



SPRINGFIELD TOWNSHIP

Open Space Plan Update

2009-2010

(Adopted 3-23-10)



PREPARED BY



Springfield Township

Open Space Plan

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Acknowledgment

This open space plan has been the result of a team approach that includes the Springfield Township Board of Supervisors, the Springfield Township Open Space Committee and Springfield Township residents. This is a "work in progress" that will be updated as properties are preserved in order to assure that goals and objectives are met and to consider new goals and objectives as the landscape changes

Executive Summary

The 1999 Springfield Township Open Space Plan was prepared to chart a course for the Township and to qualify the Township to receive County Open Space funding. This objective was accomplished. In 2009 the plan is being updated to help set priorities for acquisition of open space and to:

- Recognize the accomplishments over the last 10 years
- Review changes in the community over the last 10 years
- Meet requirements for County funding from the Open Space bond

The County "Municipal Open Space Guidelines "states that to become eligible to receive MOSP funding, municipalities are required to re-examine and where necessary, update existing plans according to the guidelines. In addition to the 1999 Open Space Plan, this update references the 2002 Springfield Township Comprehensive Plan.

The goals from these two plans have been reviewed by the Open Space Committee with additional input from a public participation questionnaire that was distributed as part of Springfield Day. Although responses were limited, the results were tabulated. As part of the process, stakeholders identified vulnerable resources. This has resulted in a re-prioritization of the goals.

Springfield Township has been active in land conservation, with acquisitions occurring as recently as December 30, 2009. The inventory of protected lands has been updated to show this progress. The mapping of the protected resources has revealed potential open space linkages that will be the focus of additional potential acquisitions in order to create critical masses of connected open space.

The Township has accomplished some remarkable open space objectives in the past 10 years:

- increased permanently protected property from 224 acres to almost 1,900 acres
- revised the Township's Comprehensive Plan to strengthen non-acquisition protection
- acquired first park property
- passed a Township Open Space bond for \$5 million
- re-appointed an Open Space Committee that is currently evaluating new possible preservation properties

I. Community Background

Springfield Township remained a largely agricultural-based community throughout its entire history, supplying meat, crops, and dairy products to the region. With the development of Allentown, Bethlehem, and Philadelphia as centers for manufacturing in the late nineteenth and early twentieth centuries, the population of Springfield declined. With food prices falling, farming became less profitable and the prospect of better wages lured many to the big cities. Local industries were unable to compete and went out of business. Lacking the necessary support of the community, civic institutions, such as the literary and music society and the newspaper, also gradually disappeared.

Between 1980 and 1990, Springfield's population grew slightly, followed by a slight decrease between 1990 and 2000. Despite the construction of I-78 and development pressures moving northward through the county, the anticipated growth in the past decade has not occurred. However, given the township's wealth of natural and historical resources and proximity to major transportation routes make future growth in Springfield Township a distinct possibility. New development may result in a loss of the qualities that make Springfield unique and livable unless sound growth management policies and regulations are successfully implemented.

A. Demographics and Socioeconomic Trends

Regional Perspective

Springfield Township is located on the southeastern edge of eastern Pennsylvania's mountain system along the northern border of Bucks County. In Bucks County, the municipalities of Durham, Nockamixon, Haycock, Richland, and Milford townships surround Springfield Township. To its north, it is bordered by Lower Saucon and Williams townships in Northampton County and by Upper Saucon Township in Lehigh County. Springfield Township is also part of the Palisades Planning Area consisting of Bridgeton, Durham, Nockamixon, Springfield, and Tinicum townships and Riegelsville Borough. Springfield Township is roughly 5 miles southeast of the Allentown/Bethlehem metropolitan area and 40 miles north of the City of Philadelphia. Springfield and its surrounding municipalities have grown by about 3,181 housing units and 7,002 people as shown in Table 1. Municipalities in this region undergoing the most growth are Upper Saucon Township, Lower Saucon Township, Milford Township, and Richland Township, as the major highways of I-78, the Northeast extension of the PA turnpike, and Route 309 run through these communities. As these areas become more built out, Springfield, Williams, Durham, Haycock, and Nockamixon townships will become more likely candidates for development. Springfield Township can expect to experience increased growth pressures, because of the amount of vacant land it has and its proximity to the major highways mentioned above.

Township Perspective

Springfield Township has an estimated population of 4,963 people (2000 Census). This estimate is down slightly from the 1990 Census, when Springfield reached an all-time high of 5,177 people. Housing units increased from 1,938 units in 1990 to 1,972 units in 2000. (For more discussion on housing and future housing needs, see the Residential Development section.) Springfield's average household size fell from 2.70 persons per household in 1990 to 2.61

persons per household in 2000. This trend, which is occurring throughout the county, is due to an increase in the number of smaller families and singles living alone. It may also reflect an increased number of people whose children have grown up and left home.

B. Land Use Characteristic and Development Trends

Regional Perspective

Springfield Township is part of the Palisades Planning Area consisting of Bridgeton, Durham, Nockamixon, Springfield, and Tinicum townships and Riegelsville Borough. Historically, the Palisades Area has been relatively undisturbed by the wheels of change. To this day, the character of the area is still reminiscent of earlier times, with numerous pristine farms, historic villages, bridges, and inns. While growth (primarily in the form of single-family detached lots) has been minor, growth is expected to continue throughout the area. Given the relatively easy access to Interstate 78 via Routes 611 and 412, this area may see increased development pressures from commuters to and from the Allentown-Bethlehem-Easton corridor and New York City metropolitan area. Over the past decade, growth and development was not as significant as anticipated in the Palisades Area, but lower interest rates and the recent approval/construction of several large-lot residential subdivisions in Lower Saucon Township, Northampton County may be a signal of increased development across the region.

Township Perspective

Springfield Township is the second largest Bucks County municipality in land area (30.78 square miles or approximately 19,700 acres) and is predominately rural in character. Table 5 provides a snapshot of the land use characteristics within Springfield Township in 1990 and 2001 and Figure 1 highlights existing 2001 land use.

Nearly 83 percent of the township land area consists of three primary land use categories-rural residential (6,627 acres or 33.6 percent of the total land area), agricultural (6,057 acres or 30.7 percent of the total land area) and vacant (3,659 acres or 18.6 percent). A majority of the agricultural land is concentrated within the central portion of the township, which generally corresponds to the township's Agricultural Zoning District.

C. Community Vision and Strategy Statement

According to the Comprehensive Plan, Springfield Township seeks to protect the Township's various natural, historic, cultural, and scenic resources from negative impacts posed by future development, incompatible land uses, or other nuisances. Through its comprehensive plan, the Township seeks to accommodate an appropriate mix of residential and nonresidential uses to accommodate future growth, while providing community services that are necessary to satisfy resident's demands. The Township intends to nurture sound land use planning and growth management principles that seek to manage natural, economic, and social systems and resources in a fashion that enhances the resident's quality of life. This revision of the Open Space Plan focuses on the preservation of open space through acquisition and regulation.

The Springfield Township Open Space Committee has monthly meetings open to the public where goals and objectives are discussed. In addition, as part of the township's annual

Springfield Community Day, held this year on September 26, 2009, a brief questionnaire was distributed. The questionnaire focused on importance, desirability, potential change and risk to various community assets. *A summary of the results of the survey is appended to this Plan.*

The following Goals and Objectives represent those listed in the Comprehensive Plan that are directly related to this revised Open Space Plan. In addition, the goals of the original open space plan have been reviewed. The major goals of both plans are still viewed as important although the relative prioritization has shifted. The goals and objectives related to Historic Preservation and Recreational Resources are recognized as important to the community, but not necessarily the focus of this Plan.



Representative open space and farmland view that contributes to the overall rural character of the Springfield Township

II. Goals and Objectives

As a basis of this update, the community goals and objectives from the 1999 Open Space Plan and the 2002 Comprehensive Plan were reviewed. The Comprehensive Plan gives an in-depth analysis of the township's goals and objectives strategies that provided a strong background for this update. The plan states that a goal is an ideal or desired future condition and is usually not quantifiable or time dependent. An objective defines the purpose and commitment to achieve a

desired goal or condition. A proposed recommendation is a specific measure, program, or technique that will accomplish a stated objective or attain a defined goal. The following are presented as background for the analysis that was completed in the Comprehensive Planning Process.

A. Natural Resources

Goal: Protect significant natural features and natural resources such as floodplains, woodlands, steep slopes, wetlands, sensitive geological formations, sensitive wildlife habitat, and bodies of water.

Objectives:

- Use natural features as a guide to determine the type and intensity of land uses to be permitted in the Township.
- Minimize negative environmental impacts related to development and growth.
- Prioritize the Cook's Creek Watershed for preservation and protection.
- Protect surface and groundwater resources from point and nonpoint source pollutants through methods such as wellhead protection and source water protection measure
- Promote regulations that will provide additional protection measures for the Cooks Creek watershed by prohibiting uses that will negatively impact the overall water quality and resource value.
- Maintain the natural biodiversity within the Township that provides a healthy living environment for plants and animals.
- Preserve natural corridors throughout the Township to allow for the movement of wildlife and link habitat areas.

B. Open Space & Farmland Preservation

Goal: Promote open space and farmland preservation that contributes to the overall rural character of the Springfield Township.

Objectives:

- Preserve open space and farmland in strategic locations throughout the Township.
- Support and strengthen the economic viability of the Township's agricultural base.
- Promote the preservation of agricultural land through sound land use policies and regulations.
- Encourage farmland preservation through conservation easement purchase or donation.
- Provide flexibility in the agricultural zoning regulations to promote alternative sources of income to farmers.
- Promote private initiatives (in conjunction with public funding sources) to protect strategic open space lands.



Property protected with a conservation easement

C. Scenic Resources

Goal: Maintain scenic views and scenic vistas that add to the pastoral character of the Township.

Objectives:

- Protect scenic landscapes from the impact of future development through appropriate regulatory measures.
- Promote land use, landscape buffering, or other appropriate methods that help to retain and enhance the character of scenic areas.
- Include evaluation of scenic resources as part of acquisition priorities

Revised Goals and Priorities

This plan is designed as an update to the 1999 Open Space Plan. The goals established in that document were reviewed to see if they were still appropriate for future preservation efforts.

1999 Open Space Goals and Priorities	2009-2010 Open Space Goals and Priorities
1 Farmland	1. Farmland
2 Resource Protection	2 Cooks Creek
3 Cooks Creek	3 Resource Protection
4 Water Supply & Recharge Areas	4 Water Supply & Recharge Areas
5 Recreational Needs	5 Linkages, Greenways and Hiking and Biking Trails
6 Linkages, Greenways and Hiking and Biking Trails	6 Recreational Needs

III. Analysis of Natural Resources

The 2002 Comprehensive Plan included great detail about the township's natural resources. The material, with slight revisions suggested by the Open Space Committee, is included as additional background material for this plan.

A. Geology

Springfield Township lies within the physiographic provinces of the Triassic lowlands of the Piedmont province and the Reading prong of the New England province. The Township is characterized by large rocky hills cut by stream valleys. The rock types in the Township consist of gneiss, Lockatong lithofacies, red shales and sandstones, diabase, limestone, and quartzite. (See Map 1 Geology)

Rock types determine groundwater supplies. By identifying rock types, the Township can plan through regulation or acquisition (or both) for the water supply needs for future residents. Quartzite and gneiss, located in the north corner of the Township, provide small to moderate supplies of groundwater. Red shales and sandstones, which are rocks of the Brunswick formation, represent significant supplies of water to the Township. These rocks are located in the Township's south-central region and also extend in a band from this area toward the Township's eastern portion.

The Lockatong lithofacies, which are generally a poor source of water, are located in a small area at the eastern corner of the Township. Diabase, which makes up most of the western portion as well as areas in the eastern portion of the Township, has among the poorest water supply yields in the county.

The limestone areas of the Township are part of the Durham Carbonate Valley, which is an area that stretches from Riegelsville, across the northern half of Durham Township, to the northern

corner of Springfield Township. Limestone varies greatly in its supply of water and is susceptible to groundwater contamination, sinkholes, and solution channels.

Groundwater contamination is a particular problem because contaminated water can move rapidly through solution channels, threatening an extensive area in a short period of time. Other carbonate valley phenomena include disappearing and influent streams, ghost lakes, land surface mottling, and cave formation.

For areas underlain by carbonate geology, the Springfield Township Zoning Ordinance requires subdivision and land development applicants to identify all carbonate geologic features. The mapping and identification of these features must be based on a field survey and published data and the qualifications of the individual performing the survey must be listed. Stormwater management facilities are required to meet specific design standards. Protection of these resources will be primarily accomplished through non-acquisition methods.

Proposed buildings, sewage disposal facilities, and utilities must meet setback requirements from susceptible areas. Uses such as landfills, junkyards, fuel storage and distribution, and truck terminals are prohibited in these areas.

B. Groundwater Resources

About 90 percent of the Township gets its drinking water from private wells, located throughout the Township. Groundwater supplies largely depend upon geology, surface characteristics, water use, and seasonal precipitation. There are two public wells operating in the Township. One public well is operated by Scenic View Apartment (located in Lower Saucon and Springfield Townships). The other public well is operated by the Springfield Township Authority (STA) located in Springtown. As mentioned in the geology section above, however, much of this area is underlain by carbonate geology.

Compounding this situation is the fact that Springtown has been identified as an area of failing septic systems. Clearly, this is an area that is very susceptible to groundwater contamination.

To protect groundwater resources in this and other vulnerable areas, the Township should seriously consider the development of a wellhead protection ordinance. Such an ordinance would offer protection for aquifer recharge areas from land uses that could potentially threaten Springfield's future groundwater supply. Open space preservation can complement regulation and protecting groundwater resources should be a critical part of conservation priorities.

C. Woodlands

Springfield Township remains heavily wooded. Over 44 percent of the Township consists of woodlands. The Comprehensive Plan defines a woodland as an area 1/4 acre or more in size, where trees form a canopy with ten or more of the trees measuring at least 10 inches in diameter at breast height or 4 1/2 feet from the ground. Woodlands are an integral part of many land ecosystems. Their benefits to the environment include water and air purification, regional and local climate control, open space, erosion control, and habitat for wildlife. In addition to their aesthetic value, woodlands also filter out upland pollutants in stormwater runoff and are prime areas of aquifer recharge.

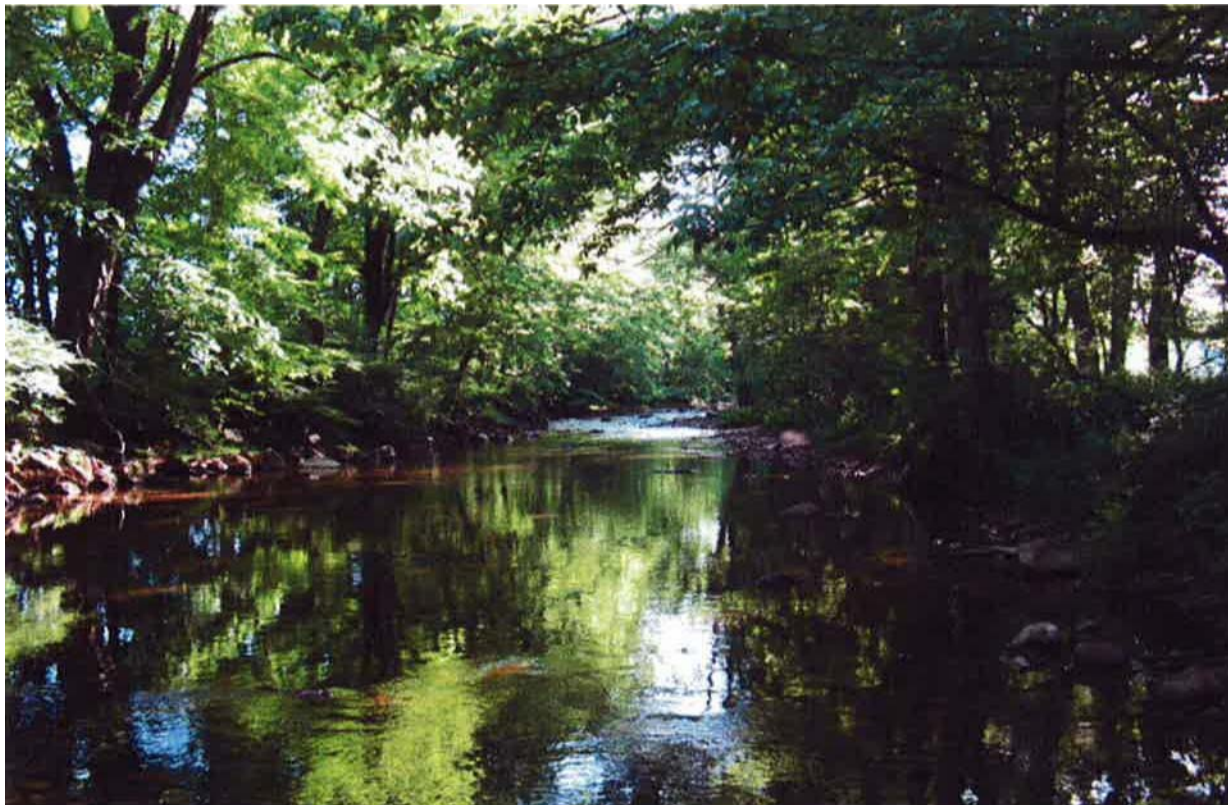
The Springfield Township Zoning Ordinance provides for the protection of woodlands. The percentage of protection ranges from 30 percent in the HC Highway Commercial district to 80 percent in the RP Resource Protection district. Mature trees with a circumference of 60 inches or greater, measured 14 inches above ground must be preserved. In addition, the ordinance requires a tree protection area around protected woodlands so that they do not suffer damage from site development. However, wooded areas are a critical landscape feature and shall be given priority in open space acquisition.

D. Steep Slopes

Due to its hilly topography, the Township contains many areas of steep slopes. Almost 27 percent of the Township is covered by slopes of 15 percent or greater. See Map 2 Topography

Development on steep slopes, if not regulated and designed properly, can lead to accelerated erosion, instability of structures, limited access, and screening of scenic views.

The Springfield Township Zoning Ordinance restricts the development of areas with slopes of 15 percent or greater. For areas with slopes of 15 to 24 percent, 70 percent of the area shall be protected; for areas with slopes of 25 to 30 percent, 85 percent of the area shall be protected; and for areas with slopes of greater than 30 percent, 100 percent of the area shall be protected. These standards apply to all zoning districts except the AD Agriculture district, where the steep slope protection standards are 20, 30, and 50 percent respectively. The reduced standards are intended to allow more agricultural development on steep slopes and greater protection of agricultural soils on sites located in the AD district with both natural resources. Even though development is limited through regulation, many adverse activities may still occur unless these lands are protected through conservation easements that provide additional protection to these regulated natural resources.



View of Cooks Creek

E. Surface Water Resources

Almost all of the significant aboveground water resources in the Township are creeks and streams as shown in streams map. In the western portion of the Township are the headwaters of the Hickon, Tohickon and Saucon, and Unami creeks. A few miles south in Richland Township, the Hickon Creek empties into the Tohickon Creek. In the east, a small area of the Township contains the headwaters of Haycock Creek and Gallows Run. At Lake Nockamixon, Haycock Creek also empties into the Tohickon. The Tohickon then meanders eastward, where it eventually empties into the Delaware River. Gallows Run moves in a northeasterly direction until reaching the Delaware. See Map # for Hydrological Resources

The primary aboveground water resource in the Township is Cooks Creek. The Cooks Creek watershed is about 30 square miles in size and covers the eastern two-thirds of Springfield Township and the western half of Durham Township. From its headwaters, the creek runs eastward into Durham Township where it eventually empties into the Delaware River. Cooks Creek has been designated an Exceptional Value stream by the Pennsylvania Department of Environmental Protection and is the only stream in the County that supports a natural population of brown and brook trout.

In 2000, the Durham Township Environmental Advisory Council (DTEAC) sponsored a study of the Cooks Creek watershed. The goal of the project was to provide information to the DTEAC on wetlands and watershed conservation to be integrated with a total water resources

management plan of the watershed. Phase I is the Wetlands Management Plan and Phase II is the Rivers Conservation Plan. Both are considered in the township subdivision review.

The goal of Phase I was to provide information to the DTEAC for a wetlands conservation plan to be integrated with a total water resources management plan of the watershed. The plan delineates wetlands, identifies area soils, delineates karst features and other hydrogeologic features, determines important hydrologic characteristics, and develops a GIS base for the inclusion of future information.

Some unique features of the Cooks Creek Watershed identified in the plan include:

- Cooks Creek has been designated as 1-A priority for consideration as a state scenic river, although a state moratorium exists on the designation of new state scenic rivers;
- The watershed supports federally and state-listed endangered and threatened species;
- The watershed contains unusual geologic conditions, such as karst-prone areas and a Triassic basin. The local geology, particularly karst areas, makes the stream and area groundwater particularly vulnerable to contamination.
- To protect and manage this critical resource, the plan recommends several actions, all of which can be incorporated into the recommendations of the Springfield Comprehensive Plan:
- Watershed Management-Use a holistic approach that recognizes the connections between different elements.
- Comprehensive Planning-Discuss the social and environmental value of the watershed in future comprehensive plans. The environmental section of the comprehensive plan should include an inventory of sensitive resources and goals, objectives and strategies for protecting these resources.
- Overlay District-Adopt overlay zoning districts that would require new development projects to identify sensitive resources and use best management practices to protect these resources.
- Growth Management-Incorporate growth management tools such as cluster development, open space preservation, riparian corridor protection, wellhead protection, and transfer-of-development rights.
- Education and Public Outreach-Conduct seminars and distribute newsletters to educate the community about the importance of protecting the watershed.
- Water Monitoring Program-Develop a water-quality monitoring program of the stream and primary water supply aquifer.
- Funding-Seek additional funds to develop a watershed approach for management and preservation of the Cooks Creek natural resources and water supply.
- Protection of Sensitive Areas and Vulnerable Wetlands-Promote the protection of sensitive segments of the watershed and wetlands through acquisition and the establishment of vegetated buffers. The plan identifies particular resources and areas to be protected including riparian zones, endangered or threatened species habitat, wetlands, recharge areas, springs and seeps, and headwater areas of the Cooks Creek tributaries.

The River Conservation Plan (Phase II), adopted by the Board of Supervisors in March, 2002, is a compilation of numerous studies that have been conducted within the Cooks Creek watershed. These studies include: geologic and wetland surveys, well water level monitoring, stream gauge

data collection, water quality chemistry, bio-assessment surveys, stream corridor evaluations, and GIS database development.

The overall goal of the River Conservation Plan is two fold: 1) to formulate a management program that truly sustains water resources through utilization of Best Management Practices (BMPs) and 2) to highlight those characteristics or critical issues in the watershed that require further study. This can be achieved through projects conducted in cooperation with watershed associations, agricultural organizations, various governmental agencies and others. Management options will include maintenance, enhancement and restoration activities.

Watershed Conservation Ordinances and Planning Documents

- The following critical areas should be considered for zoning ordinance and Comprehensive Plan preparation:
 - Storm water management and erosion control;
 - Wetlands protection;
 - Baseflow protection;
 - Conservation easements and open space;
 - Endangered and/or threatened species habitat protection;
 - Karst and sinkhole land development standards;
 - Overlay districts of critical areas (first order sub-basins, wetland buffers, riparian floodplain, and lakes and ponds);
 - Septic systems types based upon soil districts;
 - Steep slopes;
 - Stream or riparian buffers; and,
 - Wellhead protection.
- Richland proposed a similar conservation plan for Tohickon Creek, and has requested the participation of Springfield Township.

F. Floodplains

While Springfield Township is not a municipality usually given to flooding problems, there are many floodplain areas throughout the Township. These areas are adjacent to the Township's streams and watercourses. The 100-year floodplain is defined by the Federal Emergency Management Agency (FEMA) as the area adjoining a stream or river that accommodates floodwater produced by the 100-year storm (or base flood event), which has a 1 percent chance of being equaled or exceeded in a given year.

G. Wetlands

Wetlands are dynamic ecosystems that encompass areas inundated with water for all or part of the year. They provide many beneficial functions to the environment, including habitat for wildlife, water quality protection and improvement, and flood and stormwater management. A little over 2 percent of the Township consists of wetlands.

They are located throughout the Township, mostly along stream corridors and in isolated, low lying areas. The Township zoning ordinance requires 100 percent protection of all wetlands and wetland margins. The wetland margin consists of a 25-foot area extending from the outer limit of

the wetland. No development, alteration, regarding, filling, or piping may take place within the margin.

H. Agricultural Soils

Springfield Township contains significant agricultural soils. The quality of these soils is determined by the Natural Resource Conservation Service (NRCS) of the U.S. Department of Agriculture. NRCS has recently recertified soils in Bucks County and highlights Prime Agricultural Soils and Soils of Statewide Importance. See Map 4 Soil Capability Most important agricultural soils in the Township are located in the north and northwestern portion of the Township. Areas to the south, east, and west of Springtown contain mostly Prime Agricultural Soils with some Soils of Statewide Importance. Areas surrounding Passer and Pleasant Valley contain mostly Farmland Soils of Statewide Importance with some Prime Agricultural Soils. The southwest and eastern portions of the Township contain lesser amounts agriculturally important soils, except for the Bursonville and Zion Hill areas, which contain both Prime Agricultural Soils and Soils of Statewide Importance. The Township currently designates the area south of Springtown and north and east of Pleasant Valley as its AD Agriculture zoning district. The Springfield Township Zoning Ordinance restricts development on both Prime Agricultural Soils and Soils of Statewide Importance in its AD Agriculture district. Prime Agricultural Soils must be 70 percent protected from development and Soils of Statewide Importance must be 60 percent protected.

IV. Open Space and Farmland Preservation

Springfield Township's open space resources include areas containing rural residential, vacant, agricultural, and park and recreational land uses. It is becoming increasingly apparent that it is important to preserve open space and agricultural resources in Springfield Township, despite the fact that approximately 83 percent of the total land area falls within these four land use categories. However, a significant portion of this area is not protected from future development. As in 1999, the Open Space Committee has made farmland preservation its highest priority. The Open Space Committee has examined the type, nature, and extent of the Township's existing open space and farmland resources and has identified potential preservation strategies and techniques that may be appropriate for implementation in Springfield Township including partnering with the Bucks Agricultural Preservation program on several preservation projects

A. Farmland Preservation

Because so much of the undeveloped portions are in agricultural use and the lack of physical constraints to the development of farmland, farmland preservation is a major focus of open space efforts in the Township. Traditionally, farmland preservation was accomplished through County and State programs. Springfield Township is beginning its own program that will enhance existing programs and protect properties that do not meet criteria of other programs.



Farming activity on a preserved tract of land

B. Agricultural Land Preservation Program

In May 1989, the Bucks County Commissioners appointed a nine-member board to develop and oversee a county farmland preservation program. The Bucks County Agricultural Land Preservation Program (BCALPP) seeks to acquire agricultural conservation easements on viable farmland within the county.

An agricultural conservation easement secured through acquisition is a legally binding document that is filed in the land records with the deed of a farm property, restricting its use substantially to agricultural and directly associated uses. As an easement in gross, restrictions are binding upon the owners and future owners, carrying with the land. An agricultural conservation easement allows a landowner to protect his farmland for agricultural uses while retaining private ownership of the farm. While agricultural conservation easements seek to protect the soils of a property, there are other conservation values to many Township properties that are not protected through the BCALPP. The Township will work with the County, but will also seek to protect other conservation values of properties, particularly those in significant natural areas.

The BCALPP compensates farmers for the difference between the fair market value (development value) and the agricultural value of their land. To be eligible for this program, the following criteria must be satisfied for eligibility:

- Size restriction: 50 acres (minimum)
- Location: within agricultural security area
- Soil criteria: at least 50 percent Class I-IV soils
- Harvest criteria: at least 50 percent harvested cropland/pastureland
- Plan approval: approved U.S.D.A. Soil Conservation Plan in effect Once a farm is accepted into the program, the property owner may sell or convey a conservation easement and receive cash for the respective development rights. The easement is placed in perpetuity.

As of March 2009, Springfield Township had 12 farms and 1,031 acres of farmland under easement.

C. Natural Areas Program

Springfield Township has a number of sites identified by the Pennsylvania Natural Diversity Index (PNDI) with Elements Occurrence Records (EOR). See Map 5 Natural Resources The Bucks County Natural Areas Program is intended to protect significant natural habitat areas identified by the Natural Areas Inventory of Bucks County This document ranks sites throughout the county by assigning sites one of four priority levels.

- Priority 1 sites-areas that have statewide or countywide significance based on uniqueness or exceptionally high quality of natural features.
- Priority 2 sites-areas that have countywide or statewide significance based on the overall quality and the diversity and importance of the resources.
- Priority 3 sites-areas that have local or countywide significance that may contain small or degraded resources.
- Priority 4 sites-areas that have biological or ecological resources that are important at the local level.

Springfield Township contains several of these identified areas. These areas consist of land in the entire Cooks Creek watershed (identified as a priority 1 site), Cressman Hill (a priority 1 site), the Lookout (a priority 2 site), and Buckwampum Mountain (a priority 3 site) (Source: Natural Areas Inventory, Bucks County).

The Natural Areas Program is a competitive grant program. Sites with higher priority levels are given greater consideration when competing for grant funding.

As of March 2009, this program has protected 173 acres in Springfield Township.

D. Municipal Preservation

As part of the County Bond issue in 1999, Springfield Township became eligible for matching grant funds of \$531,000 for projects designated by the Township. The Township used most of the funds to acquire in fee the Kurteson property (45 acres on Peppermint Road. In addition, Springfield acquired an easement on the Kolmar property (51 acres) on Quarry Road. A status report on the current use and condition of these properties, which is required by the Bucks County Open Space Municipal Program, is appended to this plan.

The County bond in 2007 provides for a second allocation of municipal grant funds of \$636,351. The County has required this update to the Springfield Township Open Space Plan in order for the Township to access these funds.

V. Historic, Recreational, and Scenic Resources

A. Historic Resources

Although historic resources play a key role in preserving the Township's rural character, the Open Space Committee recommends that the Township not include historic preservation in its open space acquisition program. The Township will consider the long term cost of a donated façade easement program for preserved properties that contain highly visible or significant historic resources.

B. Recreational Resources

Springfield Township has several private recreational facilities, but until recently, lacked a Township land to provide public park and recreational facilities. In February of 2002, the Township acquired the Kurteson Farm which is a 45.3-acre tract located on Peppermint Road. The property was purchased through the County's Open Space Program and is intended for future park use. The Township also has an option to purchase an additional 25 acres of land on the opposite side of Peppermint Road. The property is suitable to satisfy a wide-range of active and passive recreational opportunities. Responses from the Township survey mailed out at the beginning of the comprehensive planning process will allow Township officials to identify the specific park and recreational activities requested by residents.

Although parks are a key element of an open space network, the current open space program is focused on passive recreation sites and a program of conservation easements which protect natural resources but may have only limited active recreational value. The Open Space Committee recognizes the importance of linkages between recreational sites and recommends that resource protection efforts be coordinated with Park and Recreation planning; especially in light of the fact that the township is in process of waiting for a grant in this area. The Open Space Committee has ranked recreational resources as the sixth of the six open space priorities.

C. Scenic Resources

The Township's scenic resources including sweeping views of rolling topography and farmland many of which can be seen from the area roadways. Flint Hill at 980 feet is the highest point in Bucks County, and contains spectacular views to low lying areas below. Identifying the aesthetic value of scenic areas, vistas, and roads is based upon the opinion of an individual or group and consequently is a subjective process. Those areas identified as scenic areas do not necessarily need to be located adjacent to roads or be directly visible from roads. Scenic areas can be visually attractive because of special geologic formations, unique landscapes, natural and historic resources, and agricultural ambiance. Therefore, open space acquisitions will consider the importance of preserving their inherent scenic qualities in addition to natural resource considerations.

Scenic roads are segments of roadway that contain natural, historic, or cultural resources in close proximity or contain an area of concentrated scenic vistas. Scenic vistas are points along a roadway (or stretches of roadway) that have sweeping views of the landscape or views of concentrated natural resources without manmade intrusions. Collectively, scenic roadways and vistas are unique resources, which may be lost or overshadowed by inappropriate or insensitive development activities. Public views are a key element in land protection prioritization. While no two properties have the same conservation values, in the case of generally equally important properties, those with scenic value to the residents will generally be given a higher priority.

The Township has established scenic overlay provisions to encourage use of land that will be compatible with the rural character and to provide protection for scenic vistas from roadways, the entrances to historic villages, and overall scenic character of the Township.

The overlay district concept does not affect the underlying use, density, or area and dimensional requirements, nor is it intended to reduce the development opportunity of the site; however, applicants must provide a scenic resource map, visual analysis, and satisfy certain performance standards when proposing development within the Scenic Overlay District. Therefore, open space acquisitions will consider the importance of preserving properties within Scenic Overlay Districts.



Springfield's rolling topography creates many scenic views

VI. Future Linkages

As part of the Comprehensive Planning process culminating in 2002, over 60 percent of surveyed Township residents felt that the Township should provide a walking or biking trail to connect various points in the Township. Hiking, walking, and biking were identified as some of the most popular activities. These activities are clearly a source of unmet demand

The Comprehensive Plan suggested that one program the Township could use to provide for hiking, walking, and biking is the Township's open space program. The Springfield Township Open Space and Farmland Preservation Plan (1999) identifies the acquisition of open space linkages for biking, hiking, and walking as a goal for its open space and farmland preservation program. In 2009-2010, the idea of linear trails for biking and hiking seems distinct from current open space goals. Therefore buying right-of-ways along public roads will have a low priority.

The 1999 plan explored strategies for developing linkages and identifies potential areas for acquisition or development. The Trail map highlights the linkages from the Springfield Township Open Space and Farmland Preservation Plan. Proposed linkages shown include Route 212, Old Bethlehem Pike, Quarry Road to Richlandtown Pike, Funks Mill Road to Durham Township, and from the PP&L property in Zion to Hilltop Road and Springfield Street. The plan also identifies utility corridors, stream valleys, and undeveloped areas as potential linkages that could be acquired through the Township's program.

Rather than narrow connectors, the current Open Space Committee is thinking of linkages or greenways as wildlife corridors and large properties that link other large properties into larger blocks of contiguous open space which is significantly different than hiking and biking trails. Greenways can also be stormwater conveyance corridors.

The Delaware Valley Regional Planning Commission (DVRPC) has identified Route 212, Route 412, and Cooks Creek as future corridors in its proposed regional bicycle network. DVRPC's proposed bicycle network would encompass the entire five-county southeastern Pennsylvania region. Most of the linkages listed above make use of the existing road network. Locating trails and bike paths parallel to an existing road network have several advantages. These links tend to be cost-effective because they can often be constructed within the existing road right-of-way. Construction costs are also decreased because construction vehicles and crews can access the trail via the existing road. Also, the right-of-way is often already cleared and graded, making it possible to convert the right-of-way to a trail with minimal effort. Additionally, neighbors may view on-road linkages as less of an intrusion to their property because the trail or bike path is viewed as an extension of the existing road network. Maintenance of the trail can also be accomplished fairly easily because maintenance crews can conduct trail repairs and inspections in conjunction with roadway repairs. The Open Space Committee feels that the Park and Recreation Committee should take the lead in this endeavor.

Due to the Township's low housing density and rural nature, a bikeway may be the most appropriate choice for on-road linkages. Bikeways are classified into three types, bike paths, bike lanes, and bike routes. Bike paths are completely separated from an existing road and are

contained within their own right-of-way. A bike lane is an established lane on the roadway for use by bicycles only. Bike lanes are designated with signage and striping.

Bicycle routes, which are the least expensive option for creating on-road linkages, make use of the existing road surface. Along bicycle routes, bicyclists and pedestrians must share the road with vehicles. No matter what the system employed, adequate route signing should always be provided to supply directional information to users of the system.

On collector and arterial roadways, where speeds and volume of vehicles are increased, bike paths that parallel, but are separated from, the roadway should be the preferred method of providing linkages. A separated bike path along a roadway can offer a buffer between the road and adjacent residential areas that could simultaneously reduce roadway collectors and most primary roads, as long as the road width is adequate.

But emphasis should be placed on using secondary roads with low traffic volumes. On low volume, secondary roads, safety is less of a concern and a separated bike path is usually unnecessary. Bike routes and the trail network may share the roadway with noise and increase property values. Designated bike lanes are also an option for some vehicles without requiring any additional striping or road widening shoulder width without the need to acquire additional right-of-way, thereby, improving safety for bicyclists on designated bike routes. However, all requests for cartway reduction must be submitted to the Bucks County Planning Commission, who will then make the request to PennDOT, before the resurfacing project is to be completed. Additionally, the use of "Share the Road" signs has been very successful in alerting motorists of the presence of bicyclists within the traffic stream, thus, increasing safety conditions for bicyclists using a bike route.

VII. Inventory of Preserved and Threatened Lands

Open space resources can be classified into three categories: permanently protected, temporarily protected, and unprotected. Permanently protected lands include areas that are legally protected through conservation easements, deed restrictions or other forms of protective covenants. In many open space plans, lands more likely to be preserved due to its ownership, such as publicly-owned lands (e.g. parks or vacant lands), lands owned by nonprofit conservation organizations or homeowner's associations are also included in this category. In February 2002, the Township acquired land for future public park use and there are a few private recreational facilities. While Springfield Township does not have a lot of public land within its borders, Nockamixon, Ralph Stover, and the Delaware Canal State parks and Tohickon Valley, Tinicum, Weisel, Lake Towhee, and Ringing Rocks County parks are located within a 10-mile radius of the Township.

Temporarily protected lands are areas that are in open space or partial open space use. However, these property owners reserve the right to develop the land in the future (under the parameters of the underlying zoning). The most common lands comprising temporary open space are properties enrolled in preferential tax assessment, agricultural security areas, and school facilities.

Unprotected lands include any vulnerable resources that do not have an inherent mechanism in place that would discourage or prevent land from being developed or being impacted from the

development in the future. This includes a significant portion of the Township's existing natural, historical, and scenic resource lands.

Unprotected or potentially threatened lands have been identified and prioritized by the Open Space Committee. Working with Heritage Conservancy, county, state, and federal partners, efforts are currently underway to protect high priority unprotected properties.

At the time of the preparation of the first Open Space Plan in 1999 the Township had a total of 224 acres that were preserved. Most of the acreage (136 acres) had been preserved by County Parks for a future ski slope on the side of Buckwampum Mountain. The remainder was a property donated to Heritage Conservancy by a charitable landowner.

However, since then, mostly as a result of the County Open Space Program, the Township has preserved over 1,700 acres. The Township has participated in the Counties Municipal, Natural Areas and Agricultural programs and ranks third among all the 54 municipalities in partnering with the County (1,109 acres).

In the Appendix is an Exhibit which summarizes the properties that have been preserved. (See also Map 6)

VIII. Future Land Use and Growth Management — Non Acquisition Methods

An important component of the Comprehensive Plan was to provide for future land uses while protecting the natural and scenic environment and providing services and facilities to satisfy the needs of its residents. Providing a well-balanced mix of agricultural, residential, commercial, and industrial uses enhances the vitality of a community.

Historically, the majority of growth has been dispersed throughout the Township in the form of subdivisions of single-family detached dwellings. Much of this development has occurred in areas that are identified as areas containing significant resources. The Comprehensive Plan aimed to identify potential future land use in the Township and identifies promote planning measures that will promote the concentration of future development within appropriate areas of the Township, while enhancing the preservation of its valuable resources. Among the tools suggested were:

A. Scenic Overlay District-The purpose of this district is to protect the unique visual character of the Township by setting standards for the visual impact of development on views from the roads. The district does not affect the overall permitted density within the underlying zoning district, but it does require that proposed development go through special site plan review procedures as defined herein, designed to minimize adverse impacts on the scenic character of the Township.

B. Riparian Buffer Ordinance-The purpose of this ordinance is to provide additional preservation measures for this significant resource that covers a majority of the Township. The ordinance regulations apply only to those properties located within the Cooks Creek Watershed, and activities and uses are limited to those which will not degrade or pose a negative impact to the water quality and inherent natural and scenic resources of this area.

A key element in preserving water protecting riparian corridors will be the adoption of a Zoning Ordinance Amendment currently pending before the Board of Supervisors. Enhanced standards for stream, wetland and riparian zones are required. It provides a 100-foot riparian buffer that includes a no disturbance buffer zone extending 40 feet and a minimum disturbance buffer zone extending an additional 60 feet from stream banks and other significant water bodies. Only fishing, hiking, and other passive recreation activities are permitted in the no disturbance zone. Gardening, farming, restoration of native species and removal of invasive species are permitted in the minimal disturbance zone.

IX. Government Organization and Financing

In order to expand the Townships Open Space preservation, in 2000 voters approved a 1/4% earned income tax dedicated exclusively for the preservation of open space. The anticipated income was \$300,000 per year. In 2007 the income from this tax was dedicated to the amortization of municipal bond of \$5 million in order to provide a larger fund to support additional projects.

To direct the preservation efforts a Township Open Space Committee was appointed. This Committee has developed a comprehensive Property Evaluation Worksheet to rank landowner projects (attached in the Appendix). In 2008, 35 landowner applications were submitted and 25 projects were ranked. In addition the Committee has worked with the Township attorney to develop an easement program which recognizes the benefits for the co-holding of easements with a land trust, a management plan and the need to monitor the stewardship of properties in the future. The Township has established a working partnership with Heritage Conservancy to help in securing County and State funds, preparing baseline documentation reports and to work with the Open Space Committee on reviewing applications from property owners.

X. Action Plan

In order to implement the goals and objectives of this plan, Springfield Township has undertaken numerous actions which include the revision of the open space plan, the passing of a dedicated funding plan for open space acquisition, the establishment of an Open Space Committee, the coordination of acquisition efforts with the Bucks County Natural Areas Program, the Bucks County Agricultural Preservation Program, and partnerships with land trusts including Heritage Conservancy. By utilizing the evaluation criteria the Township implements the goals and objectives of this Plan. Springfield Township will continue to work with county, state, and federal agencies to leverage its own open space funds.

The Open Space Committee has established criteria for evaluating properties and has undergone four rounds of reviews of potential lands to be preserved. In addition, the township has adopted policies to ensure the monitoring and enforcement of easements through working with land trusts and setting aside funds to implement the program,

APPENDIX

Springfield Township Open Space Plan 2009 Questionnaire
Inventory of Protected Lands
Springfield Township Open Space Committee Property Evaluation Worksheet
Map 1 Geology
Map 2 Topography
Map 3 Hydrological Resources
Map 4 Soil Capability
Map 5 Natural Resources
Map 6 Open Space Inventory

Springfield Township Open Space Plan 2009 Questionnaire

Questions	1	2	3	4	5
How would you rate the importance for preserving the following things?					
1. Farmland/Prime Ag			16%	10%	74%
2. Wooded areas			6%	26%	68%
3. Wetlands/Water recharge areas		5%	16%	5%	74%
4. Scenic views		11%	21%	16%	52%
5. Water Quality					100%
6. Land for Public Use (Existing Parks)	21%	6%	11%	31%	31%
7. Riparian Corridors		6%	13%	6%	75%
8. Historic Resources	5%	5%		29%	61%/0
9. Other Look into creek on Clay Ave, across from Bubba's					
How would you rate the desirability of the following features in the Township?					
1. Farms			11%	6%	83%
2. Flint Hill /Lookout/Buckwampum				40%	60%
3. Cooks Creek Exceptional Value stream				12%	88%
4. Scenic views from roadways			32%	36%	32%
5. Woodlands		5%	5%	26%	64%
6 Retail stores and service shops	45%	33%	22%		
7. Residential Development	71%	24%	5%		
8. Village Areas	5%	17%	39%	17%	22%
9. Other					
How important do you feel it is for the Township to change the following things?					
1. Zoning to allow more development	75%	19%	6%		
2. Zoning to allow less development		10%	10%	10%	70%
3. Burden of growth from existing residents	7%	7%	53%	26%	7%
4. Flooding problems		5%	28%	17%	50%
5. Development standards			31%	19%	50%
6. Natural Feature Protection (steep slopes, wetlands, riparian buffers)				26%	74%
7. Create more recreational opportunities	16%	10%	10%	32%	32%
How at risk do you feel the following to be?					
1. Farmland			22%	6%	72%
2. Woodlands			17%	17%	66%
3. Water Quality	6%		10%	21%	63%
4. Water Quantity (well water)	6%		25%	6%	63%
5. Wildlife Habitat			11%	22%	67%
6. Historic Resources		6%	22%	33%	39%
7. Water recharge areas			17%	17%	66%

Inventory of Protected Lands

Bartakovits	42-012-140	21.36	NAI/HC
Baker	42-012-143-001	19	HC
Berger	42-024-030, 42-024-031	19.5	BC Ag
Bodnar	42-012-110	14.5	HC
Buckwampum County Parks	16 lots	136	County purchase
Cory Property	42-012-088, 42-012-101, 42-012-102	87.41	NAI/HC
Cressman	42-012-158	37.61	BC Ag
Fleishman	42-012-115	86	BC Ag
Fox Run			
Franklin Property	42-012-145	7.5	NAI/HC
Franklin Property	42-021-006	28	HC
Freeh	42-021-010, 42-021-011, 42-021-013, 42-021-085, 42-021-094, 42-021-096	94.4	BC Ag
Freeh	42-012-124	33	CCC
Fritchman	42-022-012, 010	20	donation
Fuller CE	42-012-143, 42-021-032, 42-012-144, 42-012-156	60.76	HC
Fuller Preserve (HC Owned)	42-012-155	64.4	HC
G & H Landholding	42-012-110-004	17	HC
Herz	42-017-079	27.5587	NA1/HC
Hirschman	42-021-002, 42-012-084	58.4	Twp./HC
Hottle	42-012-027		
Keller	42-009-143, 42-009-134-007, 42-009-138-001, 42-009-145	150	BC Ag
Keller	42-009-134, 42-009-023 & 42-008-029-003	136.91	BC Ag
Kolmar Easement	42-009-038	51	municipal OS
Kurtesan Property	42-012-022-001	45	municipal OS
McCurdy	42-009-037	23.949	BC Ag/Twp./HC
Mease	42-006-028	65.04	BC Ag
Musselman	42-012-090	54.91	BC Ag
Neis Easement	42-009-032	21.36	NAI/HC
Schulz_Quinn	42-012-106	36	HC
Seifert-Ray	42-017-004	28	NAI/HC
Singer	42-021-019, 42-012-095. 42-012-096	92.54	BC Ag
Sleeman	42-017-094	35	donation
Solteck Equities	42-021-072	24.738	donation
Soltysiak	42-009-064	54.81	BC Ag
Stick	42-017-111, 42-017-116	56.64	BC Ag
Zisko	42-021-004, 42-021-005, 42-021-008, 42-021-015-004, 42-021-018	155.01	BC Ag

1863.31

Springfield Township Open Space Committee Property Evaluation Worksheet

Owner:
 Address:
 Tax Parcel No:
 Evaluation Team:
 Date of Evaluation:

REVISED DATE 7/09/08

Parcel Size Preservation	Item Description	Points Accepted
20%	Greater than 81 acres	20
	Between 51 — 80 acres	16
	Between 31 — 50 acres	8
	Between 10 — 30 acres	4
Agricultural Preservation	Parcel contains 50% or more Class I, II soils	
4		
	Parcel contains 10% - 49% Class I, II soils	2
	Parcel currently farmed as an economic enterprise	2
25%	Parcel located in the Agricultural Security District	2
	Parcel base for farming on other parcels	2
	Contains 50% or more Cro• Land, Pasture Land, Grazing Land	8
	Contains 10% - 49% or less Crop Land, Pasture Land, Grazing Land	4
	Parcel on County Ag Preservation List partially funded (reference appraisals)	8
	Parcel on County Ag Preservation List but unfunded	4
	Soil Conservation Plan	2
Water Resources	Item Description	Points Accepted
Choose Only One	Parcel contains greater than 200 feet of stream or creek frontage or	3
	Permanent stream or creek run through the parcel	2
	Parcel contains an intermittent stream or creek frontage	1
5%	Vernal pool, or natural pond	1
	Parcel contains wetlands	1
	Parcel located in a Source Water Protection Zone	1
	Parcel contains a natural spring/seep	1
Scenic Views	Item Description	Points Accepted
Choose	Parcel offers vistas from more than one identified scenic road or is there	5
5%	open land on both sides of the road or	
Only	Parcel offers vistas from the site to existing open space or	4
One	Parcel visible from a road, park or other open space	3
General Land	Item Description	Points Accepted
	Parcel exists as planned for passive or active recreation	2
5%	Parcel contains an open space link as shown in the plan	2
	Parcel adjacent to a preserved property	1
	or is within 1/2 mile of preserved property	1
	Open space would benefit two or more municipalities	1
	Parcel is enrolled in Act 319	

Springfield Township Open Space Committee Property Evaluation Worksheet

Owner:
 Address:
 Tax Parcel No:
 Evaluation Team:
 Date of Evaluation:

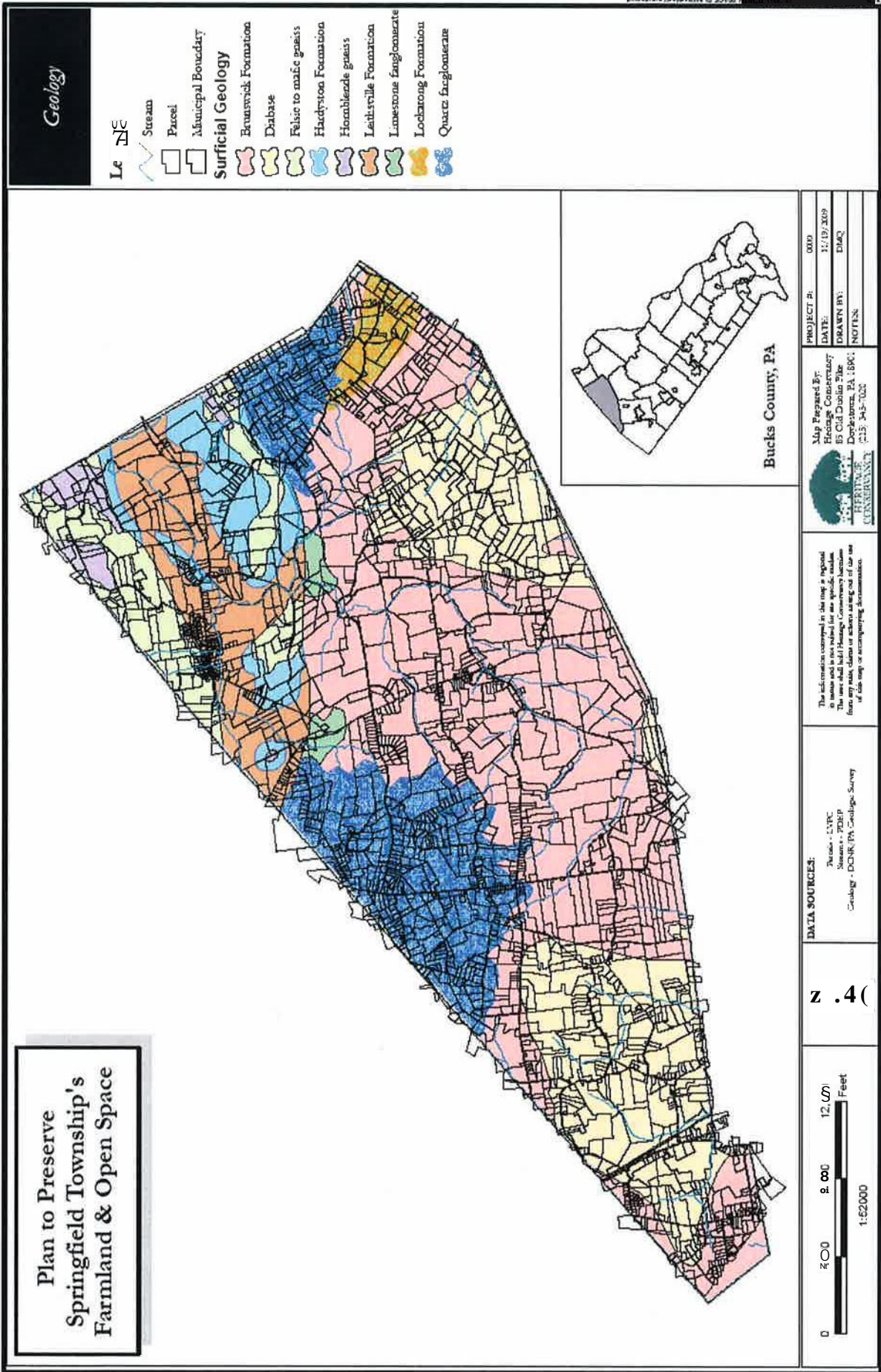
Natural Resources		Accepted Points
	Parcel contains Dr wildflower meadow/native prassland	1
	Parcel contains a Wet Meadow	1
15%	Parcel contains a Core or Buffer habitat	3
	Parcel contains heritage specimen native tree	1
	Parcel contains 50% or more forests	<u>5</u>
	Parcel contains less than 49% forests (at least 1 acre)	3
	Parcel has unique geological features or formations	1
	Parcel contains limestone or carbonate geology	<u>1</u>
	Parcel contains an identified habitat for unique flora	1
	Parcel contains an identified habitat for unique fauna	
Development Factors	Item Description	Points Accepted
	Ease of Development (consult with Planning Commission as needed) scale 1 — 6 pts	
	Distance to Public Water / Public sewer within 1,000 feet	1
Choose Only One	Road frontage more than 1,500 feet	6
	Road frontage greater than 1,000	4
	Road frontage greater than 500 feet	2
	<u>Land uses adjacent to the tract greater than 50% is non-agricultural</u>	2
20%	Land uses adjacent to the tract between 25 — 49% is non-agricultural	1
	Zoning of area adjacent to property is High Density	1
	Percentage of property being preserved 100%	4
	Percentage of property greater than 90%	2
Historic Resources	Item Description	Points Accepted
	Major resource with historic integrity: house or barn (1 pt each) List:	1
5%	Historic context — minor historic structures/ landscape (1 pt)	1
	Major resource easily visible from public road (1pt)	

TOTAL POINTS

Signatures: _____ Date _____
 _____ Date _____
 _____ Date _____

Status report on the current use and condition of these properties, which is required by the Bucks I County Open Space Municipal Program to be completed by OSC

Map 1 Geology








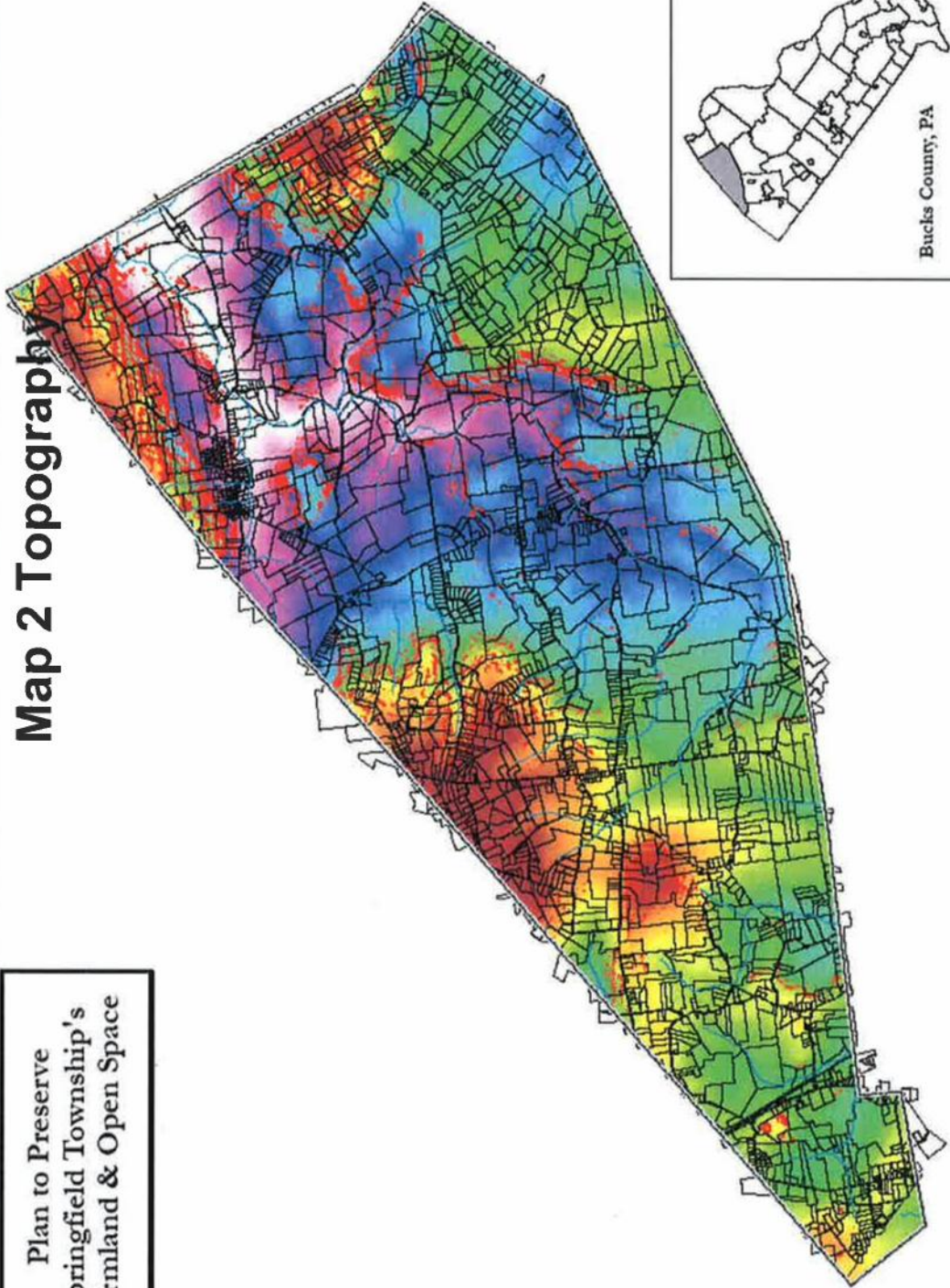
Map 2 Topography

Plan to Preserve
Springfield Township's
Farmland & Open Space

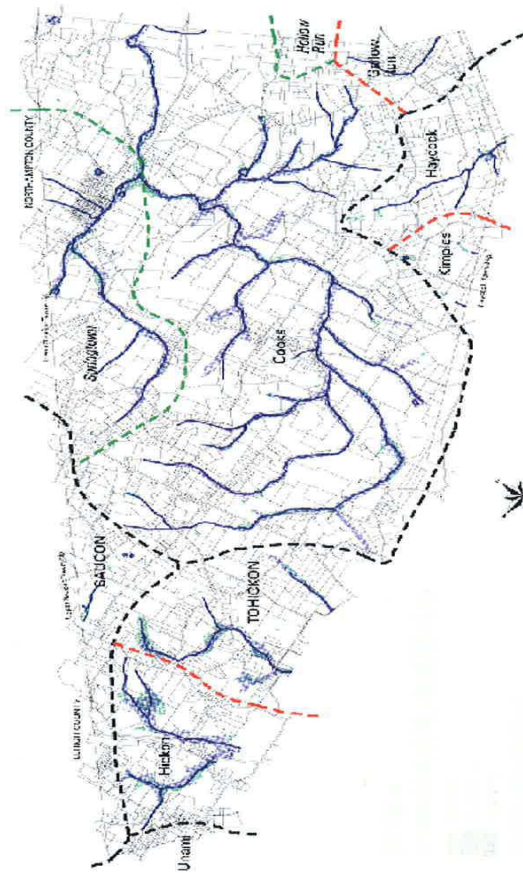
Topography

Legend

-  Municipal Boundary
-  Stream
-  Parcel
-  > 15% slope
- Elevation**
-  High : 974 Feet
Low : 231 Feet

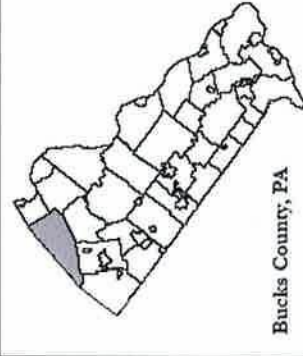
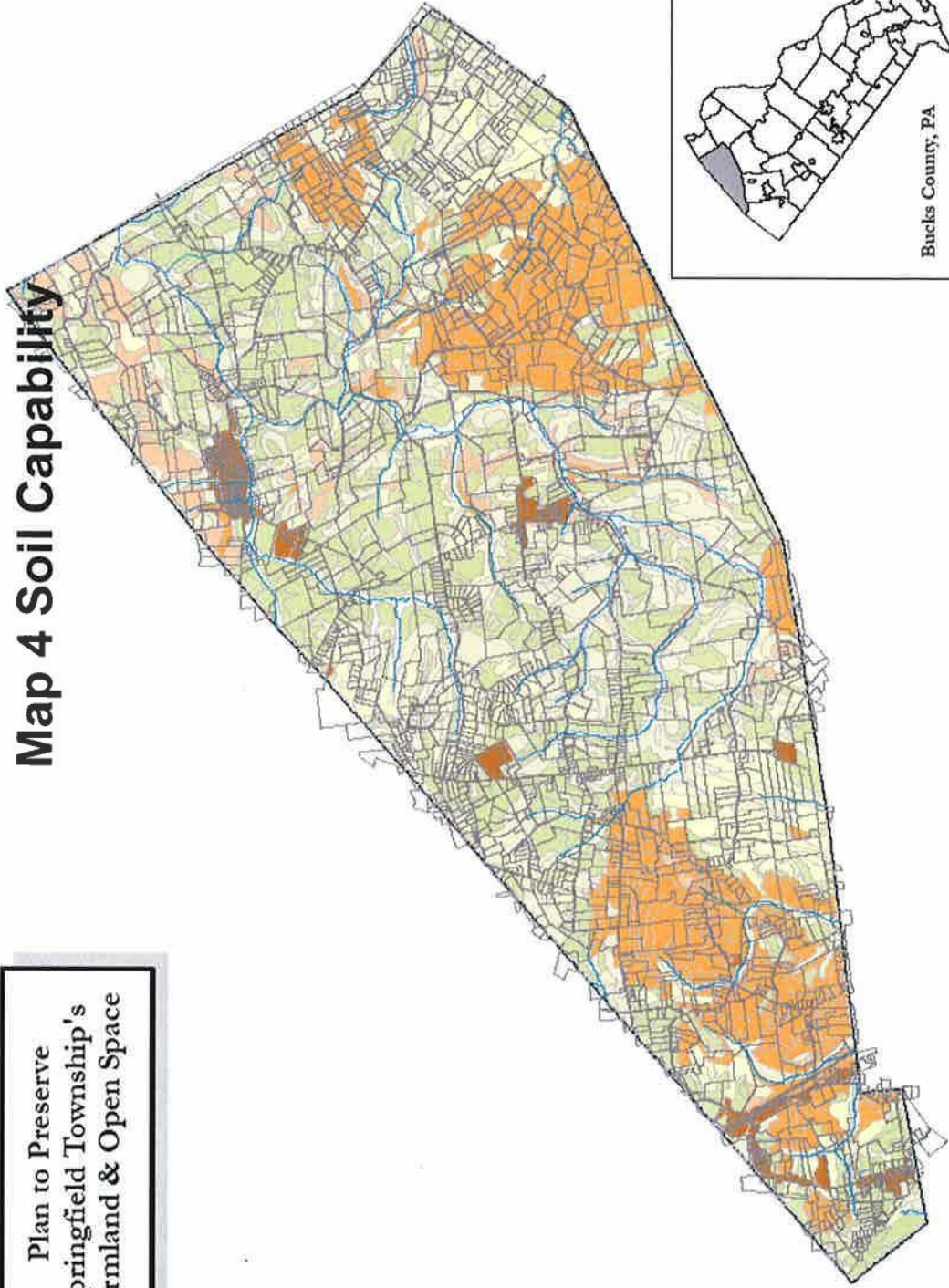


 <p>Map Prepared By: Heritage Conservancy 85 Old Dublin Pike Doylestown, PA 18901 (215) 345-7020</p>	PROJECT #: 0000
	DATE: 11/19/2010 DRAWN BY: DMQ NOTES:
The information contained in this map is regional in nature and is not valid for site specific studies. The user shall hold Heritage Conservancy harmless from any loss, claims or actions arising out of the use of this map or accompanying recommendations.	DA O URCE: Points - LNYC Streams - PDHP Elevation - DTPCC
0 8,000 12,000 Feet 1:52000	N 



Map 4 Soil Capability

Plan to Preserve
Springfield Township's
Farmland & Open Space



Legend

- Stream
- Parcel
- Municipal Boundary

Soil Capability Class

- Class 1
- Class 2
- Class 3
- Class 4
- Class 6
- Class 7
- Class 8

Note:
The capability of each soil class is a general guide for the suitability of soils for most types of land uses. Capability classes, the soil capability groups, are designated by numbers. The numbers are assigned to soil capability groups based on their inherent and temporary capacity for production. The classes are defined as follows:
Class 1 soils have the highest capacity for use. All uses are possible on these soils.
Class 2 soils have moderate capacity for use. Most uses are possible on these soils.
Class 3 soils have moderate to low capacity for use. Some uses are possible on these soils.
Class 4 soils have low to moderate capacity for use. Some uses are possible on these soils.
Class 6 soils have very low to moderate capacity for use. Some uses are possible on these soils.
Class 7 soils have very low to moderate capacity for use. Some uses are possible on these soils.
Class 8 soils have very low to moderate capacity for use. Some uses are possible on these soils.

Map Prepared By:
Heating Conservancy
85 Old Dublin Pike
Doylesstown, PA 18901
(610) 345-7030

PROJECT #: 0040
DATE: 11/19/2019
DRAWN BY: DMQ
NOTES:

The information presented in this map is original information and is not intended for use in any other project. The user shall hold Heating Conservancy harmless from any suits, claims or actions arising out of the use of the map or accompanying documentation.

DATA SOURCES:
Parcels - LVPC
Streams - P2BP
Soils - USDA / National Resources Conservation Service

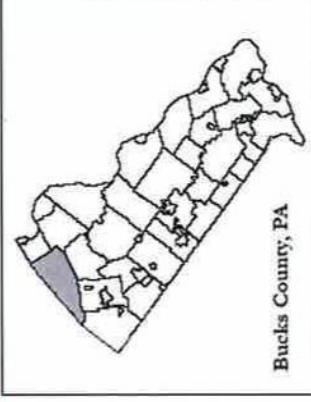
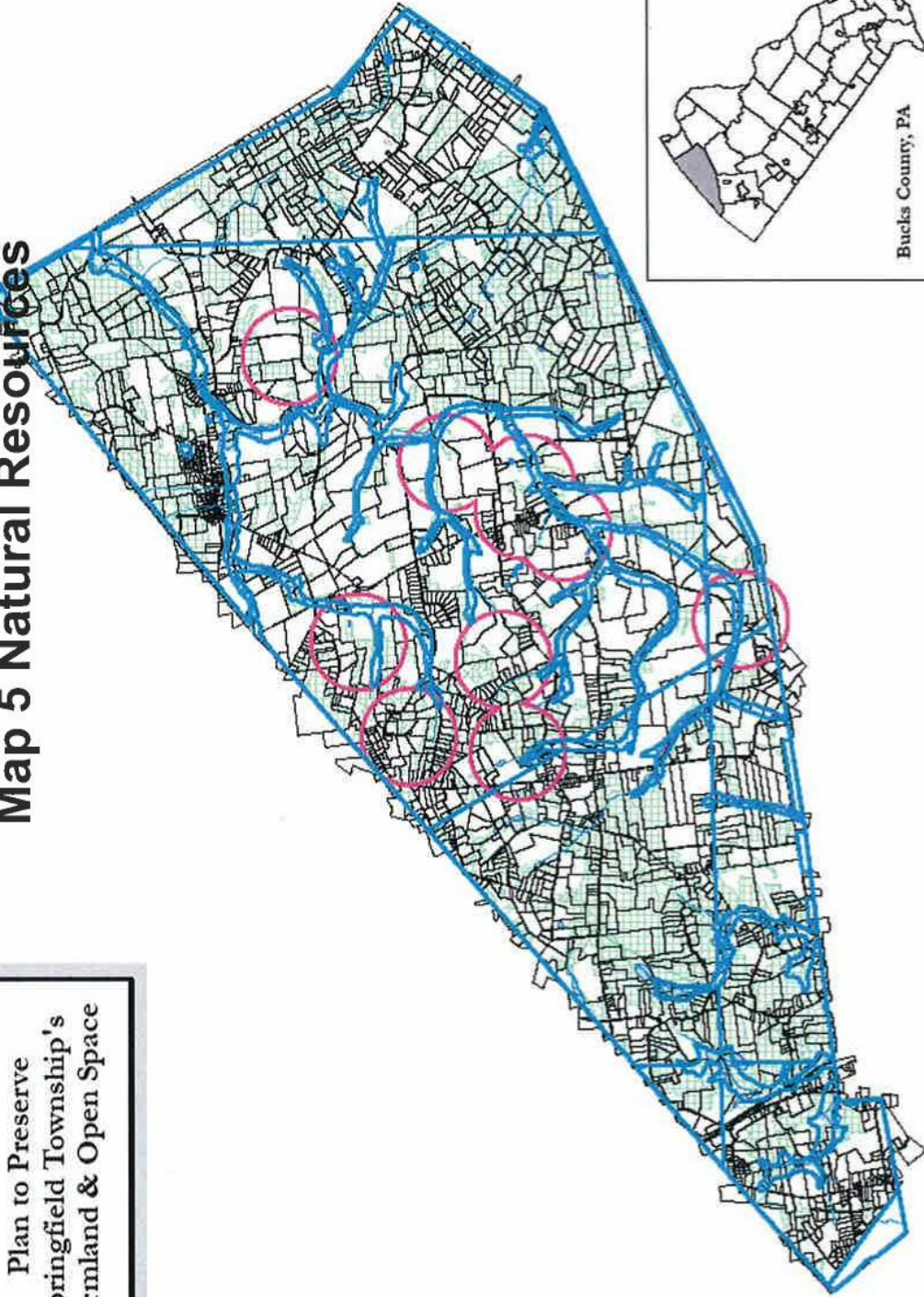
Scale: 1:52,000

Scale Bar: 0 4,000 8,000 12,000 Feet

North Arrow: N

Map 5 Natural Resources

Plan to Preserve
Springfield Township's
Farmland & Open Space



Natural Resources

Legend

- Stream
- 100 Year Flood Plain
- Parcel
- Wetland
- Municipal Boundary
- Woodland
- PNDI EOR

Notes:
All photographs included on this map were taken in 2007. The information contained in this map is regional in nature and is not intended for use in any specific project. The user shall hold harmless the County of Bucks from any and all claims, damages, losses, and expenses, including reasonable attorneys' fees, arising out of the use of this map or accompanying documentation.

Map Prepared By: Hilary C. Conroy, Hilary Conroy & Associates, LLC, 2000 Locust Street, Suite 200, Philadelphia, PA 19103
DATE: 11/19/2009
DRAWN BY: DMQ
NOTES:

DATA SOURCES:
Aerial: USGS
Roads: USGS
Parcel: 2008
Wetland: 2008
Woodland: 2008
Flood: FEMA
Municipal Boundary: 2008

Map Prepared By: Hilary C. Conroy, Hilary Conroy & Associates, LLC, 2000 Locust Street, Suite 200, Philadelphia, PA 19103
DATE: 11/19/2009
DRAWN BY: DMQ
NOTES:

The information contained in this map is regional in nature and is not intended for use in any specific project. The user shall hold harmless the County of Bucks from any and all claims, damages, losses, and expenses, including reasonable attorneys' fees, arising out of the use of this map or accompanying documentation.

PROJECT #: 0000
DATE: 11/19/2009
DRAWN BY: DMQ
NOTES:

