Signage

Although the three Mineral Hill Area Parks have separate owners/managers, a cohesive signage system would assist in creating the look and feel of an

integrated Mineral Hill Area Parks system. As the parks work together to offer unique experiences and uses for their community, it is recommended that the respective owners develop the signage system together to unify the parks. Understanding that each owner may have a signage system implemented throughout their individual municipal park system, the Mineral Hill Area Parks signage system may be able to incorporate elements of the three municipal parks signage systems to assist in consistency.

When the existing signs deteriorate or when funding sources are identified, they should be replaced to match the unified signage system.

The following types of signs and locations are recommended at Memorial Park:

- a) **Vehicular**—A sign identifying the park is to be located along Baltimore Pike near the entrance to the parking lot.
- b) **Vehicular Directional**—Three (3) directional signs should be located at intersections to direct park users to the parking lots for the three Mineral Hill Area Parks:
  - Route 1 by-pass and Baltimore Pike
  - Baltimore Pike and North Ridley Creek Road
  - Rose Tree Road and North Ridley Creek Road
- c) **Kiosk**—A sign located at the parking area greets visitors, provides them with basic information about the park and parks system, including a park system map, and states the park rules using Leave No Trace type language (see “Dog Waste Stations” below). Additionally, the kiosk may contain park brochures with maps, checklists for plants and wildlife, brochures for self-guided walks, and seasonal information, such as hunting notices. If serving as a trailhead, the kiosk should include information about the trail difficulty level.

# Mineral Hill Area Parks Master Site Plan ~ ±123 acres

July 1, 2014



**VEGETATION**

- deciduous forest
- conifer plantation
- meadow
- wet meadow/marsh
- lawn

**TRAILS**

- existing
- proposed

**AMENITIES / FEATURES**

- existing
- proposed

**SIGNAGE**

- kiosk
- mini kiosk
- wayfinding
- interpretive sign
- vehicular sign

**METES AND BOUNDS**

ID	Length	Direction	Radius	Distn
1	732.28'	S 88°02'E		100.00'
2	426.00'	S 88°02'E		100.00'
3	426.00'	N 02°00'E		100.00'
4	1306.00'	N 02°00'E		100.00'
5	1306.00'	N 02°00'E		100.00'
6	3000.00'	N 02°00'E		100.00'
7	3000.00'	N 02°00'E		100.00'
8	1500.00'	N 02°00'E		100.00'
9	1500.00'	N 02°00'E		100.00'
10	1500.00'	N 02°00'E		100.00'
11	1500.00'	N 02°00'E		100.00'
12	1500.00'	N 02°00'E		100.00'
13	1500.00'	N 02°00'E		100.00'
14	1500.00'	N 02°00'E		100.00'
15	1500.00'	N 02°00'E		100.00'
16	1500.00'	N 02°00'E		100.00'
17	1500.00'	N 02°00'E		100.00'
18	1500.00'	N 02°00'E		100.00'
19	1500.00'	N 02°00'E		100.00'
20	1500.00'	N 02°00'E		100.00'
21	1500.00'	N 02°00'E		100.00'
22	1500.00'	N 02°00'E		100.00'
23	1500.00'	N 02°00'E		100.00'
24	1500.00'	N 02°00'E		100.00'
25	1500.00'	N 02°00'E		100.00'
26	1500.00'	N 02°00'E		100.00'
27	1500.00'	N 02°00'E		100.00'
28	1500.00'	N 02°00'E		100.00'
29	1500.00'	N 02°00'E		100.00'
30	1500.00'	N 02°00'E		100.00'
31	1500.00'	N 02°00'E		100.00'
32	1500.00'	N 02°00'E		100.00'
33	1500.00'	N 02°00'E		100.00'
34	1500.00'	N 02°00'E		100.00'
35	1500.00'	N 02°00'E		100.00'
36	1500.00'	N 02°00'E		100.00'
37	1500.00'	N 02°00'E		100.00'
38	1500.00'	N 02°00'E		100.00'
39	1500.00'	N 02°00'E		100.00'
40	1500.00'	N 02°00'E		100.00'
41	1500.00'	N 02°00'E		100.00'
42	1500.00'	N 02°00'E		100.00'
43	1500.00'	N 02°00'E		100.00'
44	1500.00'	N 02°00'E		100.00'
45	1500.00'	N 02°00'E		100.00'
46	1500.00'	N 02°00'E		100.00'
47	1500.00'	N 02°00'E		100.00'
48	1500.00'	N 02°00'E		100.00'
49	1500.00'	N 02°00'E		100.00'
50	1500.00'	N 02°00'E		100.00'
51	1500.00'	N 02°00'E		100.00'
52	1500.00'	N 02°00'E		100.00'
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54	1500.00'	N 02°00'E		100.00'
55	1500.00'	N 02°00'E		100.00'
56	1500.00'	N 02°00'E		100.00'
57	1500.00'	N 02°00'E		100.00'
58	1500.00'	N 02°00'E		100.00'
59	1500.00'	N 02°00'E		100.00'
60	1500.00'	N 02°00'E		100.00'

\*These coordinates were derived from a survey conducted on the property and are not intended to be used for any other purpose. The survey was conducted by a licensed surveyor and is subject to the rules and regulations of the Delaware State Board of Surveyors.



- d) **Additional Parking Locations**—A sign located alongside or as part of the kiosk that indicates the locations of other parking lots related to the Mineral Hill Area Parks system.
- e) **Wayfinding**—Approximately three (3) wayfinding signs should be located at major and minor trail intersections. The signage should primarily consist of directional arrows, an indication of trail length and difficulty, and the fastest route back to the parking area. Unique identification numbers should be included to assist local rescue personnel in locating park users.
- f) **Trail Blazes**—In between trail intersections trails should be marked with painted blazes on trees or rocks indicating trail color and direction. Though this approach is well known to avid hikers, it is possible that not all visitors will know how to read the blazes.
- g) **Boundary**
  - 1. Regulatory—located intermittently along the park boundary indicating the owner and name of the park, and welcoming people to hike the trails.
  - 2. Diamond—smaller signs located between regulatory signs marking the park boundary.
- h) **Interpretive**—A total of three (3) interpretive signs that contain information about natural and historical features, answering the basic how and why questions. Interpretive opportunities include the following:
  - 1. Birding and Media Wetlands—Provides information about the birds typically seen in wetlands and meadows, includes a bird list brochure, and discusses the importance of the Media Wetlands as a Pennsylvania Natural Heritage Inventory site (identified as interpretive sign 7 on the *Master Plan* map).
  - 2. Water Quality—Describes the importance of maintaining high water quality and steps landowners can take to improve water quality (identified as interpretive sign 8 on the *Master Plan* map).

- 3. Historical Remnants and Geologic Outcrop—Discusses the historical uses of the site including information on the remnant stone pillars and describes the geology of the area—specifically the geologic outcrop seen from the sign (identified as interpretive sign 9 on the *Master Plan* map).

## Seating

Three (3) locations of existing benches have been identified along the park’s proposed trail system. These allow for limited seating, keeping with the feel of the natural setting desired at the park. The locations provide resting areas within differing scenery and in places where rest may be welcome due to the terrain along the trail.

In addition, a pavilion, benches, and picnic tables are currently located around the perimeter of the parking lot. With the proposed re-design of the parking lot, it is suggested that these seating elements are relocated to the area that will be carved out of the existing parking lot. This area is already disturbed and could be developed into a picnic or sitting area by planting grass and a few shrubs (as allowed by PECO, since the area is located under their high-tension lines) along with the relocation of the seating elements.

The benches should be designed in conjunction with those for Mineral Hill County Park and Louis Scott Park in order to maintain the connected feeling among the three parks. Benches made of natural materials (i.e., wood, stone) are appropriate at the parks. The benches should be monitored and as they display significant signs of wear—when their condition declines to a point where they are uncomfortable to use or are a visual detraction—they should be replaced.

Along with benches, other natural material at the parks can be used as natural seating/resting areas interspersed throughout the park. These may include boulders, tree stumps, and logs.

## Stream Crossings

One (1) stream crossing over Ridley Creek connecting to Louis Scott Park is included in the park *Master*

*Plan.* The crossings should use natural materials when possible while providing safe transit for visitors of varying abilities. All stream crossing should also include safety structures such as rails and bumpers. In addition, any bridges wide enough to allow for vehicular access should include secured, removable bollards to prevent unwarranted access over the bridges. Before beginning work on any structure over a waterway, contact the appropriate entities to receive proper permits.

Monitoring and maintenance of the stream crossings for structural integrity and safety is critical. As each crossing is updated or built, a maintenance schedule should be developed and followed.

## Restrooms

Due to the location and lack of water supply and sewer service, a structure containing composting toilets is recommended to be located adjacent to the proposed parking lot. The structure may also contain a location for disposing of dog waste in compostable bags. If in the future, water and sewer service becomes available, other types of restroom facilities may be considered.

## Dog Waste Stations

A dog waste station is recommended, which would supply compostable bags and include signage with Leave No Trace- style language—presenting the park rules in a manner of education: not just the rule but also the why. (Visit the Leave No Trace website at [www.lnt.org](http://www.lnt.org) for more information.)

## Fishing Pier

The existing fishing pier appears to be in good condition and allows access from above Ridley Creek while providing a picnic table for fishing uses. The steps alongside the pier allow direct access to the creek. It is recommended that both accesses for fishing remain. It is necessary to maintain the pier for safety and to monitor the creek access for heavy soil erosion. If future erosion is extensive, it may be appropriate to close the creek access or amend the area to prevent more degradation.

## Attractive Nuisance Structures

During the *Master Plan* site visits to the park, no attractive nuisances were noted. An attractive nuisance is a hazardous area or structure that presents something of interest that may entice some to explore. Though none were noted during site visits, if any attractive nuisances are located, these structures and associated materials should be torn down and removed from the park or properly closed to prohibit access by people and animals.

## Small Gathering Spaces

The proposed width of the trail conveys the natural feel of the park and allows visitors to feel enclosed by nature. However, in the areas where interpretive signs are located, the trail should be widened to allow a small gathering space for visitors and educators to read and discuss the content of the signs without blocking the trail. These spaces should be large enough for three to five people to stand along the trailside.

## Proposed Structures and Infrastructure Americans with Disabilities Act (ADA)

When designing and developing the structures, infrastructure, and trails recommended in the Mineral Hill Area Parks Master Site Plan, refer to the most recent 1990 Americans with Disabilities Act (ADA) compliance guidelines. The current version is the 2010 ADA Standards for Accessible Design. The document can be found at: <http://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm>

Language on the wayfinding signage should include an indication of length, trail surface, and difficulty (easy, moderate, difficult) to assist park users in determining their ability to traverse a particular trail.

## PROPOSED TRAIL SYSTEM

A good trail system must provide visitors with options and interest. Memorial Park provides opportunities for both. With access to the forest, waterways, and wetlands of the park, the 0.65 miles (3,427 feet) of trails allow users to enjoy the sights and sounds

of nature. The proposed trail system can provide different experiences for each visitor.

Trail surface and terrain can also play a role in the use of the trails. The terrain of Memorial Park offers potential for ADA-accessible trails from its parking lot to the proposed bridge crossing over Ridley Creek to Louis Scott Park, along the proposed perimeter trail heading east, and possibly on the boardwalk trail along Ridley Creek. However, the terrain on all other park trails would likely not allow for the handicap accessibility standards to be met.

Monitoring and maintenance of the trails is important to ensure that conditions do not deteriorate, especially as use increases. Monitoring the trails on a regular basis will alert Middletown Township to issues as they begin to arise, instead of waiting until they become major problems that require more work and funding. Maintenance should be consistent and continuous to promote a well-maintained and efficient trail system.

## Surface

The proposed trail system at the park include pervious paved (i.e., compacted gravel, pervious pavers, etc), boardwalk, and earthen surfaces. Most of the trail system at Memorial Park will have a pervious paved surface to 1) better allow for ADA accessibility and 2) assist in preventing further erosion on the steeply graded trail along the bank above Ridley Creek. This steeply graded trail segment has no room for re-alignment due to its location near the property boundary and along the ridge above Ridley Creek. Therefore, it is recommended that the trail is converted to a pervious paved surface incorporating dips and rises to allow for smaller catchment areas for the sheet flow of storm water. The pervious paved trail should be five to six feet wide to provide room for passing, but also allowing a close to nature experience.

The existing loop offering a resting space and scenic view is to remain an earthen surface offering a more natural experience. In addition a boardwalk trail along Ridley Creek is provided to allow for fishing and access to the bank of the creek. This area is prone to flooding and therefore, the boardwalk trail needs to be designed with stabilization features that

allow the boardwalk to rise with the water and not be transported downstream. The earthen and boardwalk trail width should be no more than three to four feet.

The earthen, boardwalk, and a portion of the pervious paved trails provide opportunities for pedestrians to experience nature on steeply graded rugged and creek access trails while the other pervious paved surfaces additionally offer accessible trails for bicyclists, off-road strollers, and potentially wheel chairs.

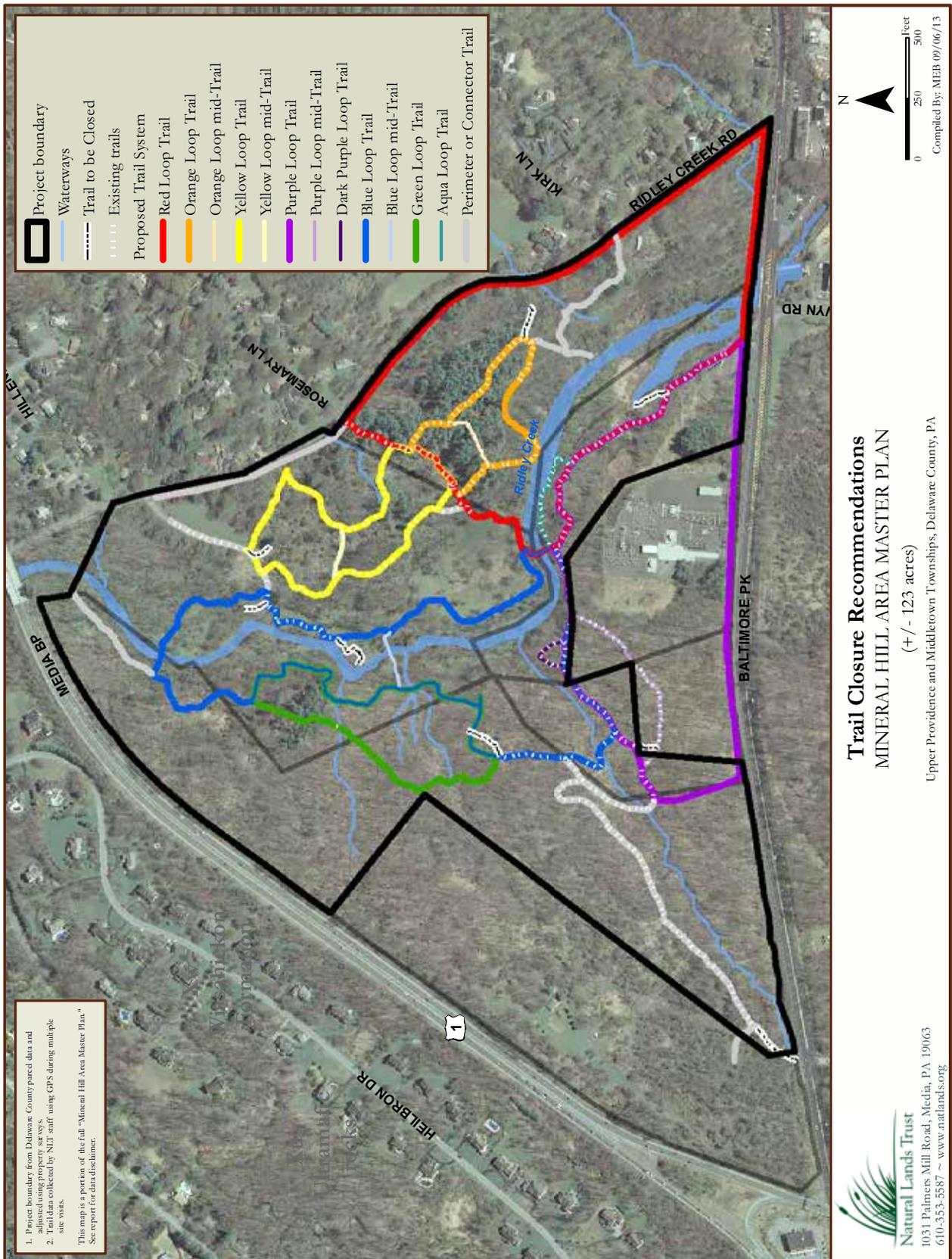
The final alignment and material selection of the trail will require design specifications and engineering. All trails should be designed and built in a sustainable manner that will allow proper stormwater sheeting and avoid erosion along or deterioration of the trail. The material used should be consistent along all pervious paved trails in the natural area.

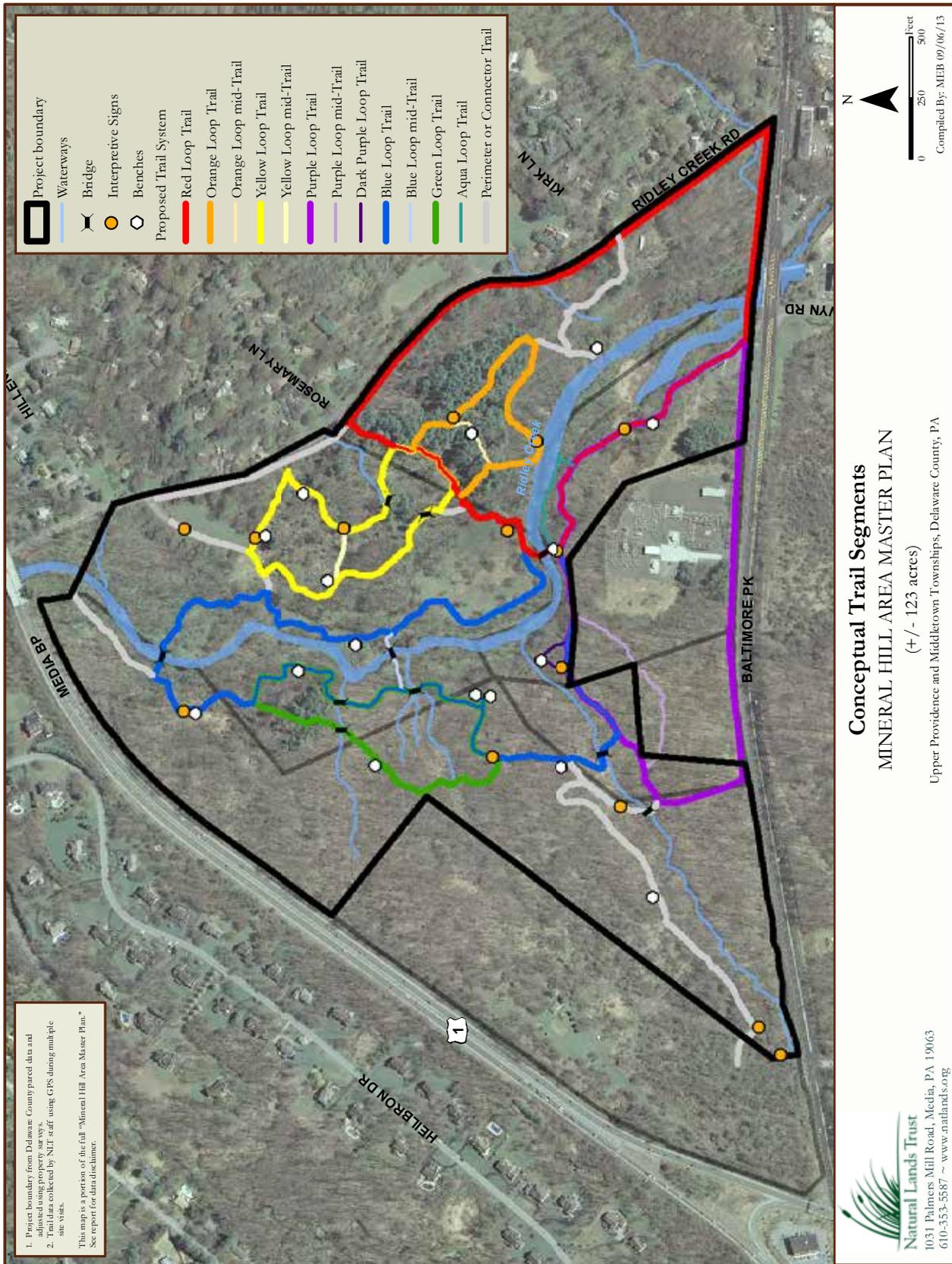
## Trail Closure Recommendations

Memorial Park contains one trail segment recommended for closure (see Trail Closure Recommendations map for locations). This segment intersects the Red and Purple Loop Trails and leads toward the back water area of Ridley Creek. This trail does not connect to any other trail and is in the wetlands—a significant and sensitive ecological habitat.

It is important to properly close trails that are no longer to be used. If a closed trail still looks like a trail, people will continue to use it. The goal in closing a trail is to make it appear that no trail was ever there. This can be done by planting native vegetation appropriate to the area. While waiting for the vegetation to become established, the ends of the trail can be blocked by planting larger trees (36"–60" tall)—if the trail is located in a forest—in the middle of the trailway or by placing downed tree limbs or other natural material to obstruct the entrance. In addition, temporary signs can be placed explaining why the trail has been realigned.

Other reasons to close trails, either temporarily or permanently, include significant erosion, flooding, or wet areas. Should trails become too muddy or experience pooling of water, they may need to be closed for a period of time. Use of the trails in these conditions can lead to long-term damage to the trails





1. Project boundary from Delaware County parcel data and address using property surveys.  
 2. Trail data collected by NLT staff using GPS during multiple site visits.  
 This map is a portion of the full "Mineral Hill Area Master Plan." See report for data disclaimer.

**Conceptual Trail Segments**  
 MINERAL HILL AREA MASTER PLAN  
 (+/- 123 acres)  
 Upper Providence and Middletown Townships, Delaware County, PA

**Natural Lands Trust**  
 1031 Palmers Mill Road, Media, PA 19063  
 610-353-5587 ~ www.natlands.org

and surrounding natural areas. If trails are closed, signage should be installed at trailheads or appropriate intersections to announce and explain the closure.

## Trail Segment Recommendations

The proposed trail system of the three parks incorporates multiple connecting trail loops to allow for varied experiences while at the parks. Each of these loops and the trails that connect them to parking lots and other access points are considered trail segments for purposes of this report. The trail loops have been color-coded in the Conceptual Trail Segments map and are referred to by color below. The connection trails are not color-coded, and therefore are also identified by their end points. Due to overlapping trail loops, some of the trail length is counted more than once.

### Purple Loop Trail

**Existing Trail:** Yes

**Surface:** Pervious paving such as compacted gravel, pervious pavers, etc.

**Total Length (approx.):** 0.9 miles; 4,737 feet

**Length on Memorial Park:** 0.11 miles; 593 feet

**Width:** 5–6 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash), jogging, bicycling (on paved or gravel surface trails only)

1. Consider naming this trail or color coding (currently purple) for trail blazes.
2. Formalize as a primary trailhead with a kiosk at the parking lot trail entrance (see “Signage” above for details).
3. Install wayfinding signs and trail blazes (see “Signage” above for details). Section of this trail overlaps with the Blue Loop Trail and the Red Loop Trail: this section should be blazed with both colors and noted on the wayfinding signs.
4. Place interpretive signs at key locations along the trail (see Interpretive #1 and #2 in “Signage” above for details).

5. Widen the trail around the interpretive signs to allow for small gathering spaces.
6. Install one (1) bench along the trail for resting (see the *Master Plan* map for location and “Seating” above for details). Retain the existing bench near the proposed bridge.
7. When converting to a pervious paved surface, re-grade the steeply graded trail segment along Ridley Creek to incorporate dips and rises to allow for smaller catchment areas for the sheet flow of storm water and erosion control.

### Purple Loop mid-Trail

**Existing Trail:** Yes

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 0.16 miles; 849 feet

**Length on Mineral Hill County Park:** 0.0 miles; 0 feet

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (currently light purple) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details).
3. Develop trail access agreements with Elwyn, Inc. and PECO for access across their properties.

### Dark Purple Loop Trail—Scenic View

**Existing Trail:** Yes

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 0.05 miles; 254 feet

**Length on Memorial Park:** same as Total Length

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (dark purple) to blaze as a connector trail.
2. Install wayfinding signs and trail blazes (see “Signage” above for details).
3. Place an interpretive sign at a key location along

the trail (see Interpretive #3 in “Signage” above for details).

### Aqua Loop Trail—Ridley Creek Access Trail

**Existing Trail:** Yes

**Surface:** Boardwalk

**Total Length (approx.):** 0.11 miles; 556 feet

**Length on Memorial Park:** same as Total Length

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, fishing

1. Consider naming this trail or color coding (aqua) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details). The signs should indicate the trail includes fishing access.

### Red Loop Trail

**Existing Trail:** Partial

**Surface:** Pervious paving such as compacted gravel, pervious pavers, etc.

**Total Length (approx.):** 1.05 miles; 5,566 feet (includes proposed bridge)

**Length on Memorial Park:** 0.31 miles; 1,643 feet

**Width:** 5–6 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash), jogging, bicycling (on paved or gravel surface trails only)

1. Consider naming this trail or color coding (currently blue) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details). A section of this trail overlaps with the Purple Loop Trail: this section should be blazed with both colors and noted on the wayfinding signs.
3. Extend the existing trail to create a loop trail heading east along the park perimeter connecting the Memorial Park and Louis Scott Park parking lots.
4. Install a bridge over Ridley Creek to connect Memorial Park to Louis Scott Park at the north end of the Red Loop Trail (see “Stream Crossings”

above for details).

5. When converting to a pervious paved surface, re-grade the steeply graded trail segment along Ridley Creek to incorporate dips and rises to allow for smaller catchment areas for the sheet flow of storm water and erosion control.

### Trail Surface Length

Within the Memorial Park, estimates for the length per surface type are included below for the total trails, existing trails, new trails to be constructed, and existing trails to be converted to a new surface type. The approximate total length of trails in Memorial Park is 3,427 feet (0.65 miles).

#### **Earthen** (approximate length)

Total Trails	254 linear feet
Existing Trails	254 linear feet

#### **Pervious Paved—not ADA** (approximate length)

Total Trails	1,266 linear feet
New Trails	673 linear feet
Earthen to be converted	593 linear feet

#### **Pervious Paved—ADA compliant** (approximate length)

Total Trails	1,351 linear feet
Earthen to be converted	1,351 linear feet

#### **Boardwalk within floodplain** (approximate length)

Total Trails	556 linear feet
Earthen to be converted	556 linear feet

### Trail Width Recommendations

Earthen trails	3–4 feet wide
Pervious paved trails	5–6 feet wide
Boardwalk trails	3–4 feet wide

### Approximate Trail Surface Cost (square foot)

The following cost estimates are derived using Chester County’s *Trail and Path Planning: A Guide for Municipalities* and from other expert estimates.

These estimates were derived by others in 2011, 2005, and 2002 and should only be used to evaluate the relative range of costs associated with trail and path construction for differing trail surface types. They may not accurately represent the costs of trail construction within the Mineral Hill Area Parks.

TRAIL SURFACE TYPE	APPROX COST PER SQ FT
Earthen surface	\$1.15/sq ft
Granular (non-ADA compliant)	\$1.50/sq ft
Cinder (ADA compliant)	\$1.75/sq ft
Macadam (ADA Compliant)	\$3.50/sq ft
Permeable Aggregate Paving (ADA Compliant)	\$8.00/sq ft
Boardwalk	\$28.50/sq ft

## PARK USERS

### Park Hours

Instituting hours that the park is open is a good practice for safety at the park. It is recommended that the park be open from sunrise to sunset. Since sunrise and sunset are associated with specific times each day, it is easier to enforce this rule, as opposed to dawn to dusk.

### Appropriate Uses

Memorial Park’s trails will offer opportunities for birding, hiking, dog walking (on-leash), jogging, bicycling (on paved and gravel surface trails only), and fishing based upon the trail surface and habitat areas they traverse. In addition, a pavilion, benches, and picnic tables will be located near the parking lot to allow for picnicking.

## Levels of Visitation

### Individual Use

Given the importance of the desired serene visitor experience, regular daily use should be maintained at a level that ensures infrequent encounters with other visitors and yet allows for parking for fishing and picnicking. To ensure this type of experience on the park’s proposed 0.65 miles (3,427 feet) of trails, the maximum desired visitation is about 15 visitors/small groups arriving by car at any one time. With the development under construction near the park, additional users may enter the property from their adjacent residences so their visits would be in addition to those arriving by car. Current individual use is well below this recommended level, leaving room to increase visitation without degrading the experience.

### Group Use

Occasional use by groups such as trail and birding clubs, schools and colleges, scouting groups, and other community organizations by a permit system is an effective way to increase use of the park without degrading the experience for other visitors or over-stressing staff resources. For groups that do require coordination and/or a guide, Friends of Mineral Hill Area Parks volunteers could be a valuable resource.

Increasing group use should be a priority of future outreach. Focusing on groups that are likely to use the park on weekdays would be appropriate since individual use is likely to be lowest during the week. It is unlikely that demand would be such that multiple groups would be active on the park at the same time. However, that situation should be avoided if possible to ensure a positive experience for group members and other visitors. Permitting group use of the park is a positive way to involve the community, allow them to connect to nature, and has the potential to create a stronger volunteer corps that cares about the park.

## Programming and Partners

Feedback from Steering Committee and public meetings indicates that there are opportunities to expand and strengthen existing partnerships and to forge new ones. Formal and informal partnerships

may include schools and colleges, scientists and researchers, local governments, private citizens, birding groups and nature clubs, hiking and running clubs, and other organizations related to the Vision for the park. These groups could be a source of potential volunteers; assist with research; utilize the park for their own education programs; lead organized hikes focused on birds, woody and herbaceous plants, minerals, etc.; and provide additional ideas for other types of park-related programming. All of these groups could also benefit from communication through email alerts, social media, and other electronic means. However, all partnerships should be evaluated carefully to ensure that they do not yield too much visitation or overwhelm staff and volunteer resources.

## Volunteers

Natural Lands Trust has developed methods to involve trained and invested volunteers. Similar volunteer opportunities could be implemented at the park for engaging the community and the Friends group. The two effective methods of engaging volunteers are:

### Work Parties

Work parties accommodate groups, families, and individuals interested in a day of service. Designed to both educate and engage volunteers, work parties are an opportunity for all age groups to plant trees, control invasive plants, count birds and butterflies, and learn more about the Mineral Hill Area Parks system. Work parties should be considered an important part of the programming.

### Natural Lands Trust's Force of Nature<sup>SM</sup> Volunteer Training Program

Natural Lands Trust has developed a volunteer program called Force of Nature<sup>SM</sup>. The volunteers have participated in an in-depth training, preparing them to assist with stewardship and visitor outreach as either a Trail Ambassador or Team Leader. Trail Ambassadors walk the trails of preserves, greeting visitors and helping with preserve care. Team Leaders lead volunteer groups or help with ongoing volunteer projects in our offices and on our preserves.

## Friends of Mineral Hill Area Parks

The Friends of Mineral Hill Area Parks system can take the role that Natural Lands Trust's Force of Nature<sup>SM</sup> volunteers do. Both the Trail Ambassador and Team Leader roles have the potential to enhance the Mineral Hill Area Parks system stewardship and engage more people to feel a vested interest in the vitality of the parks. The Trail Ambassadors and Team Leaders should be a part of the Friends group and coordinate with the park owners and lease holders. The Friends group is not intended to work as an entity on its own, but rather serve as a volunteer extension of the municipal parks and recreation committees and staff, carrying out the tasks as specified by the park owners and lease holders.

## MANAGEMENT, MONITORING, AND MAINTENANCE

Monitoring the effects of public use on the natural resources and wildlife habitat of the park is an ongoing necessity. Signage and amenities associated with public use will also need to be maintained to ensure that they remain attractive and to optimize longevity. Development of a *Stewardship Plan* is the first step toward addressing the needs of the natural resources and scheduling the associated tasks. Therefore, it is recommended that this plan is created to guide the staff and volunteers at the park. It will be necessary to determine and budget for appropriate staff time and financial resources for these maintenance and monitoring functions. Due to its budget constraints, the park will need to rely heavily on trained volunteers for monitoring, providing an opportunity to increase the frequency and reduce the costs of this activity.

### Trails

Monitoring and maintenance associated with the trails primarily includes assessing changes in the vegetation, noting soil erosion, and looking for the formation of social trails (trails formed by users desired paths). Vegetation may be affected by foot traffic, which can damage roots, introduce invasive seeds, and widen trails allowing sunlight to penetrate areas

previously shaded. Assessment of the vegetation may lead to a determination that a trail should be re-routed to avoid sensitive roots or that invasive plant removal is necessary.

Soil erosion due to continual use is a common problem on trails. As trails develop ruts, natural surface drainage patterns are interrupted and these ruts then intercept more surface water, further accelerating soil erosion. Not only does the trail itself endure irreversible changes, the soil transported off of the trails can cause problems elsewhere as it may smother vegetation, provide a place for invasive plants to thrive, or be washed into waterways where it can change the drainage patterns of the streams and harm aquatic organisms and vegetation. Once erosion begins, efforts to correct the cause need to be undertaken quickly. Corrective action may include strategically placed dips and rises, water bars, swales to redirect water flow, culverts, or relocation of the trail to a less erosion-prone location.

Social trails, or desire paths, worn by trail users are often poorly located since topography, drainage, and habitat were not considered when they were created. Therefore, these trails tend to erode more quickly and cause degradation to the surrounding vegetation and habitat. If social trails develop, it is important not only to close the trails but also to understand why they occurred. Typically they develop because trail users are interested in a feature on the site, or they are simply cutting off a corner. Re-routing the trail may be necessary to prevent re-occurrence.

## Structures and Infrastructure

Monitoring and maintenance of signage, seating, parking, and other visitor amenities are important for a positive visitor experience. Signs should be inspected regularly and cleaned or replaced as necessary. Some signs become popular perching spots for birds, necessitating frequent cleaning, particularly in the spring. Volunteer Trail Ambassadors can be assigned the task of monitoring and cleaning signs as part of their regular visits. They can also be encouraged to pick up trash in parking areas and promptly report problems with other amenities.

## Dog Management

The current dog management policies that are in place at all of Natural Lands Trust's preserves (and outlined in a "Nature's Best Friend" brochure) are simple and relatively effective. Based on Leave No Trace principles, the existing policies rely on educating dog owners about the need to keep their pet leashed at all times and to pack out their waste. These same techniques should be considered for use at the park.

Signage, brochures, dog waste stations, and loaner leashes can assist in informing park users about appropriate dog management. Signage should include Leave No Trace messages (see [www.lnt.org](http://www.lnt.org) for more information). Consider including a dog-focused "Nature's Best Friend" brochure to be made available in the kiosk which should describe relevant regulations and explains the reasoning behind them in clear and concise language. Dog waste stations located at the parking lots should include compostable bags and a sign indicating they can be discarded in the composting toilets (or side dog waste chute if available). Should problems with off-leash dogs increase, additional signage can be installed away from trailheads to remind visitors of the guidelines and possibly provide a place to hang loaner leashes that are donated to the park.

## Deer Management Program

Deer overabundance is a problem that affects most natural areas in our region, including the Mineral Hill Area Parks system. The recommended deer density to allow for adequate tree regeneration is 20 deer per forested square mile (one deer per 32 acres). However, to perpetuate a healthy native forest with a diversity of native shrubs and wildflowers, the recommended deer density is 10 deer per forested square mile (one deer per 64 acres).

The habitat value of forests is greatest where there is an extensive unbroken canopy of mature trees with a diversity of native understory species that includes tree, shrubs, and herbaceous plants. Deer impact forest health by consuming native plant seeds (particularly acorns) and browsing on seedlings, shrubs, and herbaceous plants. As deer population density

increases, this activity can adversely affect populations of other wildlife species, especially songbirds, through a decrease in plant species and structural diversity within the forest.

Deer overabundance is also detrimental to the deer and to human health. Because there is a lack of a good food source, the deer are not able to maintain a nutritional diet. Deer are also a host species for black-legged ticks, the primary vector of Lyme disease. Additionally, deer nocturnal movement frequently results in collisions with vehicles.

A deer management program within the park would be beneficial to the overall health of the park and surrounding community. Natural Lands Trust has maintained a deer management program within its system of 42 preserves. The program is designed to help reduce deer populations on the preserves to a sustainable level. Enrolled hunters are required to pass a proficiency test to ensure that they are familiar and competent with their weapons. Strict safety standards are enforced and all hunters must wear a bright Natural Lands Trust armband that allows preserve managers and others to tell from a distance if a hunter has permission to hunt on the preserve. The program is having a measurable effect on the local deer population. This program does not appear to conflict with the public uses taking place at the preserves, and is consistent with Natural Lands Trust's natural resource stewardship mission.

Hiring professional sharpshooters and bow-hunters to assist with the deer management is another option. These professionals are typically hired to come at night when the parks are closed so that interaction with park users obeying the open hours of the park will not occur. In addition, the venison can be supplied to local food banks.

Implementation of a deer management program at the park should be considered. It is important to include advance notice of deer management with dates and times on all of the kiosks and mini-kiosks at the Mineral Hill Area Parks system. Monitoring the effects of deer browsing and educating the public about the effects of overabundant deer will be critical to the success of any future deer management program. One option to visually demonstrate and monitor the impact of deer browsing is the installation of small (10 meters square) exclosures.

The growth of vegetation within these exclosures is often dramatically different than in surrounding areas with unrestricted access by deer. Ideally, exclosures (with accompanying interpretive signage to educate the public about the importance of controlling the deer population to maintain forest health) should be erected in forested areas on relatively flat ground and near public trails. The setup and monitoring of deer exclosures is a valuable educational exercise that could be undertaken by local schools and colleges.

## IMPLEMENTATION PRIORITIES

Implementation of the *Mineral Hill Area Parks Master Plan* is a multiple year process that institutes gradual changes. This process will allow the landowners and leaseholders to reassess and refine strategies as well as acquire and allocate the necessary financial and staffing resources. The higher priority items, including development of the trail system, building one the southern-most bridge over Ridley Creek (between Memorial Park and Louis Scott Park), increasing volunteerism, establishing partner relationships and programming, and instituting signage are included as the first priorities on the implementation schedule.

The implementation table includes columns that list the Priority classification and the Actions with Sequence/Phase for their completion. Within each Priority classification, actions are identified—sorted by category (i.e., signage, trail, etc)—and assigned a sequence/phase number to further assist in prioritizing each action within the Priority classification. Please note that some categories contain multiple action with the same sequence/phase and that some categories skip some sequence/phase numbers.

MEMORIAL PARK: IMPLEMENTATION PRIORITIES AND PHASES		
PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
1	<p><b>Signage</b></p> <ol style="list-style-type: none"> <li>1. Work with Delaware County and Upper Providence Township to develop a cohesive signage design and dog waste station design plan</li> <li>2. Install trail blazes</li> <li>3. Replace the vehicular sign at the park entrance with the new signage design</li> <li>3. Include information about additional parking locations with the vehicular sign</li> <li>3. Replace the kiosk at trail entrance with the new signage design</li> </ol> <p><b>Stream Crossings</b></p> <ol style="list-style-type: none"> <li>2. Work with Upper Providence Township and Delaware County to identify funding, design, engineer, acquire permits, and construct southern-most bridge over Ridley Creek—connecting Memorial Park to Louis Scott Park</li> </ol> <p><b>Restrooms and Seating</b></p> <ol style="list-style-type: none"> <li>1. Work with Delaware County and Upper Providence to develop a cohesive plan for structures; including restrooms and benches</li> </ol> <p><b>Trails</b></p> <ol style="list-style-type: none"> <li>1. Convert the Purple Loop and Red Loop Trails to a pervious paved surface (i.e., compacted gravel, pervious pavers, etc.). The Red Loop Trail should be constructed to allow for ADA accessibility, if at all possible. Purple Loop approx. 593 ft long x 5 ft wide=2,965 sq ft in Memorial Park. Red Loop approx. 1,351 ft long x 5 ft wide=6,755 sq ft. Combined Purple Loop and Red Loop approx. 9,720 sq ft</li> <li>1. When converting to a pervious paved surface, re-grade the steeply graded trail segment along Ridley Creek to incorporate dips and rises to allow for smaller catchment areas for the sheet flow of storm water and erosion control</li> <li>1. Develop trail access agreements with PECO and Elwyn, Inc. for use of the Purple Loop mid-Trail</li> <li>2. Close the trail segment in Memorial Park as indicated on the Trail Closure Map</li> </ol> <p><b>Volunteers</b></p> <ol style="list-style-type: none"> <li>1. Identify specific tasks for volunteers to assist with. These may include trail creation, tree plantings, monitoring, maintenance, visitor outreach and other items identified in the <i>Master Plan</i></li> <li>1. Work with Delaware County and Upper Providence Township to recruit members for the Friends of Mineral Hill Area Parks volunteer group</li> <li>2. Establish a training program for volunteers such as Natural Lands Trust's Force of Nature<sup>SM</sup> program</li> </ol>	<p>\$40,000</p> <p>* * * *</p> <p>Staff time</p> <p>\$5,000</p> <p>\$4,500 [granular on Purple Loop] \$12,000 [cinder on Red Loop] or \$78,000 [permeable aggregate paving on Purple/Red Loops] * \$5,000 ** Staff or volunteer time</p> <p>Staff time Staff time \$33,000/year [includes staff and direct costs]</p>

*continued*

## MEMORIAL PARK: IMPLEMENTATION PRIORITIES AND PHASES

PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
1	<p><b>Management, Monitoring, and Maintenance</b></p> <ol style="list-style-type: none"> <li>Develop a stewardship management and monitoring plan for the natural resources of the Park</li> <li>Develop a monitoring and maintenance plan to evaluate and repair structures related to safety, structural integrity, and defacing. The plan should include signage, seating, stream, and wet area crossing structures, restroom, pavilion, and fishing pier</li> </ol>	<p>\$15,000 \$10,000</p>
	<p><b>PRIORITY 1: TOTAL COSTS (as able to be estimated)</b></p>	<p><b>\$119,500–181,000</b></p>
2	<p><b>Parking and Access</b></p> <ol style="list-style-type: none"> <li>Implement redesign of parking lot</li> </ol>	<p>*</p>
	<p><b>Signage</b></p> <ol style="list-style-type: none"> <li>Install wayfinding signs</li> <li>Install boundary signs</li> <li>Install interpretive signs</li> </ol>	<p>* * *</p>
	<p><b>Seating</b></p> <ol style="list-style-type: none"> <li>With the implementation of the re-designed parking lot, establish a picnic or seating space in the area that will no longer be parking spaces with the pavilion and benches that exist around the perimeter of the parking lot</li> <li>Replace benches along trail system as they deteriorate with those that have been designed with Delaware County and Upper Providence Township</li> </ol>	<p>Staff time *</p>
	<p><b>Dog Waste Station</b></p> <ol style="list-style-type: none"> <li>Install a dog waste station at trail entrance near parking lot</li> </ol>	<p>*</p>
	<p><b>Pavilion</b></p> <ol style="list-style-type: none"> <li>With the implementation of the re-designed parking lot, move the existing pavilion to create a picnic or seating space in the area of the parking lot that will be no longer parking spaces</li> </ol>	<p>Staff time</p>
	<p><b>Small Gathering Spaces</b></p> <ol style="list-style-type: none"> <li>At the location of interpretive signs, widen the trail to create a small gathering space for visitors and educators to gather and discuss the information presented</li> </ol>	<p>** Staff or volunteer time</p>
	<p><b>Trails</b></p> <ol style="list-style-type: none"> <li>Consider naming the trails along with color-coding them</li> <li>Convert the Aqua Loop Trail to a boardwalk that is designed and anchored to float in a flood situation and not wash away. The Aqua Loop Trail should be constructed to allow for ADA accessibility, if at all possible. Approx. 556 ft long x 3 ft wide=1,668 sq ft</li> </ol>	<p>Staff time \$48,000–boardwalk</p>

continued

MEMORIAL PARK: IMPLEMENTATION PRIORITIES AND PHASES		
PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
2	<p><b>Programming and Partners</b></p> <ol style="list-style-type: none"> <li>Promote volunteer opportunities and programs to the local community</li> <li>Contact existing partners to identify programs that they would be willing to conduct</li> </ol> <p><b>Volunteers</b></p> <ol style="list-style-type: none"> <li>Identify and appoint Trail Ambassadors for the parks and arrange for volunteer-led hikes</li> <li>Hold volunteer work parties as needed</li> </ol>	<p>**Staff or volunteer time **Staff or volunteer time</p> <p>**Staff or volunteer time **Staff or volunteer time</p> <p><b>\$48,000</b></p>
	<b>PRIORITY 2: TOTAL COSTS (as able to be estimated)</b>	<b>\$48,000</b>
3	<p><b>Signage</b></p> <ol style="list-style-type: none"> <li>Install vehicular directional signs</li> </ol> <p><b>Stream Crossings</b></p> <ol style="list-style-type: none"> <li>Work with Delaware County and Upper Providence Township to identify funding, design, engineer, acquire permits, and construct northern-most bridge over Ridley Creek—connecting Mineral Hill County Park to Louis Scott Park</li> </ol> <p><b>Restrooms</b></p> <ol style="list-style-type: none"> <li>Install a composting toilet facility at trail entrance near parking lot. Research ability to include a chute for disposing of compostable dog waste bag</li> </ol> <p><b>Trails</b></p> <ol style="list-style-type: none"> <li>Work with Delaware County, Elwyn, and PECO to extend the Purple Loop to create the proposed perimeter trail from Mineral Hill County Park to Memorial Park parking lot. The trail should be constructed with pervious paved surface (i.e. compacted gravel, pervious pavers, etc.) and to allow for ADA accessibility, if at all possible. Approx. 1,799 ft long x 5 ft wide=8,995 sq ft in Mineral Hill County Park, Elwyn property, PECO property, and Memorial Park</li> <li>Work with Delaware County, Upper Providence Township, Elwyn, and PECO to develop the proposed perimeter trail from the Memorial Park parking lot to the Louis Scott Park primary parking lot. The trail should be constructed with pervious paved surface (i.e. compacted gravel, pervious pavers, etc.) and to allow for ADA accessibility, if at all possible. Approx. 3,886 ft long x 5 ft wide=19,430 sq ft in Memorial Park and Louis Scott Park</li> </ol> <p><b>Programming and Partners</b></p> <ol style="list-style-type: none"> <li>Work with Delaware County and Upper Providence Township to research and reach out to potential partners including but not limited to schools and colleges; scientists and researchers; community members; birding groups and nature clubs; and hiking and running clubs</li> </ol> <p><b>Management, Monitoring, and Maintenance</b></p> <ol style="list-style-type: none"> <li>Develop, monitor, and enforce dog management policy (i.e., keep dogs on leash; clean up waste)</li> </ol>	<p>*</p> <p>Staff time</p> <p>*</p> <p>\$16,000 [cinder] or \$72,000 [permeable aggregate paving]</p> <p>\$34,000 [cinder] or \$156,000 [permeable aggregate paving]</p> <p>Staff time</p> <p>**Staff or volunteer time</p>

continued

## MEMORIAL PARK: IMPLEMENTATION PRIORITIES AND PHASES

PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
3	1. Develop a deer management program related to deer overabundance	\$3,000
	<b>PRIORITY 3: TOTAL COSTS (as able to be estimated)</b>	<b>\$53,000–231,000</b>
4	<b>Stream Crossings</b> 1. Work with Delaware County and Upper Providence Township to identify funding, design, engineer, acquire permits, and construct center bridge over Ridley Creek—connecting the eastern and western portions of Louis Scott Park	Staff time
	<b>PRIORITY 4: TOTAL COSTS (as able to be estimated)</b>	<b>N/A</b>
Future	<b>Seating</b> 1. Replace benches along trail system as they deteriorate with those that have been designed with Upper Providence and Middletown Townships	*
	<b>FUTURE TOTAL COSTS (as able to be estimated)</b>	<b>N/A</b>
	<b>TOTAL COSTS (as able to be estimated)</b>	<b>\$220,500–\$460,000</b>

\*Estimated cost, cannot be determined until design is finalized; \*\*Costs can vary significantly if completed by staff or by volunteers



# IX RECOMMENDATIONS: LOUIS SCOTT PARK

Maintaining the serene setting of Louis Scott Park for passive and active outdoor recreation is the desire of both the community and the Steering Committee members. Therefore, trails, a mown lawn area for activities, a playground with outdoor exploration (i.e., bug door, wildlife footprints), exercise stations, and a picnic area will be provided. The park melds well with the adjoining, Mineral Hill County Park and Memorial Park which allow for other passive and semi-active recreational uses.

The implementation of the parks trails and amenities are proposed to occur over an extended time frame to meet the fund-raising, engineering, permitting, and staffing needs related to the proposed *Master Plan*.

## PROPOSED STRUCTURES AND INFRASTRUCTURE

### Parking and Access

Louis Scott Park offers two existing parking lots along North Ridley Creek Road for park users. The primary parking lot near Hillendale Road currently allows for seven to eight parking spaces. Due to the proposed adjoining mown lawn area, it is recommended that this parking lot be increased to allow for a total of fifteen (15) parking spaces, including two (2) ADA-accessible spaces. The secondary parking lot across from Rosemary Lane should remain at its current size of five (5) parking spaces. However, bumpers should be added to the lot to assist in identifying proper parking spaces. Both parking lot entrances should be cleared of obstructions in the line-of-sight for safety while exiting. Given that the park is intended as a serene natural setting with passive and semi-active uses, the two parking lots should offer a total of twenty (20) spaces. The primary parking lot should be designed to allow for overflow parking (10 additional spaces) for volunteer work days or events

at the park. This easily can be incorporated into the design by placing a gate at the end of the parking lot near the trailhead that can be opened during these events.

Additional access to the park is proposed by bridges to be built over Ridley Creek to connect both sides of Louis Scott Park and from Mineral Hill County Park and Memorial Park and by two crosswalks proposed on North Ridley Creek Road.

The crosswalks have been located to adjoin Marcella Lane and Kirk Lane on the other side of the roadway. While an engineer should review site surveys to determine clear sight distances, it appears that these areas may be suitable for a crossing. A crossing in this area should be well marked. Signage and lighting should accompany a painted crosswalk. Changes in the color or texture of the asphalt leading up to the crossing point would help to alert drivers of the crossing. Rumble strips may be effective, similar to those used at toll booth approaches. Near the exit of the trail, trail markers could also be used to signify a road crossing to trail users.

### Signage

Although the three Mineral Hill Area Parks have separate owners/managers, a cohesive signage system would assist in creating the look and feel of an integrated Mineral Hill Area Parks system. As the parks work together to offer unique experiences and uses for their community, it is recommended that the respective owners develop the signage system together to unify the parks. Understanding that each owner may have a signage system implemented throughout their individual municipal park system, the Mineral Hill Area Parks signage system may be able to incorporate elements of the three municipal parks signage systems to assist in consistency.

The following types of signs and locations are recommended at Louis Scott Park:

a) **Vehicular**—Signs identifying the park located

# Mineral Hill Area Parks Master Site Plan ~ ±123 acres

July 1, 2014



**METES AND BOUNDS**

ID	Length	Bearing	Radius	Delta
1	713.20'	S88°48'17"E		
2	426.00'	S88°48'17"E		
3	52.00'	N00°00'00"E	261.00'	116.00'±
4	12.00'	N00°00'00"E		
5	12.00'	N00°00'00"E		
6	12.00'	N00°00'00"E		
7	12.00'	N00°00'00"E		
8	12.00'	N00°00'00"E		
9	12.00'	N00°00'00"E		
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**LEGEND**

**VEGETATION**

- deciduous forest
- conifer plantation
- meadow
- wet meadow/marsh
- lawn

**TRAILS**

- existing: boardwalk, porous paving, ADA accessible
- proposed: boardwalk, porous paving, ADA accessible

**AMENITIES / FEATURES**

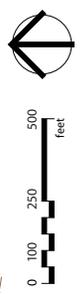
- existing: bench, picnic table, stone wall, pavilion, lookout, composting toilet
- proposed: bench, picnic table, stone wall, pavilion, lookout, composting toilet

**SIGNAGE**

- existing: kiosk, mini kiosk, wayfinding, interpretive sign, vehicular sign
- proposed: kiosk, mini kiosk, wayfinding, interpretive sign, vehicular sign

**NOTES**

1. All measurements are in feet.
2. All bearings are true bearings.
3. All distances are in feet.
4. All points are in decimal degrees.
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along North Ridley Creek Road near the entrance to the primary and secondary parking lots.

- b) **Vehicular Directional**—Three (3) directional signs should be located at intersections to direct park users to the parking lots for the three Mineral Hill Area Parks:
  - Route 1 by-pass and Baltimore Pike
  - Baltimore Pike and North Ridley Creek Road
  - Rose Tree Road and North Ridley Creek Road
- c) **Kiosk**—A sign located at the primary parking area to greet visitors, provide them with basic information about the park and parks system, including a park system map, and states the park rules using Leave No Trace-type language (see “Dog Waste Stations” below). Additionally, the kiosk may contain park brochures with maps, checklists for plants and wildlife, brochures for self-guided walks, and seasonal information such as hunting notices or trail closures. If serving as a trailhead, the kiosk should include information about the trail difficulty level.
- d) **Mini-Kiosk**—Signs located at secondary access points including the secondary parking lot and the two pedestrian road crossings on North Ridley Creek Road. This one-panel informational sign will include language identifying the park and parks system, including a park map, and states the park rules using Leave No Trace-type language (see “Dog Waste Stations” below).
- e) **Additional Parking Locations**—A sign located alongside or as part of the kiosk that indicates the locations of other parking lots related to the Mineral Hill Area Parks system.
- f) **Wayfinding**—Approximately eighteen (18) wayfinding signs located at major and minor trail intersections. The signage should primarily consist of directional arrows, an indication of trail length and difficulty, and the fastest route back to the parking area. Unique identification numbers should be included to assist local rescue personnel in locating park users.

g) **Trail Blazes**—In between trail intersections, trails should be marked with painted blazes on trees or rocks indicating trail color and direction. Though this approach is well known to avid hikers, it is possible that not all visitors will know how to read the blazes.

h) **Boundary**

1. Regulatory—located intermittently along the park boundary indicating the owner and name of the park, and welcoming people to hike the trails.
2. Diamond—smaller signs located between regulatory signs marking the park boundary.

i) **Interpretive**—A total of six (6) interpretive signs that contain information about natural and historical features, answering the basic “how and why” questions. Interpretive opportunities include the following:

1. Best Management Practices and Sustainable Elements—Discusses the natural resource Best Management Practices related to the vegetation and water quality at the park. Also contains information about the sustainable elements (i.e., pervious trail system) of the park *Master Plan* (identified as interpretive sign 1 on the *Master Plan* map).
2. Brookwood Hotel History—Discusses the history of the Brookwood Hotel and the remaining wall still located on the park (identified as interpretive sign 2 on the *Master Plan* map).
3. Native Plants—Provides information on native plants of southeastern Pennsylvania and their importance to native wildlife and the overall health of the ecosystem (identified as interpretive sign 3 on the *Master Plan* map).
4. Forest Types—Describes the difference between deciduous and evergreen forests as well as identifies some associated native trees (identified as interpretive sign 4 on the *Master Plan* map).

5. Floodplains and Media Wetlands—Discusses the functions of wetlands and floodplains along with the habitats they provide for wildlife and vegetation. Includes general information on Pennsylvania Natural Heritage Inventory (PNHI) sites and specific information related to the Media Wetlands PNHI site (identified as interpretive sign 5 on the *Master Plan* map).
6. Wet Meadows—Describes the unique qualities of wet meadows and the specialized habitat they create (identified as interpretive sign 6 on the *Master Plan* map).

## Seating

Seven (7) locations for benches have been identified along the park’s proposed trail system. With the lack of benches currently at the park, the limited seating is in keeping with the feel of a natural setting desired at the park. Three (3) benches have been recommended near the mown lawn, which will be used as a community activity area. The remaining locations have been chosen to provide resting areas within differing scenery and in places where rest may be welcome due to the terrain along the trail. Placement should also allow for seating along differing trail segments and may be located near interpretive signage.

The benches should be designed in conjunction with those for Mineral Hill County Park and Memorial Park in order to maintain the connected feeling among the three parks. Benches made of natural materials (i.e., wood, stone) are appropriate at the parks. The benches should be monitored and as they display significant signs of wear—when their condition declines to a point where they are uncomfortable to use or are a visual distraction—they should be replaced.

Along with benches, other natural material at the parks can be used as natural seating/resting areas interspersed throughout the park. These may include boulders, tree stumps, and logs.

## Stream Crossings

Six (6) stream crossings—three over tributaries and three over Ridley Creek—are included in the park *Master Plan*. The three proposed stream crossings over Ridley Creek are located to connect to the western portion of Louis Scott Park, to Mineral Hill County Park, and to Memorial Park. The three tributary crossings are located on the western portion of the park. Two of these crossing are proposed and one is an existing structure that was historically used by the Boy Scouts and should be evaluated for structural stability. Two (2) additional, existing bridges over wet areas are located on the eastern side of the park. Before beginning work on any structure over a waterway, contact the appropriate entities to receive proper permits and if near wetlands a Phase 1 Bog Turtle Habitat Assessment will need to be completed before design or installation.

Crossings should use natural materials when possible while providing safe transit for visitors of varying abilities. All stream crossing should also include safety structures such as rails and bumpers. In addition, any bridges wide enough to allow for vehicular access should include secured, removable bollards to prevent unwarranted access over the bridges.

Monitoring and maintenance of the stream crossings for structural integrity and safety is critical. As each crossing is updated or built, a maintenance schedule should be developed and followed.

## Restrooms

Due to the location and lack of water supply and sewer service, a structure containing composting toilets is recommended to be located adjacent to the primary parking lot. The structure may also contain a location for disposing of dog waste in compostable bags. If, in the future, water and sewer service becomes available, other types of restrooms facilities may be considered.

## Dog Waste Stations

A dog waste station is recommended, which would supply compostable bags and include signage with Leave No Trace-style language—presenting the park

rules in a manner of education: not just the rule but also the why. (Visit the Leave No Trace website [www.lnt.org](http://www.lnt.org) for more information.)

### Remnant Historic Structures

The historical Brookwood Hotel wall and the remnant stairs to a former bridge are both recommended to remain at the park. These features offer a window into the history of the park and do not appear to be a safety hazard. However, these structures should be inspected for safety and maintained to prevent further deterioration.

### Lookout/Observation Area

One lookout area is proposed for Louis Scott Park. It is located in conjunction with one bench near the bank of Ridley Creek in the southern portion of the park. The area offers a scenic view from the across Ridley Creek into Memorial Park. The lookout offers a connection with the creek and nature.

### Attractive Nuisance Structures

There is one structure in the park that is an attractive nuisance—a hazardous area or structure that presents something of interest that may entice some to explore. The park has a fenced area containing large pipes along the trail leading from the primary parking lot. This structure and associated materials should be torn down and removed from the park.

### Small Gathering Spaces

The proposed width of the trail conveys the serene setting of the park and allows visitors to feel enclosed by nature. However, in the areas where interpretive signs are located, the trail should be widened to allow a small gathering space for visitors and educators to read and discuss the content of the signs without blocking the trail. These spaces should be large enough for three to five people to stand along the trailside.

### Community Activity Area

Located in the mown lawn area adjacent to the primary parking lot, the *Master Plan* identifies an activity area where community members can enjoy a picnic; play frisbee or catch; use the Yellow Loop trail as an exercise track for joggers, walkers, and people with strollers; workout on the exercise stations; and watch their children play on a themed playground or in the outdoor exploration area complete with learning opportunities (i.e., bug door, wildlife footprints). Currently, the trees and shrubs in this area are almost entirely invasive plant species or are not in good health. The structures recommended in this area are located outside of the significant natural features and their recommended buffers.

### Proposed Structures and Infrastructure Americans with Disabilities Act (ADA)

When designing and developing the structures, infrastructure, and trails recommended in the Mineral Hill Area Parks Master Site Plan, refer to the most recent 1990 Americans with Disabilities Act (ADA) compliance guidelines. The current version is the 2010 ADA Standards for Accessible Design. The document can be found at: <http://www.ada.gov/regs2010/2010ADASTandards/2010ADAstandards.htm>

Language on the wayfinding signage should include an indication of length, trail surface, and difficulty (easy, moderate, difficult) to assist park users in determining their ability to traverse a particular trail.

### PROPOSED TRAIL SYSTEM

A good trail system must provide visitors with options and interest. Louis Scott Park provides opportunities for both. With access to the community activity area, forest, meadows, waterways, and wetlands of the park, the 2.72 miles (14,363 feet) of trails allow users to enjoy the sights and sounds of nature. The proposed trail system can provide different experiences for each visitor.

Trail surface and terrain can also play a role in the use of the trails. The terrain of Louis Scott Park offers potential for ADA-accessible trails from its primary and secondary parking lots using the Yellow

Loop, Red Loop, and perimeter trails. The Yellow Loop Trail provides access to the Community Activity Area and adjoins the Red Loop Trail. The Red Loop Trail traverses over the proposed bridge crossing to Memorial Park and continues along the proposed perimeter trail connecting to the secondary parking lot. The perimeter trail then continues north to connect with the primary parking lot. These loop trails will include boardwalk and pervious paved surfaces. However, the terrain on the remaining trails at the park would likely not allow for the handicap accessibility standards to be met.

Monitoring and maintenance of the trails is important to ensure that conditions do not deteriorate, especially as use increases. Monitoring the trails on a regular basis will alert Upper Providence Township and Aqua PA to issues as they begin to arise, instead of waiting until they become major problems that require more work and funding. Maintenance should be consistent and continuous to promote a well-maintained and efficient trail system.

## Surface

The proposed trail system at the park include pervious paved (i.e., compacted gravel, pervious pavers, etc.), boardwalk, and earthen surfaces. Much of the trail system at Louis Scott Park will have a pervious paved surface to better allow for ADA accessibility. The pervious paved trail should be five to six feet wide to provide room for passing, but also allowing a close to nature experience.

The trails closer to the bank of Ridley Creek and south of the Red Loop will remain an earthen surface offering a more natural experience. In addition, a boardwalk trail over the wet meadow will adjoin the southernmost proposed bridge over Ridley Creek. This wetland area is prone to flooding and, therefore, the boardwalk trail needs to be designed with stabilization features that allow the boardwalk to rise with the water and not be washed downstream. Additionally, In order to receive clearance from USFWS before designing and installing the boardwalk over wetlands, a Phase 1 Bog Turtle Habitat Assessment will need to be completed to determine if the Boardwalk location will need to be adjusted to the southeast out of the wetland or to span the wetland. The earthen and

boardwalk trail width should be no more than three to four feet.

The earthen trails provide opportunities for pedestrians to experience nature on rugged terrain while the pervious paved surfaces expand the trail users to include bicyclists, strollers, and (potentially) visitors needing wheel chairs.

The final alignment and material selection of the trail will require design specifications and engineering. All trails should be designed and built in a sustainable manner that will allow proper stormwater sheeting and avoid erosion along or deterioration of the trail. The material used should be consistent along all pervious paved trails in the natural area.

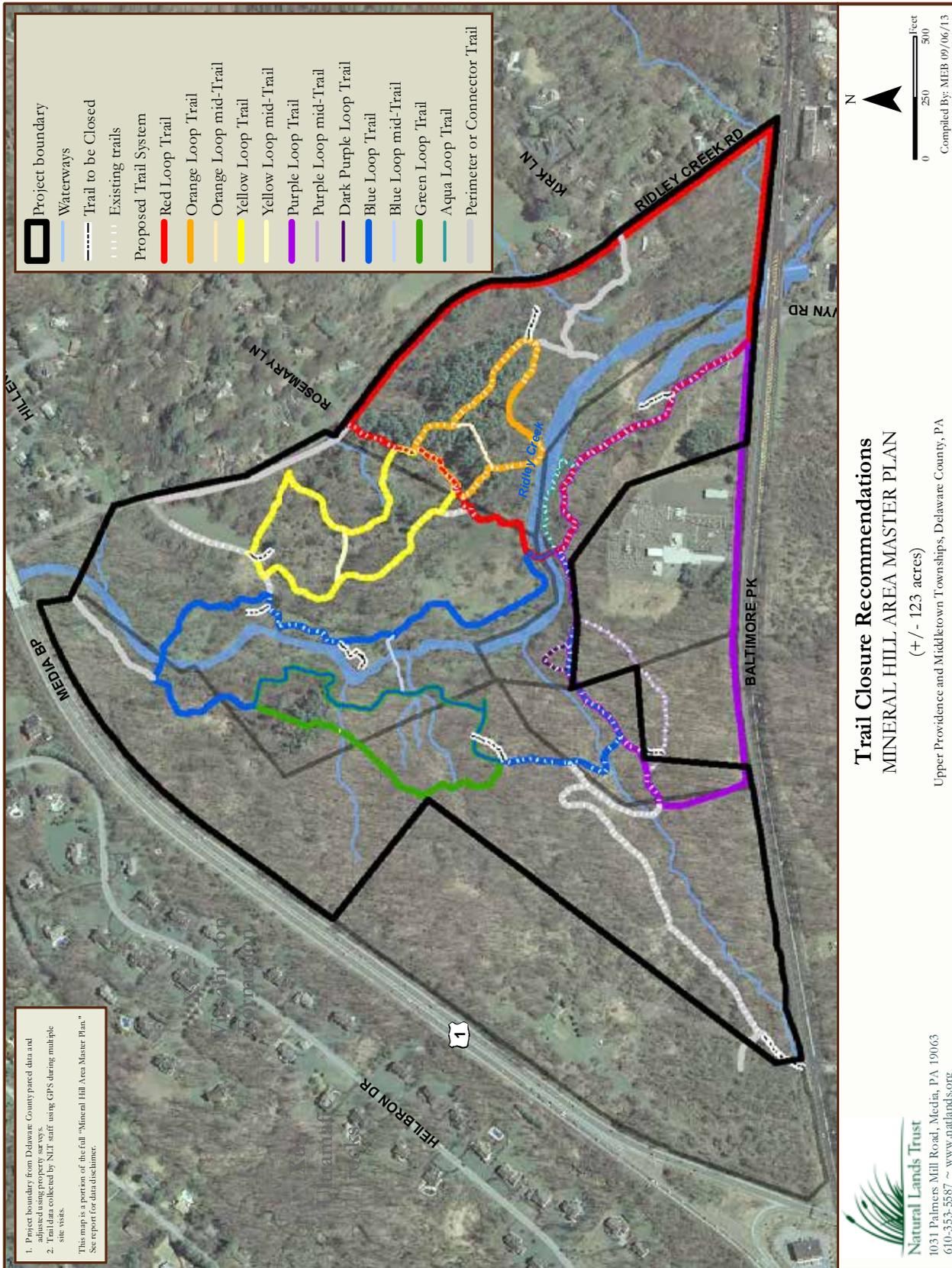
## Trail Closure Recommendations

Louis Scott Park contains four trail segments recommended for closure (see Trail Closure Recommendations map for locations). The first trail is located off of the Yellow Loop Trail in the north and leads to the attractive nuisance fenced area with large pipes. Two segments intersect the Blue Loop Trail and had significant wet areas during *Master Plan* site visits. The last segment to be closed is located at the southern end of the Orange Loop Trail and appears to have once provided access from North Ridley Creek Road, but no longer does so.

It is important to properly close trails that are no longer to be used. If a closed trail still looks like a trail, people will continue to use it. The goal in closing a trail is to make it appear that no trail was ever there. This can be done by planting native vegetation appropriate to the area.

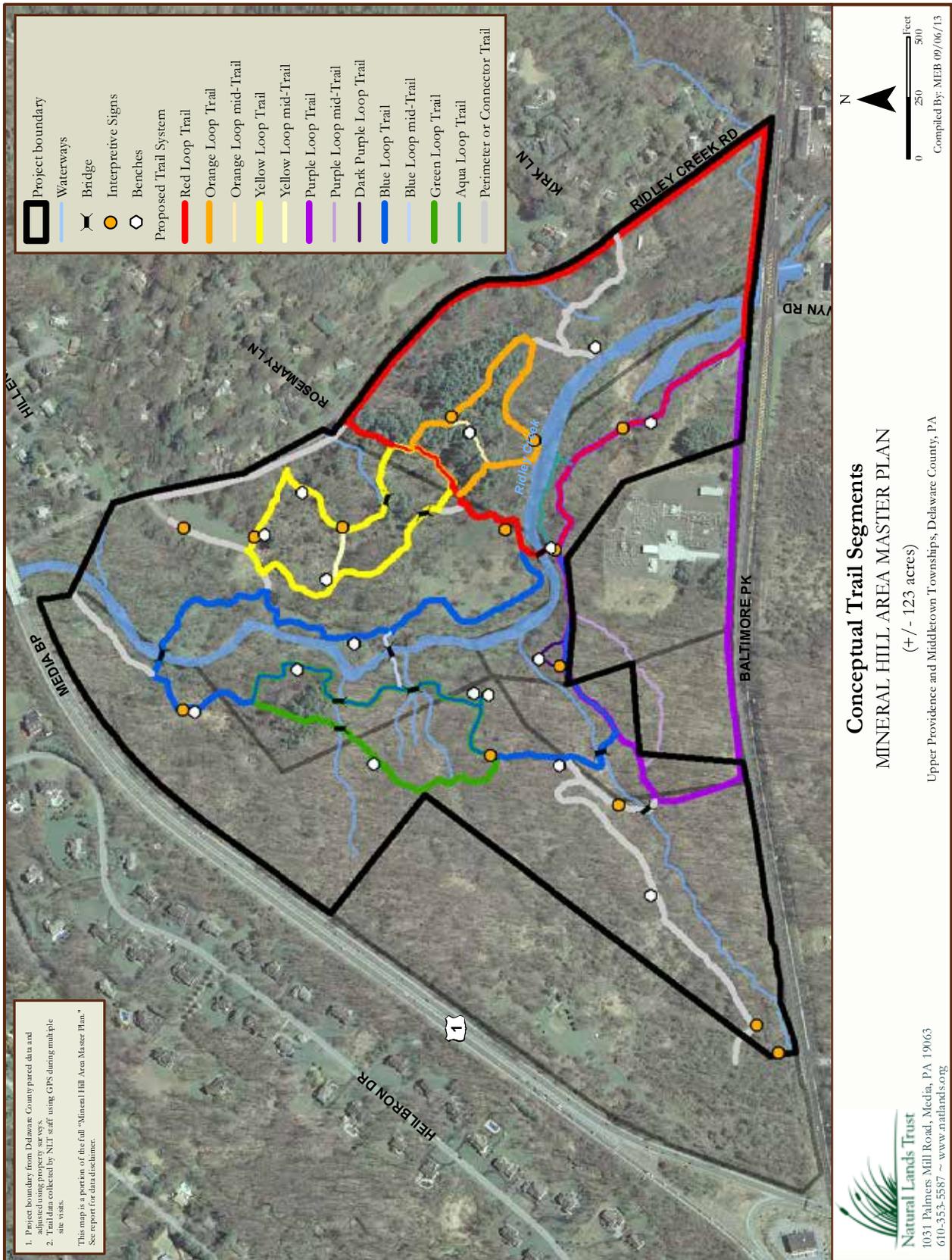
While waiting for the vegetation to become established, the ends of the trail can be blocked by planting larger trees (36"–60" tall)—if the trail is located in a forest—in the middle of the trailway or by placing downed tree limbs or other natural material to obstruct the entrance. In addition, temporary signs can be placed explaining why the trail has been realigned.

Other reasons to close trails, either temporarily or permanently, include significant erosion, flooding, or wet areas. Should trails become too muddy or experience pooling of water, they may need to be closed for a period of time. Use of the trails in these



1. Project boundary from Delaware County parcel data and adjusted using property surveys.  
 2. Trail data collected by NLT staff using GPS during multiple site visits.  
 This map is a portion of the full "Mineral Hill Area Master Plan." See report for data disclaimer.

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conditions can lead to long-term damage to the trails and surrounding natural areas. If trails are closed, signage should be installed at trailheads or appropriate intersections to announce and explain the closure.

## Trail Segment Recommendations

The proposed trail system of the three parks incorporates multiple connecting trail loops to allow for varied experiences while at the parks. Each of these loops and the trails that connect them to parking lots and other access points are considered trail segments for purposes of this report. The trail loops have been color-coded in the Conceptual Trail Segments map and are referred to by color below. The connection trails are not color-coded, and therefore are also identified by their end points. Due to overlapping trail loops, some of the trail length is counted more than once.

### Primary Parking Lot Access Trail Segments

Primary parking lot to Yellow Loop Trail and Yellow Loop to Blue Loop Trail

**Existing Trail:** Yes

**Surface:** Pervious paving such as compacted gravel, pervious pavers, etc. to Yellow Loop Trail and earthen between Yellow Loop and Blue Loop Trails

**Total Length (approx.):** 0.08 miles; 429 feet

**Length on Louis Scott Park:** same as Total Length

**Width:** 5–6 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash), jogging, bicycling (on paved or gravel surface trails only)

1. Consider naming this trail or color coding (currently grey) to blaze as an access trail to the parking lot.
2. Formalize as a primary trailhead with a kiosk at the parking lot trail entrance (see “Signage” above for details).
3. Install wayfinding signs and trail blazes (see “Signage” above for details).
4. Place interpretive signs at key locations along the trail (see Interpretive #1 in “Signage” above for details).

6. Widen the trail around the interpretive signs to allow for small gathering spaces.

### Perimeter Trail

Primary parking lot to secondary parking lot

**Existing Trail:** No

**Surface:** Pervious paving such as compacted gravel, pervious pavers, etc. to Yellow Loop Trail and earthen between Yellow Loop and Blue Loop Trails

**Total Length (approx.):** 0.16 miles; 857 feet

**Length on Louis Scott Park:** same as Total Length

**Width:** 5–6 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash), jogging, bicycling (on paved or gravel surface trails only)

1. Consider naming this trail or color coding (currently grey) to blaze as a perimeter trail.
2. Create a trail connecting the two parking lots.

### Blue Loop Trail

**Existing Trail:** Partial

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 1.17 miles; 6,170 feet

**Length on Louis Scott Park:** 0.69 miles; 3,638 feet

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (currently blue) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details). Sections of this trail overlap with the Green Loop Trail and with the Red Loop Trail; these sections should be blazed with both colors and noted on the wayfinding signs.
3. Extend the existing trail to create a loop trail heading north connecting to Mineral Hill County Park and south connecting to the Blue Loop mid-Trail and to the intersection with Red Loop Trail over the southernmost Creek crossing.
4. Install two (2) bench along the trail for resting (see the *Master Plan* map for location and “Seating” above for details).

5. Install two stream crossing over the tributaries in the western portion of the park. (see “Stream Crossings” above for details).
6. Install two bridges over Ridley Creek to connect Louis Scott Park to Mineral Hill County Park at the north end of the Blue Loop Trail and to Memorial Park at the south end of the Blue Loop Trail.

### Blue Loop mid-Trail

**Existing Trail:** Partial

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 0.06 miles; 329 feet

**Length on Louis Scott Park:** same as Total Length

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (currently light blue) for trail blazes.
2. Create a trail connecting the Blue Loop Trail over Ridley Creek to provide for a shorter loop trail.
3. Install one bridge over Ridley Creek to connect the two sides of Louis Scott Park over Ridley Creek.

### Green Loop Trail

**Existing Trail:** No

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 0.55 miles; 2,910 feet

**Length on Louis Scott Park:** 0.32 miles; 1,674 feet

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (currently green) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details). A section of this trail overlaps with the Blue Loop Trail; this section should be blazed with both colors and noted on the wayfinding signs.

3. Create a loop trail connecting to Mineral Hill County Park (also part of the Blue Loop Trail) to create a trail through Louis Scott Park on the west side of Ridley Creek.
4. Evaluate existing tributary crossing for structural stability and install safety structures such as railing and bumpers. Do not open this trail until the bridge is deemed safe for use (see “Stream Crossings” above).

### Yellow Loop Trail

**Existing Trail:** Yes

**Surface:** Pervious paving such as compacted gravel, pervious pavers, etc.

**Total Length (approx.):** 0.53 miles; 2,813 feet

**Length on Louis Scott Park:** same as Total Length

**Width:** 5–6 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash), jogging, bicycling (on paved or gravel surface trails only)

1. Consider naming this trail or color coding (currently yellow) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details). A section of this trail overlaps with the Red Loop and Orange Loop Trails: this section should be blazed with appropriate colors and noted on the wayfinding signs.
3. Place interpretive signs at key locations along the trail (see Interpretive #2 and #3 in “Signage” above for details).
4. Widen the trail around the interpretive signs to allow for small gathering spaces.
5. Install three (3) benches along the trail near the Community Activity Area for resting. (See the Master Plan map for location and “Seating” above for details).
6. Replace the two bridges over wet areas or improve access to them by grading up to the foot of each bridge to prevent users from bypassing them.

## Yellow Loop mid-Trail

**Existing Trail:** No

**Surface:** Pervious paving such as compacted gravel, pervious pavers, etc.

**Total Length (approx.):** 0.04 miles; 221 feet

**Length on Louis Scott Park:** same as Total Length

**Width:** 5–6 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash), jogging, bicycling (on paved or gravel surface trails only)

1. Consider naming this trail or color coding (currently light yellow) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details).
3. Create a trail connecting the Yellow Loop Trail to provide for a shorter loop trail.

## Orange Loop Trail

**Existing Trail:** Partial

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 0.38 miles; 2,030 feet

**Length on Louis Scott Park:** same as Total Length

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (currently orange) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details). A section of this trail overlaps with the Red Loop and Yellow Loop Trails; this section should be blazed with appropriate colors and noted on the wayfinding signs.
3. Extend the existing trail to create a loop connecting the two dead-ends.
4. Place interpretive signs at key locations along the trail (see Interpretive #4 and #5 in “Signage” above for details).
5. Widen the trail around the interpretive signs to allow for small gathering spaces.

## Orange Loop mid-Trail

**Existing Trail:** Yes

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 0.05 miles; 278 feet

**Length on Louis Scott Park:** same as Total Length

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (currently orange) for trail blazes.
2. Install wayfinding signs and trail blazes (see “Signage” above for details).
3. Install one (1) bench along the trail for resting. (See the *Master Plan* map for location and “Seating” above for details).

## Red Loop Trail

**Existing Trail:** Partial

**Surface:** Pervious paving such as compacted gravel, pervious pavers, etc. and boardwalk

**Total Length (approx.):** 1.05 miles; 5,566 feet (includes proposed bridge)

**Length on Louis Scott Park:** 0.74 miles; 3,923 feet

**Width:** 5–6 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash), jogging, bicycling (on paved or gravel surface trails only)

1. Consider naming this trail or color coding (currently blue) for trail blazes.
2. Formalize as a secondary trailhead with a mini-kiosk at the secondary parking lot trail entrance and the proposed crosswalks (see “Signage” above for details).
3. Install wayfinding signs and trail blazes (see “Signage” above for details). A section of this trail overlap with the Yellow Loop and Orange Loop Trails: this section should be blazed with appropriate colors and noted on the wayfinding signs.
4. Extend the existing trail to create a loop trail:
  - a. Heading east along the park perimeter

- connecting the Louis Scott Park secondary parking lot to Memorial Park parking lot.
- b. Heading west over the wet meadow to connect to Memorial Park over the proposed Ridley Creek crossing. In order to receive clearance from USFWS before designing and installing the boardwalk over wetlands, a Phase 1 Bog Turtle Habitat Assessment will need to be completed to determine if the Boardwalk location will need to be adjusted to the southeast out of the wetland or to span the wetland.
5. Place interpretive signs at key locations along the trail (see Interpretive #6 in “Signage” above for details).
  6. Widen the trail around the interpretive signs to allow for small gathering spaces.
  7. Install a bridge over Ridley Creek to connect Louis Scott Park to Memorial Park at the northwest end of the Red Loop Trail. (see “Stream Crossings” above for details).
  8. Establish a pedestrian crosswalks on North Ridley Creek Road at Marcella Lane and Kirk Lane for neighbor access and to create a potential trail connecting the Mineral Hill Area Parks to Glen Providence Park. (see “Parking and Access” above for details).

### Connector Trail

Orange Loop Trail to North Ridley Creek Road Access and to Lookout Area

**Existing Trail:** No

**Surface:** Earthen-compacted soil

**Total Length (approx.):** 0.18 miles; 937 feet

**Length on Louis Scott Park:** same as Total Length

**Width:** 3–4 feet

**Appropriate uses:** Birding, hiking, dog walking (on-leash)

1. Consider naming this trail or color coding (currently light grey) to blaze as a connector trail.

2. Install wayfinding signs and trail blazes (see “Signage” above for details).
3. Create a trail beginning at the southernmost point of the Orange Loop Trail:
  - a. Heading southeast to connect to North Ridley Creek Road at Kirk Lane.
  - b. Heading southwest to the Lookout/Observation Area at the bank of Ridley Creek.
4. Formalize the Lookout/Observation Area with one (1) bench to allow viewing of the scenery (see “Lookout/Observation Area” above for details).

### Trail Surface Length

Within the Louis Scott Park, estimates for the length per surface type are included below for the total trails, existing trails, new trails to be constructed, and existing trails to be converted to a new surface type. The approximate total length of trails in Louis Scott Park is 14,363 feet (2.72 miles).

#### Earthen (approximate length)

Total Trails	7,433 linear feet
Existing Trails	2,457 linear feet
New trails	4,976 linear feet

#### Pervious Paved—ADA compliant (approximate length)

Total Trails	6,467 linear feet
Existing asphalt trails	343 linear feet
New trails	3,007 linear feet
Earthen to be converted	3,117 linear feet

#### Boardwalk within floodplain and wetland (approximate length)

Total Trails	463 linear feet
New trails	363 linear feet
Earthen to be converted	100 linear feet

### Trail Width Recommendations

Earthen trails	3–4 feet wide
Pervious paved trails	5–6 feet wide
Boardwalk trails	3–4 feet wide

TRAIL SURFACE TYPE	APPROX COST PER SQ FT
Earthen surface	\$1.15/sq ft
Granular (non-ADA compliant)	\$1.50/sq ft
Cinder (ADA compliant)	\$1.75/sq ft
Macadam (ADA Compliant)	\$3.50/sq ft
Permeable Aggregate Paving (ADA Compliant)	\$8.00/sq ft
Boardwalk	\$28.50/sq ft

### Approximate Trail Surface Cost (square foot)

The following cost estimates are derived using Chester County’s *Trail and Path Planning: A Guide for Municipalities* and from other expert estimates. These estimates were derived by others in 2011, 2005, and 2002 and should only be used to evaluate the relative range of costs associated with trail and path construction for differing trail surface types. They may not accurately represent the costs of trail construction within the Mineral Hill Area Parks.

## PARK USERS

### Park Hours

Instituting hours that the park is open is a good practice for safety at the park. It is recommended that the park be open from sunrise to sunset. Since sunrise and sunset are associated specific times each day, it is easier to enforce this rule, as opposed to dawn to dusk.

### Appropriate Uses

Louis Scott Park’s trails will offer opportunities for birding, hiking, dog walking (on-leash), jogging, and bicycling (on paved and gravel surface trails only) based upon the trail surface and habitat areas they traverse. In addition, the community activity area will allow for active recreation with a mown lawn, playground, outdoor exploration area (i.e., bug door, wildlife footprints), exercise stations, and a picnic area.

## Levels of Visitation

### Individual Use

Given the importance of the desired visitor experience, regular daily use should be maintained at a level that ensures infrequent encounters with other visitors while enjoying the serene natural areas while allowing for use of the community activity area. To ensure these types of experiences on the park’s proposed 2.72 miles (14,363 feet) of trails, the maximum desired visitation is about 20 visitors/small groups arriving by car at any one time—between the two parking lots. With the development under construction near the park, additional users may enter the property from their adjacent residences so their visits would be in addition to those arriving by car. Current individual use is well below this recommended level, leaving room to increase visitation without degrading the experience.

### Group Use

Occasional use by groups such as trail and birding clubs, schools and colleges, scouting groups, and other community organizations by a permit system is an effective way to increase use of the park without degrading the experience for other visitors or over-stressing staff resources. Additionally, overnight camping for small groups at the site of the previous Boy Scout camp could be provided through a permit system. For groups that do require coordination and/or a guide, Friends of Mineral Hill Area Parks volunteers could be a valuable resource.

Increasing group use should be a priority of future outreach. Focusing on groups that are likely to use the park on weekdays would be appropriate since individual use is likely to be lowest during the week. It is unlikely that demand would be such that multiple groups would be active on the park at the same time. However, that situation should be avoided if possible to ensure a positive experience for group members and other visitors. Permitting group use of the park is a positive way to involve the community, allow them to connect to nature, and has the potential to create a stronger volunteer corps that cares about the park.

## Programming and Partners

Feedback from Steering Committee and public meetings indicates that there are opportunities to expand and strengthen existing partnerships and to forge new ones. Formal and informal partnerships may include schools and colleges, scientists and researchers, local governments, private citizens, birding groups and nature clubs, hiking and running clubs, and other organizations related to the vision for the park. These groups could be a source of potential volunteers; assist with research; utilize the park for their own education programs; lead organized hikes focused on birds, woody and herbaceous plants, minerals, etc.; and provide additional ideas for other types of park-related programming. All of these groups could also benefit from communication through email alerts, social media, and other electronic means. However, all partnerships should be evaluated carefully to ensure that they do not yield too much visitation or overwhelm staff and volunteer resources.

## Volunteers

Natural Lands Trust has developed methods to involve trained and invested volunteers. Similar volunteer opportunities could be implemented at the park for engaging the community and the Friends group. The two effective methods of engaging volunteers are:

### Work Parties

Work parties accommodate groups, families, and individuals interested in a day of service. Designed to both educate and engage volunteers, work parties are an opportunity for all age groups to plant trees, control invasive plants, count birds and butterflies, and learn more about the Mineral Hill Area Parks system. Work parties should be considered an important part of the programming.

### Natural Lands Trust's Force of Nature<sup>SM</sup> Volunteer Training Program

Natural Lands Trust has developed a volunteer program called Force of Nature<sup>SM</sup>. The volunteers have participated in an in-depth training, preparing

them to assist with stewardship and visitor outreach as either a Trail Ambassador or Team Leader. Trail Ambassadors walk the trails of preserves, greeting visitors and helping with preserve care. Team Leaders lead volunteer groups or help with ongoing volunteer projects in our offices and on our preserves.

### Friends of Mineral Hill Area Parks

The Friends of Mineral Hill Area Parks system can take the role that Natural Lands Trust's Force of Nature<sup>SM</sup> volunteers do. Both the Trail Ambassador and Team Leader roles have the potential to enhance the Mineral Hill Area Parks system stewardship and engage more people to feel a vested interest in the vitality of the parks. The Trail Ambassadors and Team Leaders should be a part of the Friends group and coordinate with the park owners and lease holders. The Friends group is not intended to work as an entity on its own, but rather serve as a volunteer extension of the municipal parks and recreation committees and staff, carrying out the tasks as specified by the park owners and lease holders.

## MANAGEMENT, MONITORING, AND MAINTENANCE

Monitoring the effects of public use on the natural resources and wildlife habitat of the park is an ongoing necessity. Signage and amenities associated with public use will also need to be maintained to ensure that they remain attractive and to optimize longevity. Development of a *Stewardship Plan* is the first step toward addressing the needs of the natural resources and scheduling the associated tasks. Therefore, it is recommended that this plan is created to guide the staff and volunteers at the park. It will be necessary to determine and budget for appropriate staff time and financial resources for these maintenance and monitoring functions. Due to its budget constraints, the park will need to rely heavily on trained volunteers for monitoring, providing an opportunity to increase the frequency and reduce the costs of this activity.

## Trails

Monitoring and maintenance associated with the trails primarily includes assessing changes in the vegetation, noting soil erosion, and looking for the formation of social trails (trails formed by users' desired paths). Vegetation may be affected by foot traffic, which can damage roots, introduce invasive seeds, and widen trails allowing sunlight to penetrate areas previously shaded. Assessment of the vegetation may lead to a determination that a trail should be re-routed to avoid sensitive roots or that invasive plant removal is necessary.

Soil erosion due to continual use is a common problem on trails. As trails develop ruts, natural surface drainage patterns are interrupted and these ruts then intercept more surface water, further accelerating soil erosion. Not only does the trail itself endure irreversible changes, the soil transported off of the trails can cause problems elsewhere as it may smother vegetation, provide a place for invasive plants to thrive, or be washed into waterways where it can change the drainage patterns of the streams and harm aquatic organisms and vegetation. Once erosion begins, efforts to correct the cause need to be undertaken quickly. Corrective action may include strategically placed dips and rises, water bars, swales to redirect water flow, culverts, or relocation of the trail to a less erosion-prone location.

Social trails, or desire paths, worn by trail users are often poorly located since topography, drainage, and habitat were not considered when they were created. Therefore, these trails tend to erode more quickly and cause degradation to the surrounding vegetation and habitat. If social trails develop, it is important not only to close the trails but also to understand why they occurred. Typically they develop because trail users are interested in a feature on the site, or they are simply cutting off a corner. Re-routing the trail may be necessary to prevent re-occurrence.

## Structures and Infrastructure

Monitoring and maintenance of signage, seating, parking, and other visitor amenities are important for a positive visitor experience. Signs should be inspected regularly and cleaned or replaced as

necessary. Some signs become popular perching spots for birds, necessitating frequent cleaning, particularly in the spring. Volunteer Trail Ambassadors can be assigned the task of monitoring and cleaning signs as part of their regular visits. They can also be encouraged to pick up trash in parking areas and promptly report problems with other amenities.

## Dog Management

The current dog management policies that are in place at all of Natural Lands Trust's preserves (and outlined in a "Nature's Best Friend" brochure) are simple and relatively effective. Based on Leave No Trace principles, the existing policies rely on educating dog owners about the need to keep their pet leashed at all times and to pack out their waste. These same techniques should be considered for use at the park.

Signage, brochures, dog waste stations, and loaner leashes can assist in informing park users about appropriate dog management. Signage should include Leave No Trace messages (see [www.lnt.org](http://www.lnt.org) for more information). Consider including a dog-focused "Nature's Best Friend" brochure to be made available in the kiosk, which should describe relevant regulations and explains the reasoning behind them in clear and concise language. Dog waste stations located at the parking lots should include compostable bags and a sign indicating they can be discarded in the composting toilets (or side dog waste chute if available). Should problems with off-leash dogs increase, additional signage can be installed away from trailheads to remind visitors of the guidelines and possibly provide a place to hang loaner leashes that are donated to the park.

## Deer Management Program

Deer overabundance is a problem that affects most natural areas in our region, including the Mineral Hill Area Parks system. The recommended deer density to allow for adequate tree regeneration is 20 deer per forested square mile (one deer per 32 acres). However, to perpetuate a healthy native forest with a diversity of native shrubs and wildflowers, the recommended

deer density is 10 deer per forested square mile (one deer per 64 acres).

The habitat value of forests is greatest where there is an extensive unbroken canopy of mature trees with a diversity of native understory species that includes tree, shrubs, and herbaceous plants. Deer impact forest health by consuming native plant seeds (particularly acorns) and browsing on seedlings, shrubs, and herbaceous plants. As deer population density increases, this activity can adversely affect populations of other wildlife species, especially songbirds, through a decrease in plant species and structural diversity within the forest.

Deer overabundance is also detrimental to the deer and to human health. Because there is a lack of a good food source, the deer are not able to maintain a nutritional diet. Deer are also a host species for black-legged ticks, the primary vector of Lyme disease. Additionally, deer nocturnal movement frequently results in collisions with vehicles.

A deer management program within the park would be beneficial to the overall health of the park and surrounding community. Natural Lands Trust has maintained a deer management program within its system of 42 nature preserves. The program is designed to help reduce deer populations on the preserves to a sustainable level. Enrolled hunters are required to pass a proficiency test to ensure that they are familiar and competent with their weapons. Strict safety standards are enforced and all hunters must wear a bright Natural Lands Trust armband that allows preserve managers and others to tell from a distance if a hunter has permission to hunt on the preserve. The program is having a measurable effect on the local deer population. This program does not appear to conflict with the public uses taking place at the preserves, and is consistent with Natural Lands Trust's natural resource stewardship mission.

Hiring professional sharpshooters and bow-hunters to assist with the deer management is another option. These professionals are typically hired to come at night when the parks are closed so that interaction with park users obeying the open hours of the park will not occur. In addition, the venison can be supplied to local food banks.

Implementation of a deer management program at the park should be considered. It is important to

include advance notice of deer management with dates and times on all of the kiosks and mini-kiosks at the Mineral Hill Area Parks system. Monitoring the effects of deer browsing and educating the public about the effects of overabundant deer will be critical to the success of any future deer management program. One option to visually demonstrate and monitor the impact of deer browsing is the installation of small (10 meters square) exclosures. The growth of vegetation within these exclosures is often dramatically different than in surrounding areas with unrestricted deer access. Ideally, exclosures (with accompanying interpretive signage to educate the public about the importance of controlling the deer population to maintain forest health) should be erected in forested areas on relatively flat ground and near public trails. The setup and monitoring of deer exclosures is a valuable educational exercise that could be undertaken by local schools and colleges.

## IMPLEMENTATION PRIORITIES

Implementation of the *Mineral Hill Area Parks Master Plan* is a multiple year process that institutes gradual changes. This process will allow the landowners and leaseholders to reassess and refine strategies as well as acquire and allocate the necessary financial and staffing resources. The higher priority items, including development of the trail system, building one the southern-most bridge over Ridley Creek (between Memorial Park and Louis Scott Park), increasing volunteerism, establishing partner relationships and programming, and instituting signage are included as the first priorities on the implementation schedule.

The implementation table includes columns that list the Priority classification and the Actions with Sequence/Phase for their completion. Within each Priority classification, actions are identified—sorted by category (i.e., signage, trail, etc)—and assigned a sequence/phase number to further assist in prioritizing each action within the Priority classification. Please note that some categories contain multiple action with the same sequence/phase and that some categories skip some sequence/phase numbers.

# LOUIS SCOTT PARK: IMPLEMENTATION PRIORITIES AND PHASES

PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
1	<p><b>Parking and Access</b></p> <ol style="list-style-type: none"> <li>2. Install crosswalks over North Ridley Creek Road at Marcella Lane and Kirk Lane</li> </ol> <p><b>Signage</b></p> <ol style="list-style-type: none"> <li>1. Work with Delaware County and Middletown Township to develop a cohesive signage design and dog waste station design plan</li> <li>2. Install trail blazes</li> <li>3. Replace the Vehicular sign at the park entrance with the new signage design</li> <li>3. Include information about additional parking locations with the vehicular sign</li> <li>3. Replace the Kiosk at trail entrance with the new signage design</li> <li>3. Install mini-kiosks at secondary parking lot and at the two crosswalks along North Ridley Creek Road</li> </ol> <p><b>Stream Crossings</b></p> <ol style="list-style-type: none"> <li>1. Evaluate historical Boy Scout stream crossing structure for structural stability and install safety structures such as rails and bumpers</li> <li>2. Work with Delaware County and Middletown Township to identify funding, design, engineer, acquire permits, and construct southern-most bridge over Ridley Creek—connecting Memorial Park to Louis Scott Park</li> <li>3. Install two stream crossings over the tributaries along the shared segment of the Blue Loop and Green Loop Trails</li> </ol> <p><b>Restrooms, Pavilions and Seating</b></p> <ol style="list-style-type: none"> <li>1. Work with Delaware County and Middletown Townships to develop a cohesive design plan for structures; including restrooms, pavilions, and benches</li> </ol> <p><b>Dog Waste Station</b></p> <ol style="list-style-type: none"> <li>2. Install a dog waste station at trail entrance near primary and secondary parking lot</li> </ol> <p><b>Remnant Historic Structures</b></p> <ol style="list-style-type: none"> <li>1. Evaluate historical Brookwood Hotel wall for structural stability and repair if needed</li> </ol> <p><b>Attractive Nuisance Structures</b></p> <ol style="list-style-type: none"> <li>1. Remove the pipes and the fence</li> </ol> <p><b>Community Activity Area</b></p> <ol style="list-style-type: none"> <li>3. Clear and remove vegetation and tree stumps from the area designated as mown lawn in the Community Activity Area and replant area with grass</li> </ol>	<p>*</p> <p>\$40,000</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>*</p> <p>Staff time</p> <p>*</p> <p>\$7,500</p> <p>*</p> <p>Staff time</p> <p>**Staff or volunteer time</p> <p>**Staff or volunteer time</p>

continued

LOUIS SCOTT PARK: IMPLEMENTATION PRIORITIES AND PHASES		
PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
1	<p><b>Trails</b></p> <ol style="list-style-type: none"> <li>1. Re-surface the access trail from the primary parking lot to a pervious paved surface (i.e., compacted gravel, pervious pavers, etc.) and to allow for ADA accessibility, if at all possible. Approx. 428 sq ft long x 5 ft wide=2,145 sq ft</li> <li>2. Work with Delaware County and the Friends of Mineral Hill Area Parks volunteer corps to create the Green Loop Trail. The creation of the Green Loop Trail extends the Blue Loop Trail along their shared segment. End the Blue Loop Trail at the point where it is routed away from the Green Loop Trail until such a time when the access under Route 1 Media Bypass is established. Approx. 2,938 ft long x 3 ft wide=8,814 sq ft in Louis Scott Park and Mineral Hill County Park</li> <li>2. Work with the Friends of Mineral Hill Area Parks volunteer corps to complete the Orange Loop Trail. Section to be constructed approx. 256 ft long x 3 ft wide=768 sq ft</li> <li>2. Work with the Friends of Mineral Hill Area Parks volunteer corps to complete the Connector Trail from the crosswalk at Kirk Lane to the Orange Loop Trail and to the Lookout/Observation Area. Approx. 937 ft long x 3 ft wide=2,811 sq ft</li> <li>2. Close the four trail segments in Louis Scott Park as indicated on the trail closure map</li> <li>3. Resurface the Red Loop Trail to a pervious paved surface (i.e. compacted gravel, pervious pavers, etc.) from the secondary parking lot to the point where the trail is proposed to change to boardwalk. The Red Loop Trail should be constructed to allow for ADA accessibility, if at all possible. Approx. 659 ft long x 5 ft wide=3,295 sq ft</li> <li>3. Extend the Red Loop Trail to the southern-most bridge over Ridley Creek when the bridge is constructed. This segment of the trail is to be a boardwalk that is designed and anchored to float in a flood situation and not wash away. The entire Red Loop Trail should be constructed to allow for ADA accessibility, if at all possible. Approx 463 ft long x 5 ft wide=2,315 sq ft</li> </ol>	<p>\$3,800 [cinder] or \$17,500 [permeable aggregate paving]</p> <hr/> <p>\$10,200 [earthen]</p> <p>**Staff or volunteer time</p> <hr/> <p>\$900 [earthen]</p> <p>**Staff or volunteer time</p> <hr/> <p>\$3,300 [earthen]</p> <p>**Staff or volunteer time</p> <hr/> <p>**Staff or volunteer time</p> <hr/> <p>\$5,800 [cinder] or \$26,500 [permeable aggregate paving]</p> <hr/> <p>\$66,000-boardwalk</p>
	<p><b>Volunteers</b></p> <ol style="list-style-type: none"> <li>1. Identify specific tasks for volunteers to assist with. These may include trail creation, tree plantings, monitoring, maintenance, visitor outreach and other items identified in the <i>Master Plan</i></li> <li>1. Work with Delaware County and Middletown Township to recruit members for the Friends of Mineral Hill Area Parks volunteer group</li> <li>2. Establish a training program for volunteers such as Natural Lands Trust's Force of Nature<sup>SM</sup> program</li> </ol>	<p>Staff time</p> <p>Staff time</p> <p>\$33,000/year [includes staff and direct costs]</p>
	<p><b>Management, Monitoring, and Maintenance</b></p> <ol style="list-style-type: none"> <li>1. Update a stewardship management and monitoring plan for the natural resources of the Park</li> <li>2. Develop a monitoring and maintenance plan to evaluate and repair structures related to safety, structural integrity, and defacing. The plan should include signage, seating, stream and wet area crossing structures, restroom, pavilion, historical Brookwood Hotel wall, and structures in the Community Activity Area</li> </ol>	<p>\$7,000</p> <p>\$10,000</p>
<b>PRIORITY 1: TOTAL COSTS (as able to be estimated)</b>		<b>\$180,000-\$214,400</b>
2	<p><b>Parking and Access</b></p> <ol style="list-style-type: none"> <li>1. Implement re-design of primary parking lot including overflow parking</li> <li>1. Add bumpers to indicate spaces in the secondary parking lot</li> </ol>	<p>*</p> <p>*</p>

continued

# LOUIS SCOTT PARK: IMPLEMENTATION PRIORITIES AND PHASES

PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
2	<p><b>Signage</b></p> <ol style="list-style-type: none"> <li>1. Install wayfinding signs</li> <li>1. Install boundary signs</li> <li>2. Install interpretive signs</li> </ol> <p><b>Seating</b></p> <ol style="list-style-type: none"> <li>1. Install benches along trail system that have been designed with Delaware County and Middletown Township</li> <li>3. Replace benches and picnic tables along trail system as they deteriorate with those that have been designed with Delaware County and Middletown Township</li> </ol> <p><b>Lookout/Observation Area</b></p> <ol style="list-style-type: none"> <li>1. When installing the bench situate it to allow for the lookout/observation area over Ridley Creek</li> </ol> <p><b>Pavilion</b></p> <ol style="list-style-type: none"> <li>2. With the implementation of the re-designed parking lot, construct a pavilion and re-arrange picnic tables to create a picnic or seating space</li> </ol> <p><b>Community Activity Area</b></p> <ol style="list-style-type: none"> <li>3. Design the playground, outdoor exploration area, and the exercise stations within the Community Activity Area</li> </ol> <p><b>Small Gathering Spaces</b></p> <ol style="list-style-type: none"> <li>2. At the location of interpretive signs, widen the trail to create a small gathering space for visitors and educators to gather and discuss the information presented</li> </ol> <p><b>Trails</b></p> <ol style="list-style-type: none"> <li>1. Consider naming the trails along with color-coding them</li> <li>2. Extend and widen the Blue Loop Trail southward on the east side of Ridley Creek from the connector trail off of the primary parking lot to the intersection with the Red Loop Trail near the southern-most bridge. Approx. 1,605 ft long x 3 ft wide=4,815 sq ft</li> <li>3. Re-surface the Yellow Loop Trail to a pervious paved surface (i.e., compacted gravel, pervious pavers, etc.). The Yellow Loop Trail should be constructed to allow for ADA accessibility, if at all possible. Approx. 2,458 ft long x 5 ft wide=1,105 sq ft</li> <li>3. Create the Yellow Loop mid-Trail with a pervious paved surface (i.e., compacted gravel, pervious pavers, etc.). The Yellow Loop mid-Trail should be constructed to allow for ADA accessibility, if at all possible. Approx. 221 ft long x 5 ft wide=1,105 sq ft</li> </ol> <p><b>Programming and Partners</b></p> <ol style="list-style-type: none"> <li>1. Promote volunteer opportunities and programs to the local community</li> <li>2. Contact existing partners to identify programs that they would be willing to conduct</li> </ol>	<p>* * *</p> <p>* *</p> <p>No additional cost</p> <p>**Staff or volunteer time</p> <p>\$30,000</p> <p>**Staff or volunteer time</p> <p>Staff time \$5,600 [earthen] **Staff or volunteer time \$21,600 [cinder] or \$98,500 [permeable aggregate paving] \$2,000 [cinder] or \$9,000 [permeable aggregate paving]</p> <p>**Staff or volunteer time **Staff or volunteer time</p>

continued

LOUIS SCOTT PARK: IMPLEMENTATION PRIORITIES AND PHASES		
PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
2	<p><b>Volunteers</b></p> <ol style="list-style-type: none"> <li>1. Identify and appoint Trail Ambassadors for the parks and arrange for volunteer-led hikes</li> <li>2. Hold volunteer work parties as needed</li> </ol>	<p>**Staff or volunteer time **Staff or volunteer time</p>
	<b>PRIORITY 2: TOTAL COSTS (as able to be estimated)</b>	<b>\$59,200–\$143,100</b>
3	<p><b>Signage</b></p> <ol style="list-style-type: none"> <li>3. Install vehicular directional signs</li> </ol> <p><b>Stream Crossings</b></p> <ol style="list-style-type: none"> <li>2. Work with Delaware County and Middletown Township to identify funding, design, engineer, acquire permits, and construct northern-most bridge over Ridley Creek—connecting Mineral Hill County Park to Louis Scott Park</li> </ol> <p><b>Restrooms</b></p> <ol style="list-style-type: none"> <li>1. Install a composting toilet facility at trail entrance near parking lot. Research ability to include a chute for disposing of compostable dog waste bags</li> </ol> <p><b>Community Activity Area</b></p> <ol style="list-style-type: none"> <li>3. Install the playground, outdoor exploration area, and the exercise stations within the Community Activity Area</li> </ol> <p><b>Trails</b></p> <ol style="list-style-type: none"> <li>2. Complete the northern segment of the Blue Loop Trail to the east side of Ridley Creek from the northern-most bridge to the existing Blue Loop Trail once the northern-most bridge is built over Ridley Creek. Approx. 589 ft long x 3 ft wide=1,767 sq ft</li> <li>2. Work with Delaware County to complete the Blue Loop Trail to the west of Ridley Creek from the Green Loop Trail to the northern-most bridge once the bridge is built over Ridley Creek or an access is created under the Route 1 Media Bypass. Approx. 593 ft long x 3 ft wide=1,779 sq ft in Mineral Hill County Park and Louis Scott Park on the west side of Ridley Creek</li> <li>3. Work with Delaware County, Middletown Township, Elwyn, Inc., and PECO to develop the proposed perimeter trail from the Memorial Park parking lot to the Louis Scott Park primary parking lot. The trail should be constructed with pervious paved surface (i.e. compacted gravel, pervious pavers, etc.) and to allow for ADA accessibility, if at all possible. Approx. 3,886 ft long x 5 ft wide=19,430 sq ft in memorial Park and Louis Scott Park</li> </ol> <p><b>Programming and Partners</b></p> <ol style="list-style-type: none"> <li>1. Work with Delaware County and Middletown Township to research and reach out to potential partners including but not limited to schools and colleges; scientists and researchers; community members; birding groups and nature clubs; and hiking and running clubs</li> </ol>	<p>*</p> <p>Staff time</p> <p>*</p> <p>\$2,100 [earthen] **Staff or volunteer time \$2,100 [earthen] **Staff or volunteer time \$34,000 [cinder] or \$156,000 [permeable aggregate paving]</p> <p>Staff time</p>

## LOUIS SCOTT PARK: IMPLEMENTATION PRIORITIES AND PHASES

PRIORITY	ACTIONS WITH SEQUENCE/PHASE	ESTIMATED COST
3	<p><b>Management, Monitoring, and Maintenance</b></p> <ol style="list-style-type: none"> <li>1. Develop, monitor, and enforce dog management policy (i.e., keep dogs on leash; clean up waste)</li> <li>1. Develop a deer management program related to deer overabundance</li> </ol>	**Staff or volunteer time \$3,000
	<b>PRIORITY 3: TOTAL COSTS (as able to be estimated)</b>	<b>\$41,200–\$163,200</b>
4	<p><b>Stream Crossings</b></p> <ol style="list-style-type: none"> <li>1. Work with Delaware County and Middletown Township to identify funding, design, engineer, acquire permits, and construct center bridge over Ridley Creek—connecting the eastern and western portions of Louis Scott Park</li> </ol>	Staff time
	<p><b>Trails</b></p> <ol style="list-style-type: none"> <li>2. Create the Blue Loop mid-Trail on both sides of Ridley Creek once the center bridge is built over Ridley Creek. Approx. 274 ft long x 3 ft wide=822 sq ft</li> </ol>	\$1,000 [earthen] **Staff or volunteer time
	<b>PRIORITY 4: TOTAL COSTS (as able to be estimated)</b>	<b>\$1,000</b>
Future	<p><b>Seating</b></p> <ol style="list-style-type: none"> <li>1. Replace benches and picnic tables along trail system as they deteriorate with those that have been designed with Delaware County and Middletown Township</li> </ol>	*
	<b>FUTURE TOTAL COSTS (as able to be estimated)</b>	<b>N/A</b>
	<b>TOTAL COSTS (as able to be estimated)</b>	<b>\$281,400–\$521,300</b>

\*Estimated cost, cannot be determined until design is finalized; \*\*Costs can vary significantly if completed by staff or by volunteers



# APPENDIX A

## Full Steering Committee Meeting Agendas and Sign-in Sheets

April 25, 2012 Meeting agenda and sign-in sheet



**NATURAL LANDS TRUST**  
Steering Committee Meeting – April 25, 2012  
Sign-in Sheet

NAME	TITLE	ORGANIZATION	PHONE	EMAIL
Diane Rosencrance	Construction Project Manager	Natural Lands Trust	610-353-5640 ext 211	drosencrance@natlands.org
CRAL WALLETON	ENVIRONMENTAL SCIENTIST	ADAM PA	484-351-9309	CRALLETON@ADAMAMERICA.COM
PETE THOMAS	DIRECTOR OF FACILITIES & PROJECT MANAGEMENT	ELWYN	610-891-2159	PETE-THOMAS@ELWYN.ORG
MARC MANFRE	PARKS AND REC DELCO PARKS		(610) 891-4057	MANFRE@COMCAST
Steve Beckley	Senior Planner	Delaware Co. Planning Dept.	610-891-5214	beckley@co.delaware.pa.us
John Pickett	CRS		610 322 3683	donjv@comcast.com
JOHN PICKETT	PLANNING DIRECTOR		610-891-5205	PICKETT@CO.DELAWARE.PA.US
Karen Holm	Planning Dept - Env. Mgr.		610-891-5213	holm@co.delaware.pa.us
Jim Jeffrey	Code Enforcement Director	DEPT OF MEDIA	610-566-5270, 1246 JIM-JEFFEY@DELAWARE.PA.US	
ED CASHMAN	TWR. MANAGER	UPPER MIDDLE TWR.	610-565-4944	ECASHMAN@UPPERMIDDLE.ORG



**Mineral Hill Area Master Plan**  
Steering Committee Meeting  
April 25, 2012  
4:00 pm  
Hunt Club Building, Rose Tree Park

**AGENDA**

- I. Welcome and introductions
- II. Overview of Mineral Hill conservation history – Peter Williamson
- III. Overview of Master Plan process – Diane Rosencrance
- IV. Documents sent with invitation – Karen Holm
  - a. Participation Letter
  - b. Resolution
  - c. Certification of Title
- V. Discussion
- VI. Next meeting date to be set - the week of June 4<sup>th</sup> (Monday) – 7<sup>th</sup> (Thursday)

*Contact information:*

Diane Rosencrance, Project Manager  
ext 211

drosencrance@natlands.org 610-353-5640

June 27, 2012 Meeting agenda and sign-in sheet

MINERAL HILL AREA MASTER PLAN  
Steering Committee Meeting - June 27, 2012

Sign-in Sheet



NAME	TITLE	ORGANIZATION	PHONE	EMAIL
Daniel Cosman	Conservation Project Mgr.	NLT	610-353-5640x211	dcosman@nolandstrust.org
Mark Bradford	Midwest Planning		610-891-0299	mbradson@comcast.net
Lorraine Bradshaw	Madison Council	WOC	610-627-9607	lbrad@wocpa.org
John Piccetti	DCPD	DIRECTOR	610-891-5200	piccetti@delawarepa.us
Rodney Stark	Mgr. Real Estate	PECO	215-841-5793	rodneystark@exeloncorp.com
Steve Beckley	Senior Planner	DCPD	610-891-5214	beckley@dcpd.org
Peter Williamson		NLT		
Karen Holm	DCPD	Manager Env. Section	610-891-5213	holm.k@dcpd.org
Kathy Hepler	UP Township Parks & Rec	Upper Providence	610-208-5909	kathy@solohoops.net
Jessica Visek	Chair Upper Township 2009-2011 Commission	Upper Providence	484-915-5193	jvisek@comcast.net
Craig Marleton	Env. Specialist	ADWA PA	484-356-9309	cmarleton@adwa-nm.com



**Mineral Hill Area Master Plan**  
Steering Committee Meeting  
June 27, 2012  
6:00 pm  
Natural Lands Trust ~ Hildacy Farm Preserve  
1031 Palmers Mill Road, Media, Pa 19063

**AGENDA**

- I. Welcome and introductions
- II. Walkways and boardwalks presentation – Mark Bradson
- III. Questionnaire Discussion – All
- IV. Next Steering Committee meeting date - September (before Public Meeting)
- V. Set Public Meeting Date – September (after Steering Committee meeting)

*Contact information:*

Diane Rosencrance, Project Manager  
ext 211

drosencrance@natlands.org 610-353-5640

September 11, 2012 Meeting sign-in sheet (no agenda for this meeting)

MINERAL HILL AREA MASTER PLAN  
Steering Committee Meeting - September 11, 2012

Sign-in Sheet



NAME	TITLE	ORGANIZATION	PHONE	EMAIL
Diane Rosincanu		NLT		drosincanu@natlands.org
PETE THOMAS		ELwyn		
Megan Beatty		NLT		mbeatty@natlands.org
Karen Holm		PCPD		holm.k@co.delaware.pa.us
Mack C. Bradson		Middletown Twp		mbradson@comcast.net
Judith Auler		CRC Watersheds Association		donauler@aol.com
Jim Jeffrey		Maria Borough		jim-jeffrey@media.borough.com
Jessica Visek		UP		JVisek@comcast.net
Kathy Heopler		UP Parks & Rec		Kathy@solohoops.net
LORRAINE BRADSON		MIDDLETOWN TOWNSHIP		lbradson@bradsonlaw.com

**January 31, 2013 Meeting agenda (no sign-in sheet for this meeting)**



**Mineral Hill Area Master Plan**

Steering Committee Meeting

January 31, 2013

6:00 pm

Natural Lands Trust ~ Hildacy Farm ~ 1031 Palmers Mill Road, Media, Pa 19063

**AGENDA**

- I. Welcome and introductions
- II. Overview of Draft Mineral Hill Master Plan – Diane Rosencrance
- III. Schedule
  - a. 2<sup>nd</sup> Public Meeting – 7:00pm Tuesday March 19th at Delaware County Council Meeting Room
  - b. Meeting with Delaware County Council – early March - date to be determined
  - c. Maps for Middletown and Upper Providence for steering committee members to present to their Board of Supervisors ??
  - d. Last Steering Committee Meeting – Mid-Late May 2013
  - e. Final Public Meeting – Early June 2013
- IV. Discussion

*Contact information:*

Diane Rosencrance, Project Manager

drosencrance@natlands.org 610-353-5587

ext 211

# APPENDIX B

## Public Meeting Agendas, Sign-in Sheets, and Meeting Notes

September 25, 2012 Agenda, sign-in sheets and meeting notes

### Mineral Hill Area Master Plan

a joint plan for

Mineral Hill Park ~ Louis W. Scott Park ~ Memorial Park

#### Public Meeting

September 25, 2012 at 7:00 pm

*The intention is to create an integrated Plan that allows each of the municipalities to develop their respective parks so as to limit redundancy, increase public benefit, and ensure environmental quality. The Master Plan will provide recommendations on appropriate park uses, trail system layout, site amenities and stewardship of natural resources. The amenities might be items such as parking, signage, seating, and recreational facilities.*

#### Agenda

##### Welcome and Introductions

Diane Rosencrance, Natural Lands Trust Conservation Project Manager  
John Pickett, Delaware County Planning Department Director  
Mario Civera, Jr., Delaware County Council Vice Chairman  
Marc Manfre, Delaware County Parks and Recreation Department Director  
Kathy Heupler, Upper Providence Township Parks and Recreation Board Chair

##### Overview of Parks

Diane Rosencrance, Natural Lands Trust Conservation Project Manager

##### Public Comment Session

Peter Williamson, Natural Lands Trust Vice President of Conservation Services

For more information:

Delaware County's Mineral Hill Area Master Plan webpage located at:

<http://www.co.delaware.pa.us/planning/environmental/MineralHillAreaMasterPlan.html>

Contact:

Diane Rosencrance, Conservation Project Manager  
Natural Lands Trust, 1031 Palmers Mill Road, Media, Pa 19063  
610-353-5587 ~ [drosencrance@natlands.org](mailto:drosencrance@natlands.org)

MINERAL HILL AREA MASTER PLAN

Public Meeting September 25, 2012

Sign-in Sheet



NAME	ADDRESS	PHONE / EMAIL
S.M. DECARSO	1261 POST HASE RD	610 566 7432 MDECARSO@AOL.COM
Mary Anne Eves	58 Barron Rd Media PA	610 866 2342 mthsdelco@hotmail.com
BRUCE CLARK	MADACEJEWELL TER	610 565-2700
Keris Boyle	1521 N. Providence rd.	610-892-9484 BoyleK@co.delaware.pa.
Jessica Visek		
Rodney Herpin		
Quilix Antie	Shuren, com.	
Nicole Caldwell	1240 Hunt Club Ln Media PA	215-527-4067 nicole-caldwell@verizon.net
Jacqueline DeJesse	80 S Pennell	610 566-7888 @AOL.COM ANDJ809
Walt Cressler	300 N. Providence Rd. Media	610-565-2472 wcressler@wcupa.edu
Tony Fernandez	741 MONUMENT RD MALVERN	610-645-1144
MARY MINTON	25 COOK RD, MEDIA PA	610-565-6694
Steve Beckley	201 W. Front St. Media PA 19063	610-891-5214

MINERAL HILL AREA MASTER PLAN

Public Meeting September 25, 2012

Sign-in Sheet



NAME	ADDRESS	PHONE / EMAIL
Hank Bishop	1261 Robin Hill Rd.	267-235-9444
Sally Jo Davis	225 Robin Rd. Media	610 505-5058
Mark C Brandon	242 Barnum Dr. Media	610-891-0299
Kathy Bepko	1515 N. Ridley Creek Rd. Media	610 566 6261
Robert Kunz	445 Horseshoe Ln Media	610-566-5607
Ginny McIntosh	DCPD MEDIA	(610) 891-5215
Greg Lebold	Upper Providence	610-565-4944 / gklebold@upperprov.org
Stephanie Substant	506 Paul's Edge Ln. Media	610-324-9465 google@gutenberg.org
Cole Gortz		
HARRY WONG	500 Springview Lane Media	610 585 5385 HARRY@ZCOMCAST
Dylan Atkins	485 Kirk Lane Media PA	
Kyrene Edelman	2331 N. Ridley Creek Rd. Media PA	610-565-7829
Bertie Brown	1641 N. Ridley Creek Rd Media PA	610 565 6986

MINERAL HILL AREA MASTER PLAN

Public Meeting September 25, 2012

Sign-in Sheet



Natural Lands Trust

NAME	ADDRESS	PHONE / EMAIL
Kathleen Ford	1051 Dale Rd. Media	610 565 1474 ford198@comcast.net
Whitney Noye	301 Kirk Lane	(VP) Media PA 5654489 wfnoye@comcast.net
E. J. Brannan	991 Adams's mill	326-3727 brannan3@comcast.net
Faith Balsam	588 Kirk Lane	FBALSAM@NLSMTC.ORG
Robert Church	1268 Hunt Club Lane	
SANDRA HURCH	1268 HUNT CLUB LA-	
Roberta Krussler	410 Kirk Ln Media (U.P.)	477-326-9883
Lora Werner	436 Solire St Media J.P.	610 627 2123 lorawerner@hotmail.com
 Lora Werner	436 Solire St Media J.P.	610 627 2123 lorawerner@hotmail.com

MINERAL HILL AREA MASTER PLAN

Public Meeting September 25, 2012

Sign-in Sheet



NAME	ADDRESS	PHONE / EMAIL
Dane Rosinrance Natural Lands Trust	1031 Farmers Mill Road Media, PA 19063	610-353-5587 droseurance@Natlands.org
Rodney Stanek PECO	2301 Montefirst Phila. PA 19103	215-841-5793 rodneystanek@peco.com
PEETE THOMAS ELwyn	132 S. HIGHLAND RD SPRINGFIELD PA 19063	PEETE_THOMAS@elwyn.pa.us
Zach Barner DCPD	201 W. Front St. Media, PA 19063	barnerz@co.delaware.pa.us
Steve Kosrak	2320 Chestnut St Plymouth PA 19003	610-648-3442
Jim Wigo	46 Womack - Springfield 334 W. Front St. Media, Pa	610 389 3023 610-565-8800
LORANE BROOKER	273 LINT-SCOTT CT MIDDLETOWN PA	610 627 9607
Roger Mitchell	547 Fairview, Ave Media PA	610 891 0974
Andy Spil	30 Pines Lane New Vally	610-566-2569 - SCGRAHAM4@VERIZON.NET
Susan Graham	1 Gen. Washington Drive	610 565-4903
Steve Wood	47 S NEW HAVEN LN	610 566 4284
Michelle Janney	110 Idlewild Ln. Upper Providence, 19063	610-851-9928/ Mk.janney@verizon.net

**MINERAL HILL AREA MASTER PLAN MEETING COMMENTS**  
**Delaware County Government Center**  
**September 25, 2012**  
**7:00 – 8:30 p.m.**

Combined notes of: Diane Rosencrance and Steve Beckley

**I. Welcome and Introductions**

**Diane Rosencrance**, Natural Lands Trust Conservaton Project Manager, the project manager from Natural Lands Trust, welcomed everyone to the first public meeting of the Mineral Hill Area Master Plan.

**John Pickett**, Director of the Delaware County Planning Department

- Thanked everyone for coming out.

**Mario Civera, Jr.**, Vice-Chairman of Delaware County Council.

- Introduced by **John Pickett** – 3<sup>rd</sup> year on County Council, oversight of County Parks is one of his responsibilities. Previously he was a representative on the state legislature for 30 years and, before that, on the Upper Darby Township Council.
- Was a member of the State House of Representatives when a number of pieces of legislation were passes to preserve open space. He saw the grant to help preserve Mineral Hill pss through the legislature for approval.
- Credited County Council for the acquisition of the County's Mineral Hill in 2010, specifically then-Vice Chairwoman Christine Fizzano-Cannon.
- Mineral Hill is something that we can be proud of. When we look at it, we want to take into consideration the natural habitat – if we would not have preserved it, a developer would have built upon it. We want to take care of it.
- Councilwoman Colleen Morrone would have been here, she is the Council member responsible for Planning, but she had a prior engagement.

**Marc Manfre**, Director of Delaware County Parks and Recreation

- Welcomed everyone. He is very excited about this project. Mineral Hill is going to be a great addition to the County Parks system.
- Thank you to Natural Lands Trust and the staff of the Delaware County Planning Department.

**Kathy Huepler**, Upper Providence Township Parks and Recreation Committee

- Is on the Study Committee with Jessica Viseck of the Township Environmental Committee. Upper Providence is happy to join with other organizations and use natural resources to benefit the community as a whole. The Upper Providence owned and controlled portions are very important to the Township's residents.

**II. Overview of Parks**

**Diane Rosencrance**, NLT – PowerPoint Presentation

- Study Area
  - o 41 acre Mineral Hill Park owned by Delaware County, purchased in 2010.
  - o 6 acres eased to Delaware County on land owned by Elwyn, Inc.

- o 13 acre Memorial Park, owned by Media Borough, leased to Aqua PA, sub-leased to Middletown for recreational use.
- o 27 acre Louis Scott Park, owned by Upper Providence Township, leased to Aqua PA, sub-leased to for recreational use.
- o 37 acre Lavin Tract (now part of Scott Park) owned by Upper Providence Township
- o Entire project area is approximately 123 acres.
- NLT has digitized existing trails (dirt paths). Will go out again to confirm locations.
- Steering Committee members were named and, if present, identified themselves.
- The goal is to plan for a collection of adjacent parks which will function as one park to the visitor. Looking at existing features, what the community wants, potential partnerships
- A summary of each component park showing photos of features, facilities, and views was presented.
- Environmental features were discussed using map overlays
  - o 100-year floodplains
  - o Topography (5' contour intervals) and steep slope areas
  - o Natural Wetlands inventory – emergent wetlands
  - o Natural Heritage Inventory of Delaware County – two sites identified: “Mineral Hill” and “Media Wetlands.” Mineral Hill NHI site significant for serpentine barrens. A Robert Wright study from 2005 noted no significant minerals in high concentration besides moonstone and sunstone. John Crump’s quarry was formerly located here.
  - o NLT will also look at vegetation
  - o NLT will look at areas outside of the sensitive areas as possibilities for being appropriate for active recreation such as a playfield or a playground.
- NLT will look at existing public lands and destinations near the study area to recommend pedestrian connections.

### III. Public Comment Session

**Peter Williamson**, Natural Lands Trust, Vice President of Conservation Services, led the public comment session. A few questions were presented to help organize the discussion: Current experience – What do you like about the parks now? What don’t you like that you’d like to see gone? Improvements – What sorts of things would you like to see placed there and kept (parking lots, trails, bridges, boardwalks over wetlands). Opportunities – What additional opportunities would you like to see that would allow the community to play a more active role? (perhaps the school curriculum could involve the park. Please state your name and be concise.

#### **Mario DeCorso – Upper Providence resident**

- agrees about preserving this open space, commends Councilman Civera on his statements on the acquisition’s importance.
- walks the trails with his dog in Louis Scott, Memorial, and Mineral Hill Parks
- does not want any more athletic space and ball parks built before exploring more cooperation in scheduling ball field usage between Rose Tree Media School District, and other users and operators of fields.
- commends Delaware County for getting involved in Master Plan process

#### **Hank Bishop – Upper Providence resident**

- applauds this effort and everyone involved
- agrees with getting a consensus on what the uses of the site should be
- also votes against active ball fields to protect drinking water quality (water treatment plant

downstream and ball fields require herbicides and pesticides

- he and wife walk 3 miles a day at Tyler and Ridley Creek State Park
- feels that connecting the trails is important-an improved trail system that is well-signed and can educate people on diversity of environments in the park
- Not advocating paved trails per-se (or all paved trails)
- discuss and possibly utilize historic structures (including camp structures)

**Bill Brainerd – Marple resident**

- leads hikes at these parks
- would like to see a legal right-of-way and crosswalk to get from Glen Providence Park, cross the road, and enter Louis Scott Park in the southern end.
- In favor of a pedestrian bridge at the middle of the stream length
- would like more trails particularly in the southern section of Scott Park and in the northern section of the Study Area.
- existing trails should be marked now, even if it's with blazes on trees
- retain the historic wall from the hotel site

**Kathleen Ford – Hillendale resident – across street from Lavin tract (northern Louis Scott Park)**

- notes that kids from neighborhood have in the past and continue to use Louis Scott park to play ball, ride bikes, run races (unsupervised play)-is concerned that some of the natural use will be lost
- We have become inundated with noise from vehicles and modern life [this property provides relief]. New housing developments have greatly increased this traffic.
- has worked with Upper Providence for Open Space
- would like to use it for natural recreation – natural fun, not ball parks, not cement parks, not organized sports
- would like to protect the natural are we have left
- the park is a gem

**Mary Minton—Middletown Township resident**

- Would like the park to be a peaceful, serene, and natural setting with expansion of the trails

**Jackie DeJesse—Vice President, Middletown Township Land Conservancy**

- Wants to save the water supply and is against development of active recreation here
- Would like to connect the trails and have bridges to connect

**Stephanie Gaboriault—Media resident**

- Commends the County's action and everyone involved
- Has hiked most of park
- Would like improved trails with minimal impact that connect across creek and have boardwalks through wetlands
- Would hate to attract too many rock enthusiasts and hurt the site with disturbance
- Would like to see interpretive signs on history and environmental features

**Bill ?**

- Does not want ball fields
- Would like more loop trails (as opposed to dead ends) – as a unifying experience

**Kathy Bepler—Upper Providence resident**

- Would like low impact recreation
- Concerned about invasive plants and would like to help manage for removal of them  
(Peter Williamson – noted that NLT will include an invasive management section in the master plan)

**Andy Saul—Rose Valley**

- Would also like invasive plants to be managed and removed (he is an expert on invasives and their management)
- Does not like Ridley Creek State Park due to invasive plants taking over – takes some of the fun out of the experience
- Would like a bridge across the creek as part of a trail

**Lora Werner—Media resident**

- Navigating trails is difficult, trail loops would be good
- Consider a paved loop on the outside perimeter as accessible trail for bikes, strollers, and older citizens.  
(Peter Williamson gave a comparable example of a large loop trail – the trail at Marple Township’s Veterans Memorial Park)

**Roger Mitchell—Delaware County Institute of Sciences**

- Questioned the accuracy of the 2005 geology study for Mineral Hill – believes there are many more types of minerals found there
- Has been collecting minerals for the past 35 years, knows “every square inch” of that property
- Suggests allowing only surface collecting and no digging
- Mentions that deer blinds are in the park and that monitoring is needed to mediate unwarranted uses
- Noted that he would volunteer to be a steward of the Mineral Hill area
- **Marc Manfre** noted that Delaware County Park Police patrol parks. Park Police can coordinate with State Police. Parks doesn’t have the manpower to patrol on foot and parts of this facility will be inaccessible by vehicle. The Parks Department does troubleshoot. Manfre would be happy to talk about the security issue at length at another time.
- **Peter Williamson** said that previously Mineral Hill Park just a property of Elwyn, Inc. Now it will be improved into a public park
- **Mr. Manfre** is already getting inquiries from scouting groups wanting to camp at Mineral Hill

**Steve Kosiak—Delaware County Anglers**

- Ridley Creek is stocked upstream of this site
- Would like to open up an area or trail along creek for fishing for families. An area such as this is very popular at Ridley Creek State Park

**Robert Kressler—Upper Providence resident**

- Has encountered hunters with shotguns on the parks
- Suggests signage about allowed uses-particularly hunting-to be more prominent
- Hunters would understand and adhere by regulations if it were posted
- It should be posted and made known what the site is (that it is public parkland)
- (Marc Manfre stated that hunting is not permitted on Delaware County parks, and it will be posted at Mineral Hill. There will be no special permissions.)

**Faith Balsama – lives on Kirk Lane, Upper Providence Township**

- Can hear repetitive gunfire at night from park

**Bertie Bonner**

- Suggests a “Friends of Mineral Hill” volunteer group –which she would be a part of
- **Marc Manfre** said he welcomes the formation of a friends group. Friends group have benefitted parks and assisted the Parks staff at Smedley Park and Glen Providence Park.
- **Peter Williamson** said that it can really be helpful for an administrator like Marc to have a friends group to lend assistance.

**Michelle Janmey—Upper Providence resident**

- Consider working with schools for environmental education
- Does not want ball fields and prefers very limited active recreation
- Suggests boardwalks in wet areas to allow access close to the creek
- Currently hikes the trails with her family
- Suggests brochures for self-guided walks, and a place to sign-in so we have better statistics about usage
- Suggests trail markers – signs or blazing

**Ashley Nagle—Upper Providence resident**

- Visits Scott Park with family
- Does not want ball fields on the site
- Would like it to be left open
- Suggests having guides to ecology natural flora and fauna available – brochures and maps at a kiosk or to take
- Use property for ecological education
- Provide better connections to and between various trails
- Notes that trails along the creek are obliterated during flooding. They could work in some seasons, but in wet times they might just not work out.

**Jim Wigo—Rose Tree Media School District Superintendent**

- “We don’t need any more ball fields”
- Would like to formalize research and a learning curriculum for environmental education
- Offers assistance as part of “friends” or and with learning experiences
- **Marc Manfre** – doesn’t foresee ballfields (at least on County’s Mineral Hill Park); wants to preserve what we presently have in terms of open space.

**Harry Morgan—Upper Providence resident**

- Has walked almost all of the property
- Would like more trails to connect the parks together and to Media would like to see loop trails created in the parks.

**Peter Williamson questioned :**

How does everyone feel about expanding the open grass area for use (like the great lawn at Glen Providence Park, for example)? Removing the invasive plants and keeping the area open – Not as ball fields, but as an open mown area?

- There was a consensus in the crowd that this is a good idea as long as it isn’t just converted to ball fields

**Unknown commenter**

- Suggested a children’s playground

**Unknown commenter**

- Why can't we leave these parks natural?
- **Marc Manfre** listed some County Parks facilities. The County has plenty of active and passive recreation facilities – the more this is kept natural the less resources it will take to manage.

**Unknown commenter**

- The Lavin tract already has an open area.
- Suggested an outdoor amphitheater or a place for gatherings.
- **Peter Williamson** said that there are invasive plants and trees in that area. We could plan for their removal and for native plantings under the trees there.
- **Stephanie Gaboriault** said that the great lawn (clearing) at Glen Providence Park was a meadow originally.

**Bruce Clark—Middletown Township Manager**

- Open clearings are good to have to serve as vistas and dividing areas between wooded sections. They do need maintenance so they don't fill in with invasive trees.
- Stated in reference to Peter's question that losing junk trees (non-native species that have sprouted up and dominated former clearings) and invasive plants would not be a bad thing. Keep the good trees that are native, though.
- Suggested extending the trail loop up to Rose Tree Road (use the road bridge also as a trail bridge), put on the plan as a future opportunity to make sure that connection is not lost. Heilbron homeowner's association space could be used to get to the bridge on the Middletown side.

**Hank Bishop**

- Parking could be a problem. Do we want more?
- Agree on using Rose Tree Road bridge for accessing both sides of the creek, maybe instead of a new pedestrian bridge (money could be used elsewhere)
- We don't have a park nearby like this one that could be used as a showcase for environmental education
- Maybe focus should be as an educational experience – remove invasive plants and show as an example of restoration

**Roger Mitchell**

- Questioned if there is going to be a buffer between park and Elwyn development tract
- (**Bruce Clark** responded that the preliminary plan is approved and right now the area will be backyards of townhomes. No buffer is proposed. Leaving that piece of land to Elwyn for development was a tradeoff to be able to preserve as much as the County did. You're going to know the townhouses are there.)
- **Judy Auten, CRC Watersheds** suggested that maybe the developers could be invited into the discussion and could play a role in softening the boundary.

**Steve Kosiak, Delco Anglers**

- Be careful of being in violation of the Clean Streams Law. Consider sanitary control to protect water quality – dog feces and human urination
- Needs bathrooms/restrooms in the parks

**Peter Williamson questioned parking needs**

- Across from Elwyn, Inc. entrance is the most logical entrance into the new development. Memorial Park

could be the main site for parking.

- Noted that access to grading of parking is to be completed by developer of Elwyn's tract and will improve access to Mineral Hill park

**Bruce Clark**

- Regarding Memorial Park – the parking is just the area that was already cleared when it was turned into parking. Middletown inherited the site that way when they acquired the property. Previously it was used for construction of the PECO pole and for another use when it was a Media Borough park.
- **Peter Williamson** – It could be shrunk, enlarged, or left the same size.

**Hank Bishop**

- Do not increase parking areas
- We could even get rid of asphalt and use pervious cover
- Include future parking expansion in plan if it becomes necessary
- **Peter Williamson** – Ridley Creek Road shoulder, near Rose Tree Road is a terrible place to park. We could recommend to improve or eliminate these parking spaces.

**Stephanie Gaboriault**

- If parking is kept the same and not expanded, include signs in parking lots that indicate where other lots are located if one is full

**Kathleen Ford**

- Would like handicapped accessible area and trail at the site, decks, and playground equipment
- Mentioned that bicycling on Ridley Creek Road is dangerous, but people are doing it more and more

**Unknown commenter**

- Leave parking areas to a minimum; no need for more. If park becomes popular, people will have to come back later.
- **Peter Williamson** – The drawback is that if the park becomes really popular people will park along the street in adjacent neighborhoods, possibly disturbing the residents.

**Ashley Nagle**

- The Lavin/Brookwood lot could include an unpaved section reserved for expanding the lot on big activity days – a temporary expanded lot.
- The plan should look at how many people the park can sustain and use this to consider appropriate parking size
- Allow parking to determine use

**Peter Williamson**

- Concerned that not enough parking would have people parking on the adjacent residential streets which would cause a potential danger with road crossings

**III. Project Timeline**

**Diane Rosencrance** presented a tentative project timeline.

- Public Meeting #2 – December 2012 or January 2013, Presentation of a draft plan, followed by a 2-week comment period.
- Public Meeting #3 – June 2013. Presentation of final draft.

**April 23, 2013 Agenda, sign-in sheets and meeting notes**

# Mineral Hill Area Master Plan

a joint plan for  
Mineral Hill Park ~ Louis W. Scott Park ~ Memorial Park

## **Public Meeting April 23, 2013 at 6:00 pm**

*The intention is to create an integrated Plan that allows each of the municipalities to develop their respective parks so as to limit redundancy, increase public benefit, and ensure environmental quality. The Master Plan will provide recommendations on appropriate park uses, trail system layout, site amenities and stewardship of natural resources. The amenities might be items such as parking, signage, seating, and recreational facilities.*

### **Agenda**

#### **Welcome and Introductions**

Planning Karen Holm, Delaware County Planning Department Manger, Environmental  
Marc Manfre, Delaware County Parks and Recreation Department Director  
Mario Civera, Jr., Delaware County Council Vice Chairman  
Diane Rosencrance, Natural Lands Trust Conservation Project Manager

#### **Presentation of Draft Master Plan**

Diane Rosencrance, Natural Lands Trust Conservation Project Manager

#### **Public Comment Session**

Diane Rosencrance, Natural Lands Trust Conservation Project Manager

For more information:

Delaware County's Mineral Hill Area Master Plan webpage located at:

<http://www.co.delaware.pa.us/planning/environmental/MineralHillAreaMasterPlan.html>

MINERAL HILL AREA MASTER PLAN

Public Meeting April 23, 2013

Sign-in Sheet



NAME	ADDRESS	PHONE / EMAIL
Steve Kosrak	2320 Chestnut Ave Ardmore Pa	610-644-3442 SKOSRAK@VERIZON.NET
Pete Thomas	132 S. Highland Rd Spring Field PA.	
Rodney Stark	18 Messier Rd Springfield PA	
Andy Sal	30 Pines Lane Rose Valley	610-566-2569
Jack & B-e-Fung	1071 N KINGSWAY GORE 174010	610-505-3288 AWARD@NATELPHONICOM
Rena Barnett	230 S. Ridley Creek Rd. Media	610 566-7394 Rbarnett@B@verizon.net
Nickelle Janning	110 Idlewild Dr. X up Pm	mk.janning@Verizon.net
STEVE WOOD	47 SLRINGHOUSE LN MEDIA	THEWOODSSK@COMCAST.NET
DAVID COOPER	1419 CONWAY CT. SUMMERSIDE PA	dcooperla@vericom.net
Zach Barner	Delaware County Planning (univis)	barnerz@co.delaware.pa.us
Cynthia John	56 TOTY Woods Way Media	CCARIST@JONCO
Regina MacKerel	200 OLD Forge RD Kennett Square	VERIS@COMCAST.NET party@india.com
LORRAINE BRONKHAW		
Kathy Heupler-Committee	Palmer's Mill Rd Media PA	19063

MINERAL HILL AREA MASTER PLAN

Public Meeting April 23, 2013

Sign-in Sheet



NAME	ADDRESS	PHONE / EMAIL
R. BRUCE DOWNING, SR.	P.O. BOX 137 LIMA, PA 19037	610-566-0898
G. SULLIVAN	MEDIA, PA	484-343 8715
Nancy + Bob Bernhardt	Media Pa	610-565-8387
Mark C Bradshaw	242 Business Ks, Media	610-891-0299
Walt Smith	201 LEVIN AVE MEDIA PA	610 637-8758
Ren Delmar	986 Oak Crest Ln "	" 565 5796
Ashley Nagle	301 Rock Lane U.Pa.	610 565 4487
Josiah S. Seaman	UPPER PRINCIPENCE	610.565.0633
Nancy Dwork	223 E 4th Media	
Steve Nadworny	502 Morris Wallingfor	6108729429
Doloro	" " "	"
Anne Murphy	CRC Watersheds Ass PO Box 227 Gradyville PA 19039	610-354-4440



**MINERAL HILL AREA MASTER PLAN PUBLIC MEETING MINUTES**  
**Delaware County Government Center**  
**April 23, 2013**  
**6:00 – 7:30 p.m.**

**I. Welcome and Introductions**

Karen Holm (**KH**), Manager, Delaware County Planning Department, Environmental Section

- Began the meeting by welcoming everyone and introducing County Planning staff. Introduced Marc Manfre.

Marc Manfre (**MM**), Director of Delaware County Parks and Recreation

- Welcomed everyone. He said that this is a process and we are nearing its end. The Parks Department is looking forward to developing and managing trails on the Mineral Hill Park. He welcomed everyone to the meeting on behalf of County Council.

Diane Rosencrance (**DR**), Natural Lands Trust (NLT) Conservation Project Manager, the project manager from Natural Lands Trust, welcomed everyone to the second public meeting of the Mineral Hill Area Master Plan. She recognized the plan's steering committee members who were in attendance. We have had great attendance at our steering committee meetings.

**II. Overview**

**DR** – PowerPoint Presentation

- First part of presentation, the project area overview, was almost identical to presentation at last public meeting
- Study Area
  - o 41 acre Mineral Hill Park owned by Delaware County, purchased in 2010. Rock outcroppings, steep slopes, remnants from boy scout camp, wetlands, woodlands, creek beds, trails.
  - o 6 acres eased to Delaware County on land owned by Elwyn, Inc.
  - o 13 acre Memorial Park, owned by Media Borough, leased to Aqua PA, sub-leased to Middletown for recreational use. Wetlands, benches looking over Ridley Creek, large parking area.
  - o 27 acre Louis Scott Park, owned by Media Borough, leased to Aqua PA. Beautiful wetland, picnic tables, trails.
  - o 37 acre Lavin Tract (now part of Scott Park) owned by Upper Providence Township
  - o Entire project area is approximately 123 acres.
- Slides showed existing trails (dirt paths).
- List of municipalities and organizations represented on the Steering Committee (including Elwyn, Inc., Aqua PA, CRC Watersheds Association, PECO).
- The goal is to plan for a collection of adjacent parks which will function as one park to the visitor. Looking at existing features, what the community wants, potential partnerships
- A summary of each component park showing photos of features, facilities, and views was presented.
- Environmental features were discussed using map overlays
  - o 100-year floodplains
  - o Topography (5' contour intervals) and steep slope areas
  - o Natural Wetlands inventory – emergent wetlands
  - o Natural Heritage Inventory of Delaware County – two sites identified: "Mineral Hill" and "Media Wetlands."

- o Steep slopes on the west (County) side. Floodplains on the flatter east side.

### III. Public Comments

#### DR – PowerPoint Presentation (continued)

- We received many public comments including many duplicate comments.
- DR showed examples of the many topics covered by the comments and things of which citizens are in support. All of the comments are being addressed in the master plan.
- For example, commenters were in support of the play area fishing area, and hunting with a permit. They were also in support of allowing volunteering and education at the park.
- People want to be able to use and restore historic resources (like a stone wall). There is a heavy desire for loop trails bridges and crosswalks.
- There is also a desire for signage to unify parks and indicate uses – wayfinding, educational, and interpretive.

### IV. The Draft Master Plan

#### DR – PowerPoint Presentation (continued)

- DR revealed the Draft Master Plan drawing and began to describe the details.
  - o The biggest thing to point out initially is the vegetation featured on the map.
  - o It is also very important to know, when looking at the recommended amenities, that this is a very long term plan. All recommended expenses added together would be a lot – way too much to install in a short time.
  - o The point of this Master Plan is to present a vision – to come together to say what the vision for the Area should be. This allows the County and municipal landowners to go to grant funding searches (DCNR, etc.). Many funding sources require a plan such as this.
  - o Implementation of the plan can be done in phases or by priorities. Bridges may come later.
  - o The southernmost pedestrian bridge across Ridley Creek on the Master Plan is the highest priority bridge. The northern one is next followed by the middle one.
  - o Connections to neighboring areas
    - Across Rose Tree Road to Heilbron (Continue on from perimeter trail)
    - To Glen Providence Park (2 road crossings) Kirk Lane has stop signs
    - To Elwyn – “pig tunnel” under Baltimore Pike
  - o Trail loops – colored red, yellow, blue, etc. on plan, distances are approximate, as GIS mapping did not take elevation into account.
    - Pavement proposed for trails is pervious.
    - Red loop (1.25 miles) has a lot of change in elevation, includes the first priority bridge over Ridley Creek, and could make a good loop/perimeter connection.
    - Yellow loop – has several segments or mini-loops, some at natural areas. Runs around the community activity area on the Lavin tract (0.82 mile)
    - Blue loop around the creek incorporates all three bridges.
    - The green loop (0.55 mile) is near the creek and back on the slopes on the County property and overlaps with blue loop.
    - Three trails that are not loops connect to parking lots and the edges of the properties.
  - o Proposed signage – give a sense of connectivity and provide information about the parks.
    - If sign tells why – people more likely to understand
    - Wayfinding signs – we need to make sure visitors don’t get lost on trails
  - o Mineral Hill County Park – features in the plan drawing:
    - Existing bridge needs help.

- Includes new and existing trails.
- Parking will be developed with the adjacent Skycrest development.
- Lookout – amazing view over valley.
- Composting toilet – may also take dog waste.
- Louis Scott Park – features in the plan drawing:
  - In plan Brookwood to remain and be incorporated.
  - Community Activity Area. The only trees there are “junk trees” and invasive plants. Proposed lawn for play area. Exercise stations.
  - Parking moved to one place with the same number of spaces.
- Memorial Park – features in the plan drawing:
  - All trails exist, but some surface type changes are proposed such as earthen to paved. Existing trail is too close to the creek. Barring issues with erosion, decided to make this a pervious pavement trail to correct/mitigate this.
  - Floating boardwalk (anchored to prevent it from washing away).

## V. Public Comment Session

**DR** reminded attendees that besides voicing comments and concerns at the meeting, comment sheets can be filled out and returned at the end of the meeting or sent back to her. The following are comments from meeting attendees, who were asked to say one comment or question until everyone who wanted to comment has spoken, then additional comments will be allowed.

Ken Delmar (**KD**): Why can't I canoe there? Why aren't there facilities to launch canoes?)

- Zach Barner (**ZB**), Delaware County Planning Department: Aqua water company outtake nearby (safety/liability issues?)
- Mark Bradson (**MB**), Middletown Township Planning Commission: Kayak could be easier to maneuver than a canoe, since creek is windy. May not be deep enough where creek is wide
- Pete Thomas (**PT**), of Elwyn, Inc.: Boy Scouts used to canoe in the creek.

Delores Nadwondy (**DN**), Wallingford: Concerned with what is going on with trees and foliage. New saplings are getting choked out by large invasive Asian vines. In the meantime, the forest should be managed – invasives should be put in check now before trails go in.

- **DR**: There will be a stewardship management plan suggested in our plan. The plan will recommend the creation of a friends group. Their assistance on volunteer work days could help with the removal of invasive and replacement with native plants.
- **MM**: the County Parks Department utilizes friends groups in Glen Providence Park and Smedley Park. Implementing this plan (and doing projects like invasives removal) has to be a cooperative effort between the municipalities and the County.

Rick Ray (**RR**) – Marple Tree Committee: You not only need to cut invasives but treat the cut stem with herbicide. You need a professional's help to do this. Will there be any interpretive signage to denote the history of minerals?

- **DR**: There was a lengthy discussion about this at the first public meeting. We wouldn't want to call too much attention to the minerals – poaching would occur. But we should educate so people learn about them and appreciate them.
- **RR**: Tyler Arboretum had a display identifying types of rocks. Plant native trees now (for replacement of invasives/exotics) and they will be established in ten years. To wait 20 years would be too long – it would be good to get a head start.

Robert Bernhardt, (**RB**) Middletown Township resident: Will there be a way to get a hard copy of the plan?

- Steve Beckley (**SB**), County Planning Department: The Plan will be available for download from the project page at the Planning Department website – (<http://www.co.delaware.pa.us/planning/environmental/MineralHillAreaMasterPlan.html>)

Andy Saul (**AS**), Chester Ridley Crum Watersheds Association, Rose Valley resident: Glen Providence Park used to have a small shelter for interpretive talks. It would be nice to have a guide available for tours. There should also be a good pedestrian connection to Glen Providence Park.

- **DR:** The shelter might be difficult to provide since there is no existing shelter. Maybe friends-of groups could fill this role.

Bill Brainerd (**BB**) – Marple resident, CRC suggested an easement on a private drive to help connect the Mineral Hill Area to Glen Providence Park and Media.

- **DR:** That’s probably not possible since it is a private drive.

Steve Nadwondy (**SN**), Wallingford: Management of animal population. A deer (buck) lives in the area, and has been seen in the Lavin Tract proposed “community activity area.” Two dead foxes were also seen.

- **DR:** there is a lot of degradation of forest - no understory. NLT has a deer program and others have programs that involve the use of sharpshooters.
- **MB:** The Tyler Arboretum organizes an archery hunt on their land, closing it to the public for 1-2 days.
- **RR:** Deer will not bother American Holly trees.

Jane Ferry (**JF**) Upper Providence Township resident: Many white pines in the “pine area” are nearing the end of their life and falling down. Recommends infill tree planting to replenish the woods.

**BB:** Why is there no trail in the southeast section of Scott Park.

- **DR:** Area near substation near Creek Road is significantly wet, which is why there is no trail there presently. There should be a bench near #11 on the map (Near former scout camp in the County-owned portion).
- **MM:** The Parks Department will put a bench there.

**Steve Kosiak (SK)** – Delaware County Anglers: Suggested a seed supplier. The PA Game Commission-run Howard Nursery (near Lewistown and State College) has bare root trees available.

**Andy Saul (AS)** – CRC Watersheds: Heard of a program where footbridges could be acquired for one dollar.

- **SB** recalled that PennDOT administers a Historic Metal Truss Bridge Program for relocation of used bridges. These acquisitions are not necessarily for one dollar but can be for a much lower cost than a new bridge would be. Website link: <http://paprojectpath.org/penn-dot-crm/bridges/bridges-for-sale>
- **AS:** In Rose Valley there is sometimes a hunting session at the Borough owned open spaces along Ridley Creek. Visitors also allow dogs to run off the leash there which helps keep the deer population down.

**RR:** Kent Park, a Township park on Cedar Grove Road in Marple Township is used more than any other Township park. Perhaps sections of Mineral Hill could be used for letting dogs run, like at Kent Park.

**SN:** Stone from old building at Lavin Tract is very heavy. Gravel there helps with erosion.

- **DR:** We will put something in the plan recommending to look at removing that or remedying the situation.

**DN:** What are the blue barrels in Scott Park?

- **MB** thinks they are a remnant of an underground pump station.
- **DR:** in the plan we will look into getting the “barrels removed”

**III. Project Timeline**

**Diane Rosencrance** presented a tentative project timeline.

- Public Meeting #3 – Summer or Fall 2013. Presentation of final draft.

**Final Public Meeting, January 14, 2014: Agenda and sign-in sheets**

# Mineral Hill Area Master Plan

a joint plan for

Mineral Hill Park ~ Louis W. Scott Park ~ Memorial Park

## Public Meeting

**January 14, 2014 at 6:00 pm**

*The intention is to create an integrated Plan that allows each of the municipalities to develop their respective parks so as to limit redundancy, increase public benefit, and ensure environmental quality. The Master Plan will provide recommendations on appropriate park uses, trail system layout, site amenities and stewardship of natural resources. The amenities might be items such as parking, signage, seating, and recreational facilities.*

## Agenda

### Welcome and Introductions

Linda Hill, Delaware County Planning Director

Marc Manfre, Delaware County Parks and Recreation Department Director

Karen Holm, Delaware County Planning Department Manger,  
Environmental Planning

Diane Rosencrance, Natural Lands Trust Director of Landscape Planning

### Presentation Master Plan

Diane Rosencrance, Natural Lands Trust Director of Landscape Planning

For more information:

Delaware County's Mineral Hill Area Master Plan webpage located at:

<http://www.co.delaware.pa.us/planning/environmental/MineralHillAreaMasterPlan.html>

contact:

Diane Rosencrance, Conservation Project Manager

Natural Lands Trust, 1031 Palmers Mill Road, Media, Pa 19063

610-353-5587 ~ [drosencrance@natlands.org](mailto:drosencrance@natlands.org)

MINERAL HILL AREA MASTER PLAN

Public Meeting, January 14, 2014

Sign-in Sheet



NAME	ADDRESS	PHONE / EMAIL
RENA + SAM BARNETT	230 S. RIDLEY CREEK RD. MEDIA, PA	610 566 7394 / sam.barnett3@verizon.net rbarnett3@verizon.net
Roger Mitchell	547 Fairview Ave Media, PA	610-891-0974
Rodney Stant	18 Mansion Rd. Springfield	267-446-4418
MIKE + CHRIS CREWLEY	1495 N. RIDLEY CREEK RD. MEDIA, PA.	610-892-7790
Bill Campi	430 OAK LN MEDIA, PA	610 509-8373
Nancy Bernhardt	24 Capes Lane Media	610-565-8387
Robert Bernhardt	47 Capeshare Media	610-565-9387
STEVE WOOD	47 SPRINGHOUSE LN MEDIA	610 566 4284 THEWOODSSK@COMCAST.NET
CAREY SULLIVAN	401 STEAMER MILLS RD	MEDIA 4843438715
Regina MacKenzie	300 W. State St Media	610 565-8800 rmackenzie@beautylink.com
Greg Lebold	935 N. Providence Rd., Media, Pa	610-565-4944 jlebold@providence.org
Daniel Roger Green	115 W 67th St, Media PA	484 433-4305 Daniel.Roger.Green@GMAZ

MINERAL HILL AREA MASTER PLAN

Public Meeting January 14, 2014

Sign-in Sheet



NAME	ADDRESS	PHONE / EMAIL
PETIE THOMAS	ELwyn, N	PETIE-THOMAS@elwyn.nj
Audrey SAIL	Medina	
HARRY MORGAN	MEDIA	
LORENE BRADSHAW		
Nancy Barber	upperpen	nbarber@comcast.net
Michelle Janney	UPOS	mk.janney@verizon.net
MIKE HOPKINS	WPOS	mihoppus@yahoo.com
Katharine Miller	NP - Leaquey Wmmdales	
MICHAEL FIORENTINO	42 E. 2nd St MEDIA	m.florentino@gmail.com
Ashley Nagle	301 Kirt Lane (Upper) Media PA 19063-2217	610-573-0239 (cvm) 610525-44 anagle@hotmail.com 88 (45)

MINERAL HILL AREA MASTER PLAN

Public Meeting January 14, 2014

Sign-in Sheet



NAME	ADDRESS	PHONE / EMAIL
Brad Good	3412 W Second St Media PA	bradgood@gmail.com
Jeff Knowles	801 Market St; Ste 6020, Phila, PA	je.knowles@pa.gov
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Cindy Miller	980 Oakcrest Ln. Media	svencgo3@comcast.net
Diane Rosinrance		
Peter Williamson		
Linda Hill		
Karen Helm		
Steve Beckley		

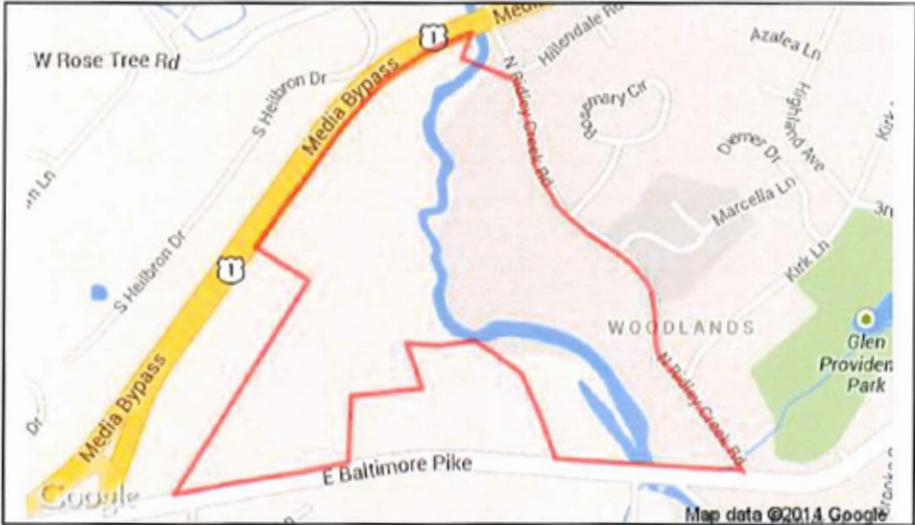
# APPENDIX C

## PNDI Receipt and Response Letters

PNDI Project Environmental Review Receipt      Project Search ID: 20140327444400

### 1. PROJECT INFORMATION

Project Name: **Mineral Hill Area Master Plan**  
 Date of review: **3/27/2014 3:46:54 PM**  
 Project Category: **Recreation, Trails & Trailheads (parking, etc.)**  
 Project Area: **127.3 acres**  
 County: **Delaware Township/Municipality: Upper Providence, Middletown**  
 Quadrangle Name: **MEDIA ~ ZIP Code: 19063**  
 Decimal Degrees: **39.923198 N, -75.409937 W**  
 Degrees Minutes Seconds: **39° 55' 23.5" N, -75° 24' 35.8" W**



### 2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	<b>Potential Impact</b>	<b>FURTHER REVIEW IS REQUIRED, See Agency Response</b>
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	<b>Avoidance Measure</b>	<b>See Agency Response</b>

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

04/15/2014 13:47 FAX 7177720271

DCNR ECOLOGICAL SERVICES

001/001



BUREAU OF FORESTRY

Date: April 15, 2014

PNDI Number: 20140327444400

Steven R. Beckley, AICP, Senior Planner  
Delaware County Planning Department  
Court House/Government Center  
201 West Front Street  
Media, PA 19063  
Fax: 610-891-5203 (hard copy will not follow)

Re: Mineral Hill Area Master Plan  
County: Delaware Township: Upper Providence/Middletown

Dear Mr. Beckley,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 20140327444400 for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

**No Impact Anticipated because no new earth disturbance is planned at this time.**

PNDI records indicate species or resources under DCNR's jurisdiction are located in the project area. **If any earth disturbance is planned in the future, additional review and coordination will be necessary.**

For your information, *Ageratina aromatica*, Small White-snakeroot (Proposed Pennsylvania Rare) was known to be in the project area. Its habitat is dry woods in sandy open areas. If flowers in August through October. *Scleria pauciflora*, Few Flowered Nutrush (Pennsylvania Threatened) was known to be in the project area. Its habitat is dry, open woods and serpentine barrens. Please consider the conservation and protection of these species of concern and their habitats when planning future projects.

This response represents the most up-to-date review of the PNDI data files and is valid for two years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. For PNDI project updates, please see the PNHP website at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us) for guidance. As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

**Should you have any questions or concerns, please contact Rich Shockey, Ecological Information Specialist, by phone (717-772-0263) or via email (c-rshockey@pa.gov).**

Sincerely,

Rebecca H. Bowen, Section Chief  
Pennsylvania Natural Heritage Program  
DCNR Bureau of Forestry, Ecological Services Section

Cc: Cindy Dunlap, Planning Projects Section Chief, DCNR

conserve sustain enjoy

P.O. Box 8552, Harrisburg, PA 17015-8552 717-787-3444 (fax) 717-772-0271

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## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Pennsylvania Field Office  
315 South Allen Street, Suite 322  
State College, Pennsylvania 16801-4850

July 22, 2014

Steven Beckley  
Delaware County Planning Department  
Court House/Government Center  
201 West Front Street  
Media, PA 19063

RE: USFWS Project #2014-0584  
PNDI Receipt #20140327444400

Dear Mr. Beckley:

This responds to your letter of April 7, 2014, requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed Mineral Hill Area Parks project in Upper Providence and Middletown Townships, Delaware County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

The proposed project involves the construction of various surface types, trails and pedestrian bridges near streams and wetlands, and several amenities located near Baltimore Pike.

The proposed project is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. Bog turtles inhabit shallow, spring-fed fens, sphagnum bogs, swamps, marshy meadows, and pastures characterized by soft, muddy bottoms; clear, cool, slow-flowing water, often forming a network of rivulets; high humidity; and an open canopy. Bog turtles usually occur in small, discrete populations occupying suitable wetland habitat dispersed along a watershed. The occupied "intermediate successional stage" wetland habitat is usually a mosaic of micro-habitats ranging from dry pockets, to areas that are saturated with water, to areas that are periodically flooded. Some wetlands occupied by bog turtles are located in agricultural areas and are subject to grazing by livestock.

Several conversations via email have taken place between you, Diane Rosencrane of Natural Lands Trust, and Kayla Easler of this office from June 25, 2014 to July 17, 2014, discussing the alignment of the proposed trails and locations of the proposed boardwalk within wetland areas.

The Service understands that this project is still in the planning process; therefore, on July 1, 2014, we asked that your report state that a Phase 1 bog turtle habitat assessment will be conducted on all wetlands in, and within, 300 feet of the proposed activities. The Service received this updated report on July 17, 2014.

The follow are our recommendations for future planning purposes involving wetlands and the proposed project:

Because wetlands occur within the project area, their potential suitability as bog turtle habitat should be assessed, as described under "*Bog Turtle Habitat Survey*" (Phase 1 survey) of the enclosed *Guidelines for Bog Turtle Surveys*. This Phase 1 survey should evaluate all wetlands within the project action area. The project "action area" includes all areas that will be directly or indirectly affected by the proposed project (including all phases of multi-phased projects) and all project-associated features, such as roads, water and sewer lines, utility lines, stormwater and sedimentation basins, buildings and other structures, driveways, parking lots, yards/lawns, and wells.

Due to the skill required to correctly identify potential bog turtle habitat, we recommend that the Phase 1 survey be done by a qualified surveyor (see enclosed list). Survey results should be submitted to the Service for review and concurrence. *If the Phase 1 survey is done by someone who is not on this list, it is likely that a site visit by a Fish and Wildlife Service biologist will be necessary to verify their findings. Due to the limited availability of staff from this office, such a visit may not be possible for some time. Use of a qualified surveyor will expedite our review of the survey results.*

If potential bog turtle habitat is found in the project action area, efforts should be made to avoid any direct or indirect impacts to those wetlands (see enclosed *Bog Turtle Conservation Zones*). Avoidance of direct and indirect effects means no disturbance to or encroachment into the wetlands (e.g., filling, ditching or draining) for any project-associated features or activities. Adverse effects may also be anticipated to occur when lot lines include portions of the wetland; when an adequate upland buffer is not designated around the wetland (see *Bog Turtle Conservation Zones*); or when roads, stormwater/sedimentation basins, impervious surfaces, or wells affect the hydrology of the wetland.

If potential habitat is found, submit (along with your Phase 1 survey results) a detailed project description and detailed project plans documenting how direct and indirect impacts to the wetlands will be avoided. If adverse effects to these wetlands cannot be avoided, a more detailed and thorough survey will be necessary, as described under "*Bog Turtle Survey*" (Phase 2 survey) of the *Guidelines*. The Phase 2 survey should be conducted by a qualified biologist with bog turtle field survey experience (see enclosed list of qualified surveyors). Submit survey results to the Service for review and concurrence.

In cases where adverse effects to federally listed species cannot be avoided, further consultation with the Service would be necessary to avoid potential violations of section 9 (prohibiting "take" of listed species) and/or section 7 (requiring federal agencies to consult) of the Endangered Species Act. Information about the section 7 and section 10 consultation processes (for federal

and non-federal actions, respectively) can be obtained by contacting this office or accessing the Service's Endangered Species Home Page (<http://endangered.fws.gov>).

This response relates only to endangered and threatened species under our jurisdiction, based on an office and/or field review of the proposed project. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities. A compilation of certain federal status species in Pennsylvania is enclosed for your information.

*To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.*

Please contact Kayla Easler of this office (814) 234-4090 if you have any questions regarding this matter.

Sincerely,



Lora L. Zimmerman  
Field Office Supervisor



