

OPEN SPACE PLAN



**LOWER FREDERICK
TOWNSHIP**

MONTGOMERY COUNTY, PENNSYLVANIA

2006

with 2015 Potential Open Space Linkages Update



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Perkiomen Creek , Cover Background

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LOWER FREDERICK TOWNSHIP

OPEN SPACE PLAN

2006

with 2015 Potential Open Space Linkages Update

This report was partially funded by
The Montgomery County Green Fields/Green Towns Program

Montgomery County Planning Commission

RESOLUTION 06-38

**LOWER FREDERICK TOWNSHIP
RESOLUTION TO ADOPT OPEN SPACE PLAN**

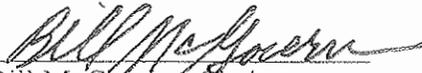
WHEREAS LOWER FREDERICK TOWNSHIP, has prepared an Open Space Plan in accordance with Montgomery County Open Space Program; and

WHEREAS LOWER FREDERICK TOWNSHIP, has held a public hearing on the Open Space Plan; and

WHEREAS LOWER FREDERICK TOWNSHIP, has prepared a final plan addressing all comments;

THEREFOR BE IT RESOLVED, the Supervisors of Lower Frederick Township, Montgomery County, hereby approve the adoption of the Lower Frederick Township Open Space Plan , dated October 2006.

RESOLVED AND ADOPTED this 27TH day of December, 2006.



Bill McGovern, Chairman
Board of Supervisors



(Attest) Tamara Twardowski
Township Manager

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INTRODUCTION

LOWER FREDERICK'S 2006 OPEN SPACE PLAN

GREEN FIELDS/GREEN TOWNS PROGRAM

In 2003, a referendum to fund open space and green infrastructure projects was passed in Montgomery County. Through this program, subsequently adopted by the County, the funding that the voters endorsed is being provided to municipalities, private non-profit conservation organizations and the county to preserve more open space and enhance the livability of existing communities throughout the County. The initial County Open Space program was created 1993. At that time, Lower Frederick drafted it's 1995 Open Space Preservation Plan, which has served as a valuable guide to the Township's open space activities for the past ten years.

Under the new program, Lower Frederick is eligible to receive a total of \$769,315 for open space planning and implementation between April 2004 and April 2008. This grant requires matching funds equal to twenty percent of project costs from the township. The County grants come with several conditions. The most important condition is that any land purchased with grant money must be permanently preserved as open space or for active recreation. Another condition is that Lower Frederick must complete and adopt an updated Open Space Plan. This plan must be approved by the County's Open Space Board before grant money can be disbursed.

DEVELOPING AN OPEN SPACE PLAN

“In the past, many communities assumed that open space was land that had simply not been developed yet, because no one had filed a subdivision plan for it. Communities that planned for open space primarily thought about preserving land for parks. And these parks were often viewed as a community amenity, an extra, even a frill. Likewise, until recent years, most open space preservation efforts were site-specific in their orientation: develop a park here, protect a natural area there. Today, however, a growing number of communities are recognizing not just that green space is a basic community necessity, but that it should be planned and developed as an integrated system.*” This plan represents Lower Frederick’s effort to create such a system.

In 2004, the Lower Frederick Open Space Committee was formed according to the requirements of the Green Fields/ Green Towns Program. Members represented the Lower Frederick Planning Commission, the Board of Supervisors, and several neighborhood representatives with interest in and knowledge of open space issues. Liaisons from the Township as well as the Montgomery County Planning Commission also served on the committee. The Open Space Committee held public meetings on a monthly basis from June 2004 through April 2006 to develop this plan. The committee

presented a draft version of this plan to the Board of Supervisors, in December 2005 during a regularly scheduled meeting, as well as to the community during a public hearing. Comments were solicited from the public and incorporated into the final document.

The 2006 Open Space Plan was reviewed and approved by the County Open Space Board prior to adoption by the Township. This assures that some of the plan’s recommendations are eligible for funding through the Green Fields/ Green Towns program (this does not, however, guarantee that any specific project will receive funding). In addition to County Open Space grants, grants from other agencies will be sought to implement many of the recommendations in this plan. Upon completion of this plan, Lower Frederick Township will embark on implementing the recommendations listed in Chapter 10 by writing specific project proposals and applying to various organizations and agencies for grants.

The Open Space Committee made every effort to consider all aspects of open space planning relevant to the Township. However, in the event that a project, program or policy was overlooked, the plan may be amended by following the procedure outlined in section 302 (a) of the Pennsylvania Municipalities Planning Code.

* McMahon, Edward T. Green Infrastructure. Planning Commissioners Journal. Number 37, Winter 2000, p.4.

PURPOSE OF THIS PLAN

This plan was developed for two major purposes. First, as previously stated, it is a requirement that must be filled in order to be eligible to apply for funding through the Green Fields/Green Towns program. It was also developed to serve as a guide to the Township in acquiring new open space, forging connections through existing open space via an enhanced trail network, and developing programs and policies to preserve and maintain active and passive open space in the Township.

THE OLD PLAN VS. THE NEW PLAN

Lower Frederick's previous open space was vital in guiding the Township's open space development. That plan mainly emphasized land acquisition and trail development. As a result of the plan, several projects were implemented, including the acquisition and development of Foy Park in Spring Mount, the acquisition of Cuddy Park, acquisition of a trail easements along the Swamp Creek corridor, and enhancement of the Township's active recreation facility, Coble Park.

In addition to acquisition and trail development, the new plan emphasizes preservation of the Township's five significant waterways. It also focuses on Heritage Resource Conservation and County Trail Connections. These items were not previously eligible for funding through County Open Space grants, and are a new feature of the 2005 Green Fields/Green Towns Program.

RECOMMENDATIONS

The Open Space Committee has included over twenty-five recommendations for open space projects, programs and policies. Each recommendation is described in detail in Chapter 10. It is also listed along with its priority level, the party responsible for implementation, and potential funding sources in the implementation matrix in Chapter 11.

WORKING WITH OUR NEIGHBORS

Lower Frederick Township has been working with its neighbors, including those municipalities in the Central Perkiomen Valley Region, to develop this open space plan. It will continue to work with them to implement the recommendations of this plan and to work on planning efforts in the future.

CHAPTER 1

COMMUNITY PROFILE

COMMUNITY CONTEXT

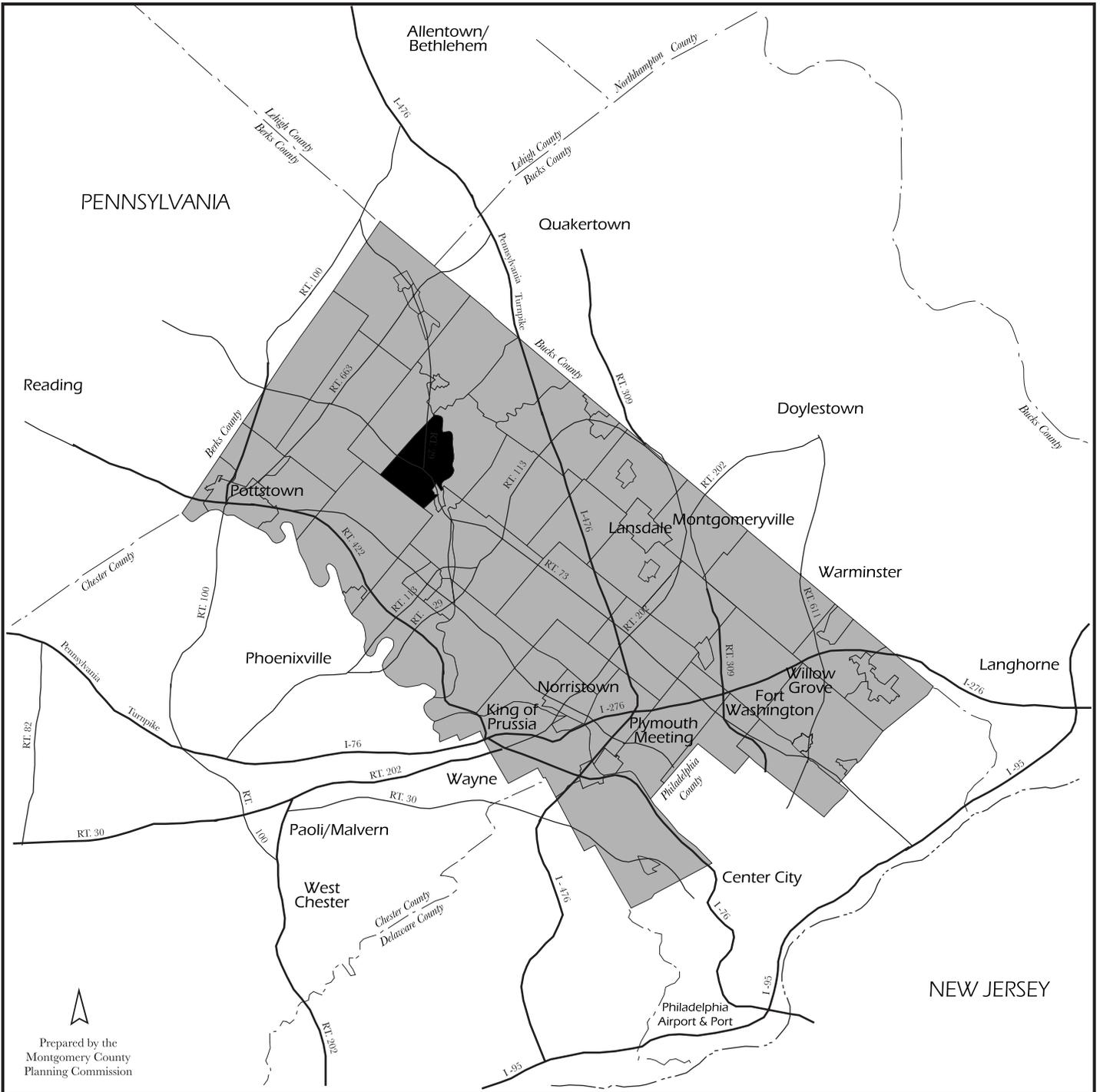
The Community Profile Chapter of the Lower Frederick Township Open Space Plan is designed to provide residents the necessary background information to make well-informed decisions regarding the future preservation of natural and cultural resources within the community. It consists of three parts: Regional Setting, Existing Land Use Analysis, and the Community Demographic Analysis.

REGIONAL SETTING

Located northwest of downtown Philadelphia, in western Montgomery County (see Figure 1), Lower Frederick Township is comprised of more than 5,000 acres and approximately 4,795 residents. The Township is in the Central Perkiomen Valley region which is made up of the three boroughs of Schwenksville, Collegeville, and Trappe, and two other townships, Upper Frederick and Perkiomen. Lower Frederick Township shares the rural heritage of Western Montgomery, Bucks and Chester Counties. Until recently, natural features have tempered the impacts of suburban sprawl; however, development pressures are increasing, as is the need to ensure the environmental integrity and pastoral character of the community.

The Perkiomen, Swamp, Scioto, and Goschenhoppen Creeks, and the ridges dividing them, are the natural characteristics that define the Township. In addition, the Perkiomen Creek provides a natural eastern boundary between Lower Frederick and

Figure 1
Regional Setting



Upper Salford Township. A Diabase bedrock crescent traverses Lower Frederick Township and forms the Stone Hill ridge. This land form does not support intensive development but harbors extensive woodlands and wetlands and holds historical significance regarding local Native American culture. The Township is also part of a nationally significant landscape called the Highlands, which spans from Connecticut down through Pennsylvania to Gettysburg. The Highlands region contains nearly three and a half million acres of forests, farms, and natural resources.

EXISTING LAND USE ANALYSIS

The Existing Land Use Map in Figure 2 identifies the current land uses within the Township. Figure 3 shows the total acreage in each land use category and the percent change from 1995 to 2004. This data helps identify potential locations for open space and/or recreation.

The total land area of 5,201 acres is the digital mapping calculation and is likely to be more accurate than numbers used in earlier documents. It was necessary to make some minor refinements in acreages used for existing land use to provide the comparisons used in this text.

The reclassification of land uses and the new digital techniques provide more accuracy for tracking land use changes. The predominate land use change since 1993 is the increase in residential development, particularly on larger building lots.

GENERAL PATTERNS

The general land use patterns of Lower Frederick Township evolved over the lifetime of the community, with the most intensive changes occurring during the past several decades. Most development

is concentrated in or near the core areas of Spring Mount, Zieglerville, and adjacent to Schwenksville where road access and sewer and water facilities have been available.

Planning and zoning have directed most of the Township's growth to these areas allowing outlying areas to continue in agriculture, low-density residential development, or open space. The Central Perkiomen Valley Regional Comprehensive Plan proposes to continue this pattern.

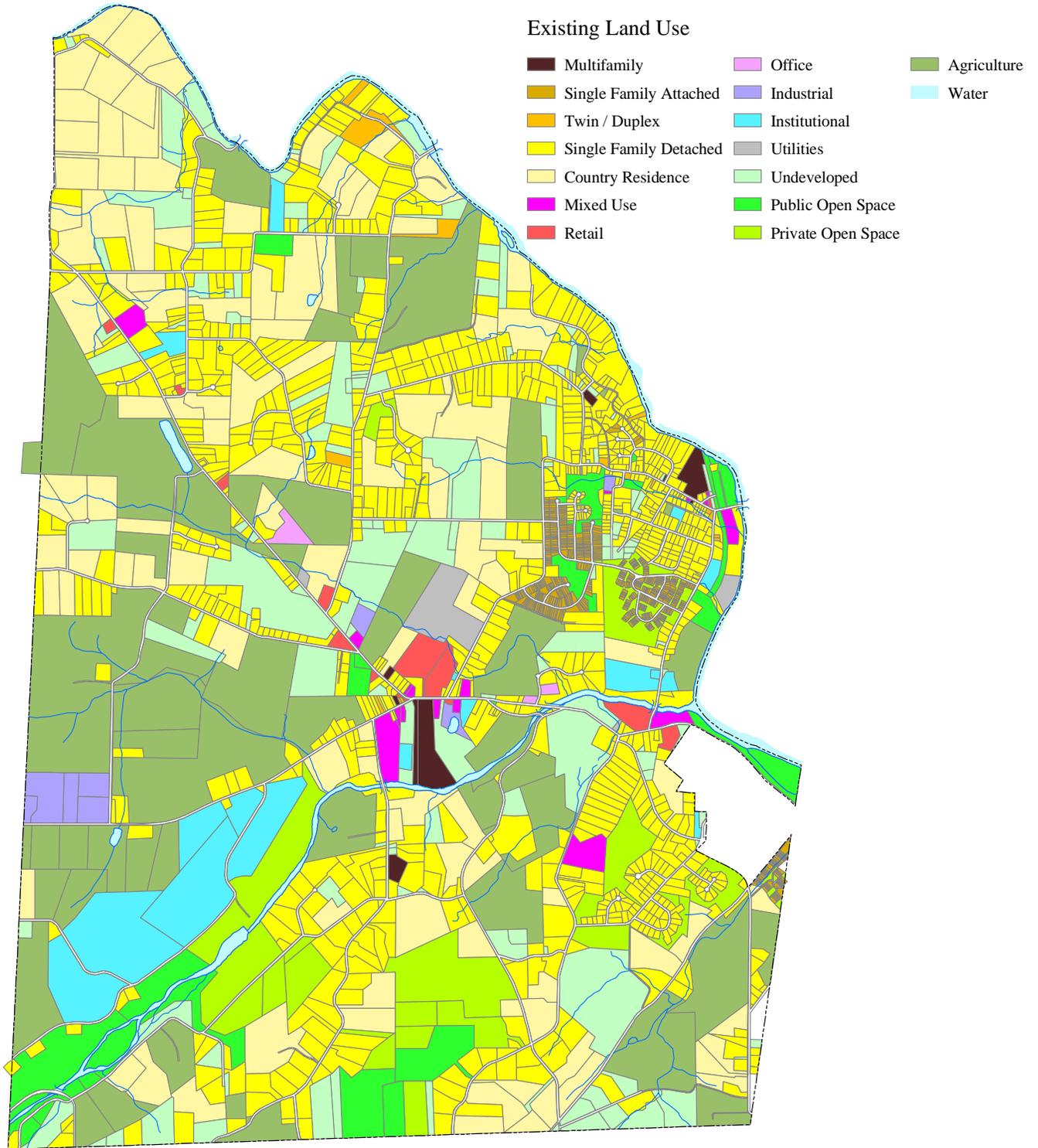
RESIDENTIAL

Residential land use increased from 1,440 acres in 1993 to 2,451 acres in 2004, increasing from 27.4 percent to 47.1 percent of all Township land. In 1970, only 666 acres were identified as residential use. While most residential development has been concentrated in the Spring Mount and Zieglerville areas, large residential lots have spread throughout the countryside, accounting for most of the total residential acreage. In 1993, single-family detached homes occupied 1,371 acres in 1993. By 2004, single-family detached homes occupied 2,365 acres, indicating that the average residential parcels are occupying larger areas of open fields and country sides.

According to U.S. Census data, the Spring Mount population grew from 1,365 in 1990 to 2,205 in 2000. The number of housing units in Spring Mount reflected this growth, with an increase from 534 units in 1990 to 804 units in 2000. The number of 1-unit, detached homes increased from 254 to 264 during this time period while an increase from 244 to 486 1-unit, attached units in the Spring Mount area also occurred. The higher density dwelling types in the Spring Mount area actually account for less than five percent of the land consumed for residential uses but house almost 45 percent of the population of the Township.

From 1970 to 1993, residential land uses

Figure 2
Lower Frederick Land Use Map



MCPC Montgomery
County
Planning
Commission

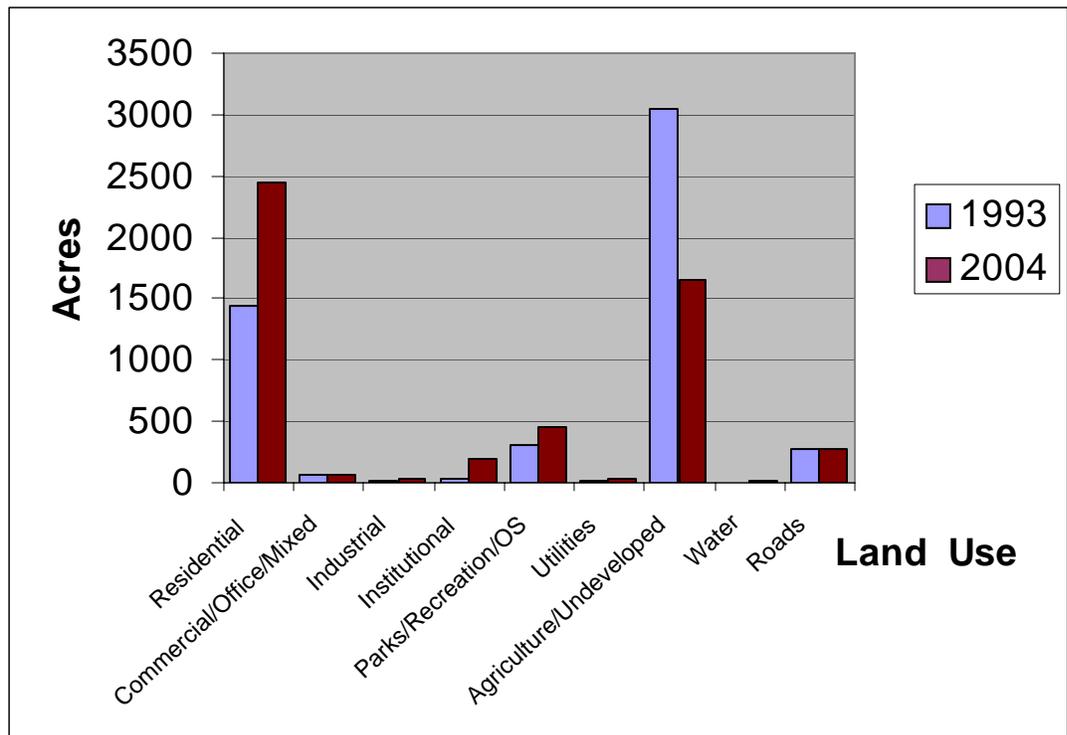


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This map is based on 2000 ortho photography and official sources. Property lines were compiled from individual block maps from the Montgomery County Board of Assessment Appeals, with no verification from the deed. This map is not meant to be used as a legal definition of properties or for engineering purposes.

Figure 3
Existing Land Use Comparison: 1993 and 2004

Land Use	1993		2004		% Change
	Acres	% Total	Acres	% Total	199X-2004
Residential	1440	27.7%	2451	47.1%	70.2%
Commercial/Office/Mixed	60	1.2%	70	1.3%	16.7%
Industrial	18	0.3%	34	0.7%	88.9%
Institutional	37	0.7%	197	3.8%	432.4%
Parks/Recreation/OS	305	5.9%	461	8.9%	51.1%
Utilities	19	0.4%	33	0.6%	73.7%
Agriculture/Undeveloped	3050	58.6%	1649	31.7%	-45.9%
Water	0	0.0%	24	0.5%	n/a
Roads	272	5.2%	282	5.4%	3.7%
Total Acreage*	5201	100%	5201	n/a	n/a



consumed an average of 34 acres per year. From 1993 to 2004, the average increased to 92 acres per year. The remaining agricultural and undeveloped lands could all be converted to residential use in less than 18 years if the most recent rate continues.

COMMERCIAL/OFFICE/MIXED USE

In 1993, commercial, office, and mixed uses including retail shops, gas stations, restaurants, business and professional offices, car sales and/or repairs occupied 60 acres of land. These uses are primarily located along Gravel Pike (Route 29) or in the village of Spring Mount.

By 2004, the amount of land consumed for uses in this category had increased slightly to 70 acres. In 1970, only 40 acres of land was used for these purposes. The relatively slow growth of commercial, office, and mixed uses has allowed Lower Frederick to retain a small town, rural character while some nearby communities have been rapidly growing into suburban centers. These uses account for a little more than one percent of the Township's land area (1.3 percent), and have consumed less than one acre per year for growth since 1970.

INDUSTRIAL

The Township's older industrial uses are located in the Zieglerville and Spring Mount areas, but new growth has taken place along Route 73 at the boundary with Upper Frederick. The 18 acres of industrial use in 1993 has almost doubled to 34 acres in 2004. However, industrial uses remain a minor land consumer, occupying less than one percent of the Township's total land area (0.7 percent), and consuming only 1.5 acres per year since 1993.

INSTITUTIONAL

This category includes all of the schools, churches, Township building, fire house, and cemeteries. These uses are primarily

located along Gravel Pike (Route 29) and Big Road (Route 73), and in the Spring Mount and Zieglerville areas. In 1993, institutional land use accounted for only 37 acres, which was virtually unchanged from 1970.

The number of institutional acres increased dramatically in 2001, when the Perkiomen Valley School District acquired 160 acres for a middle school and an elementary school. The new middle school and recreation fields now occupy a large portion of the site, but the elementary school has not been built. The map and data consider the entire 160 acres as institutional use while it may be more practical to consider it as three parts, school site, recreation fields, and undeveloped.

With the addition of the school district's lands, the percentage of total land in institutional use increased from 0.7 to 3.8 percent.

PARKS/RECREATION/OPEN SPACE

In 1993, the "Recreation" category included the Township's Coble Park in Zieglerville, part of the old Perkiomen Railroad right-of-way, public and private open space areas in the three townhouse developments, camps Arthur and Reeta along the Swamp Creek, the County's Sunrise Mill historic site, and Memorial Island park at the Perkiomen Creek, nearly 306 acres, or 5.8 percent of the Township.

The number of acres of recreational uses was much smaller in 1970 (64 acres), but the change was probably caused by differences in tabulating recreation land. By 2004, the amount of "Parks/Recreation/Open Space" land had increased to 461 acres, or 8.9 percent of the total Township land area. Land added between 1993 and 2004 includes private open space in residential developments and the Township's new parkland in Spring Mount (Foy Park) and in the northern section (Cuddy Park).

UTILITIES

Utilities accounted for less than 20 acres of land in 1993, primarily the water company property along Zieglerville Road and the Township sewage treatment plant property along the Perkiomen Creek. These two uses continue to dominate the category. The acreage has increased to 33 in 2004, but is still less than one percent of the total Township land area.

AGRICULTURE/UNDEVELOPED

The 1993 data called this category "Open Land" and included agriculture, woodlands, pasture, and vacant land. It also included "underutilized land" comprising those parts of large tracts that were not used for a home, business, or any other use, although those tracts contained some development.

In 1970, this category accounted for 4,200 acres, or 80 percent of the Township. In 1993, there were just under 3,090 acres, or 59 percent of the Township. For 2004, the number decreased to 1,649 acres, or 32 percent. More than 1,100 acres were re-categorized to other land use categories between 1970 and 1993, and more than 1,400 acres were re-categorized between 1993 and 2004. Some of the land was re-categorized to the Parks/Recreation/Open Space category; however, most of it was converted to the residential categories.

ROADS AND WATER

In 2004, land within the ultimate right-of-way of roads accounted for more than 280 acres, or about 5.4 percent of the Township's total land area. The increase since 1970 was primarily caused by the construction of new roads for developments and the increase in the right-of-way widths. This category changed from 184 acres in 1970 (3.5 percent), to 282 acres in 2004 (5.4 percent).

As a part of the digital mapping process used for 2004's existing land use, a new category, Water, has been added. Its 24 acres are actually shared among other land use categories, but the mapping process does not break it down into those categories. Much of it is within lower density residential, agriculture, undeveloped, and open space categories.

CONCLUSIONS

Over the past 10 years, 1,401 acres of Agriculture/Undeveloped land were converted to other land uses. The primary reason for conversion was for residential development, which gained 1,011 acres.

The Institutional category gained 160 acres, much of which is ball fields or remains undeveloped on the Perkiomen Valley School District property west of Zieglerville. In addition, Parks/Recreation/Open Space gained an additional 156 acres.

Fewer than 20 acres each were added to the Commercial/Office/Mixed Use, Industrial, and Roads categories.

Currently, Residential land use accounts for 47 percent of Lower Frederick's land area (2,451 acres). Parks/Recreation/Open Space and Agriculture/Undeveloped account for 41 percent (2,110 acres). All other land use categories account for the remaining 12 percent of the Township's total land area (640 acres).

COMMUNITY DEMOGRAPHIC ANALYSIS

The Community Demographic Analysis identifies changes in population, housing, education, age and other demographic categories. With few exceptions, the source of the information is the decennial U.S. Census and other

Figure 4
Population Classification

Population Type	1990		2000		% Change
	Number	% Total	Number	% Total	1990 to 2000
Household Population	3,396	100.0%	4,795	100.0%	41.2%
Group Quarters Population	0	0.0%	0	0.0%	n/a
Total Population	3,396	100%	4,795	100%	41.2%

Sources: U.S. Census Bureau; Census of Population and Housing, 1980, 1990.

reports of the Census Bureau.

These specific characteristics and trends offer insight into the amounts and types of open space that should be available to Township residents.

POPULATION

Population increase is an important measure of how a community is changing over time. Figure 4 illustrates population changes between 1990 and 2000.

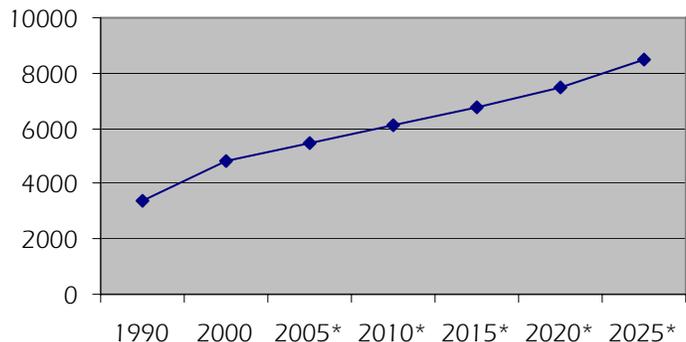
The rate of population growth has been stable for the past 20 years, with 42.7 percent growth in the 1980's and 41.2 percent in the 1990's. As a result, the Township's population more than doubled between 1980 and 2000, gaining 2,416 persons.

POPULATION PROJECTIONS

The rate of population growth is projected to slow during the next 20 years. Figure 5 reflects projections made for the entire southeastern Pennsylvania region, relative to the 2000 Census. These projections are greater than population projections based on the 1990 Census. However, the projected populations could be significantly reduced as a result of recommendations in the Central Perkiomen Valley Regional Comprehensive Plan. That plan advocates reductions in residential densities that would result in fewer new dwelling units in the future. In addition, the performance standards in the Township's current zoning ordinance should result in fewer new homes because development intensity will be dependent on the carrying capacity of the areas where development is proposed.

Figure 5
Population Projection

Year	Population
1990	3396
2000	4795
2005*	5490
2010*	6130
2015*	6760
2020*	7450
2025*	8490



Source: U.S. Census Bureau; Census of Population and Housing, 2000; DVRPC projections.

* Projected population

Figure 6
Household Types

Household Types	1990	% Total	2000	% Total	% Change
	Number		Number		1990 to 2000
Married Couples with Children	436	35.7%	599	34.6%	37.4%
Married Couples with No Children	426	34.8%	539	31.2%	26.5%
Single Parent	63	5.2%	114	6.6%	81.0%
Other Family	49	4.0%	65	3.8%	32.7%
1 Person Nonfamily Households	209	17.1%	322	18.6%	54.1%
2+ Person Nonfamily Household	40	3.3%	91	5.3%	127.5%
Total No. of Households	1,223	100%	1730	100%	41.5%
Average People per Household	2.78		2.77		-0.2%

Sources: U.S. Census Bureau; Census of Population and Housing, 1990, 2000.

HOUSEHOLD TYPES

Figure 6 identifies the numbers and types of households found in the Township. A total of 713 households include children, and 1,017 households include no children. The average number of persons per household has remained stable at approximately 2.77 per household. This relatively high number of persons per household is primarily the result of adding 214 households with children and 113 married couples with no children during the 1990's.

old population had completed more formal education (3,120 persons) than the 1990 population (2,229 persons). Figure 7 shows the details. The percentages for Lower Frederick residents are consistent with countywide percentages for 2000, as follows:

- 89% were high school graduates
- 23% some college or associate degree
- 39% bachelor's, graduate, or professional degree

EDUCATIONAL ATTAINMENT

In 2000, the Township's over 25 years

AGE

Between 1980 and 1990, the numbers of

Figure 7
Education Level

Educational Level	1990		2000		% Change
	Number	% Total	Number	% Total	1990-2000
Less than 9th grade	142	6.4%	35	1.1%	-75.4%
9th through 12th grade, no diploma	281	12.6%	198	6.3%	-29.5%
High school graduate (includes equivalency)	828	37.1%	1109	35.5%	33.9%
Some college, no degree	356	16.0%	615	19.7%	72.8%
Associate degree	182	8.2%	206	6.6%	13.2%
Bachelor's degree	397	17.8%	693	22.2%	74.6%
Gradute or professional degree	43	1.9%	264	8.5%	514.0%
Total Pop. 25 years and older	2229	100%	3120	100%	40.0%

Sources: U.S. Census Bureau; Census of Population and Housing, 1990, 2000.

Figure 8
Age Profile

Age	1990	% Total	2000	% Total	%Change
	Number		Number		1990-2000
0-4	361	10.6%	419	8.7%	16.1%
5-17	559	16.5%	993	20.7%	77.6%
18-24	244	7.2%	276	5.8%	13.1%
25-34	779	22.9%	754	15.7%	-3.2%
35-44	568	16.7%	1055	22.0%	85.7%
45-54	342	10.1%	603	12.6%	76.3%
55-64	268	7.9%	340	7.1%	26.9%
65-74	166	4.9%	226	4.7%	36.1%
75+	109	3.2%	129	2.7%	18.3%
Total	3,396	100%	4795	100%	41.2%
Median Age	32.3		34.6		

Sources: U.S. Census Bureau; Census of Population and Housing, 1990, 2000.

Age/Sex Pyramid

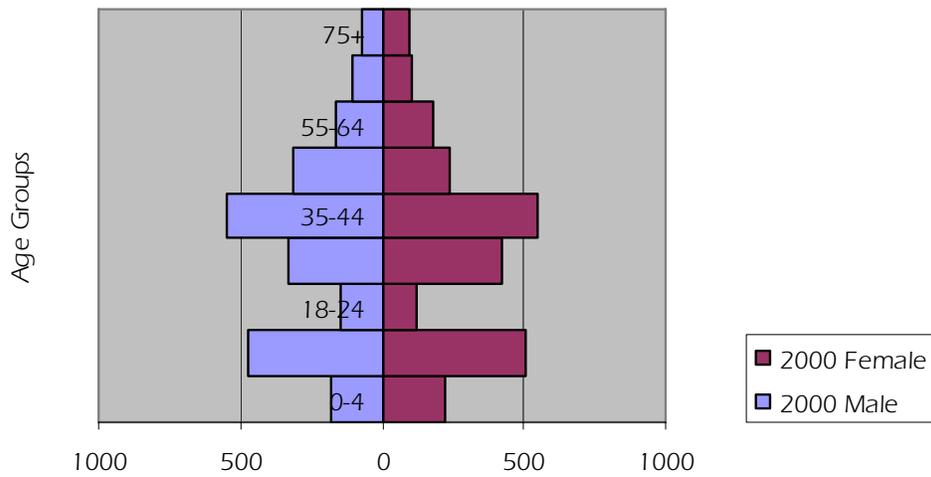


Figure 9
Income Levels (1999 \$)

Income	1989	1999	% Change
Per Capita	\$16,530	\$25,113	51.9%
Median Household	\$43,614	\$60,125	37.9%

Sources: U.S. Census Bureau; Census of Population and Housing, 1990, 2000.

persons increased in every age group except the 15 to 24 year-olds, which decreased by 10% (40 persons). From 1990 to 2000, the larger population increase was reflected in all age groups except the 25 to 34 year-olds, which is the same group, now older, that lost members during the 1980's. Several age groups increased significantly in terms of actual numbers of persons and percentages of the total population, as listed in Figure 8. The population under five years old was relatively stable. However, the number of 5 to 17 year olds increased substantially (+ 434 persons; +77.6%), as did the number of persons 35 to 54 (+478; + 85.7%), and the 45 to 54 year-olds (+261; 76.3%). The 55 through 75+ year-old group, "seniors through elderly," increased moderately (+152; +27.9%).

INCOME

The income comparisons in this section are based on Census data for 1989 and 1999 in 1999 dollars. The 1989 per capita income listed in Figure 9 shows Lower Frederick at \$16,530, or 56 percent of the figure for the county as a whole (\$29,463). Figure 9 also shows the 1989 median income in Lower Frederick as \$43,614, or 75 percent of the figure for the county as a whole (\$58,577).

For 1999, the per capita income in Lower Frederick increased to \$25,113

and the median income increased to \$60,125.

These increased levels of income come closer to the county wide incomes, but are still lower, at 81 percent per capita and 99 percent for median household income.

•Per capita:

Lower Frederick = \$25,113
Montgomery County = \$30,898

•Median Household:

Lower Frederick = \$60,125
Montgomery County = \$60,829

SPECIAL NEEDS GROUPS

When evaluating recreation and open space facilities, special needs can be defined to include specific age groups or those with financial limitations as well as groups with disabilities, as shown in Figure 10.

Both the young and the elderly may have special recreational needs. In Lower Frederick in 2000, there were 1,412 children under the age of 18, representing 29.4 percent of the Township's population. On the other hand, there were 355 people 65 and older, representing 7.4 percent of the Township's population.

In 2000, there were 589 people (12.3 percent) in Lower Frederick over 16 years

Figure 10
Special Needs Groups

Special Needs Group	1990		2000		% Change
	Number	% Total	Number	% Total	1990-2000
Persons 16-64 with Disabilities			589	12.3%	N/A
Persons 16-64 with Mobility and Self-Care Limitations	20	0.6%			N/A
Over 65 Years of Age	275	8.1%	355	7.4%	29.1%
Under 18 Years of Age	920	27.1%	1,412	29.4%	53.5%
Income Below Poverty Level	182	5.4%	126	2.6%	-30.8%
Total Population	3,396		4,795		41.2%

Sources: U.S. Census Bureau; Census of Population and Housing, 1990, 2000.

Figure 11
Housing Types

Housing Types	1990		2000		% Change
	Number	% Total	Number	% Total	1990-2000
Single-Family Detached	871	68.7%	1140	63.2%	30.9%
Single-Family Attached	292	23.0%	547	30.3%	87.3%
Multifamily (2-4 Units)	54	4.3%	98	5.4%	81.5%
Multifamily (5 or More Units)	17	1.3%	20	1.1%	17.6%
Mobile Home/Trailer/Other	34	2.7%	0	0.0%	-100.0%
Total Housing Units	1,268	100%	1805	100%	42.4%

Sources: U.S. Census Bureau; Census of Population and Housing, 1990, 2000.

Housing Types Comparison

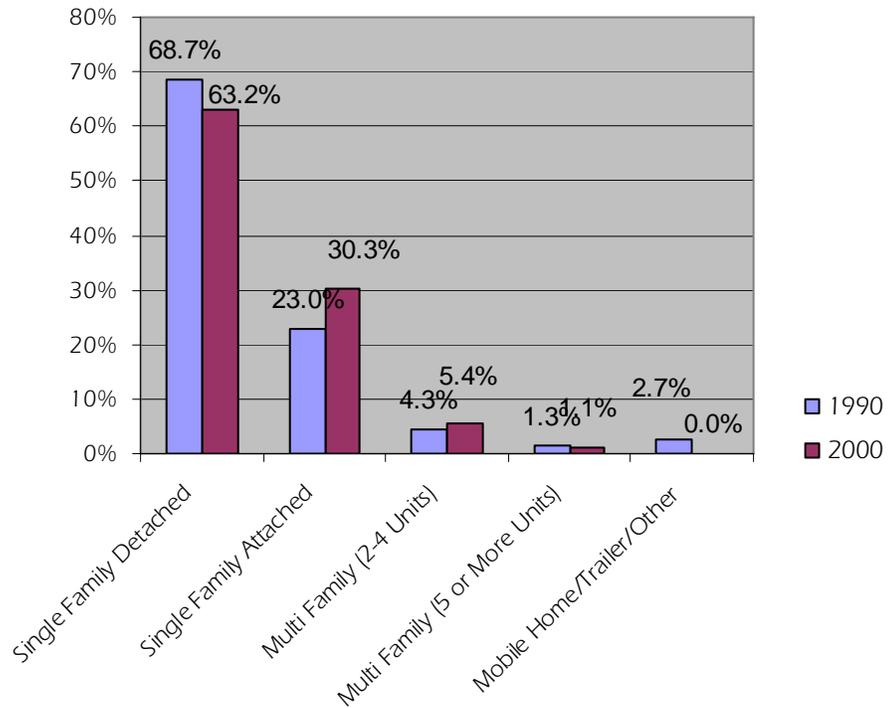
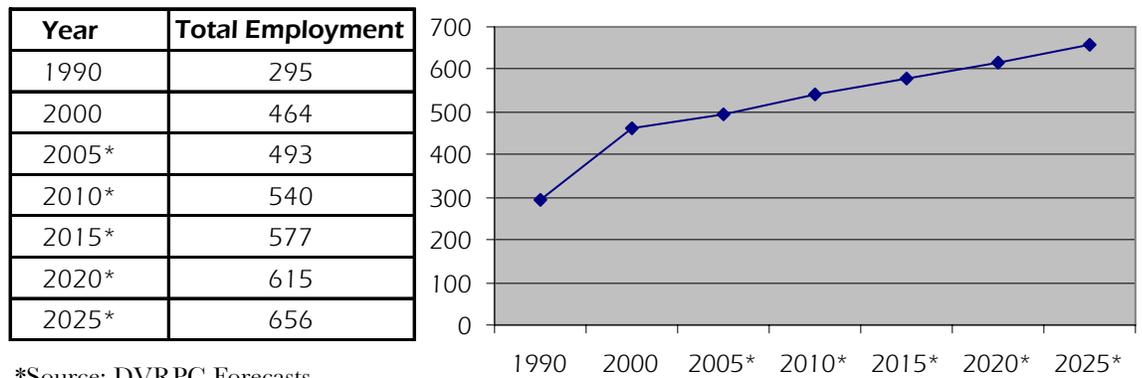


Figure 12
Labor Force by Occupation

Occupation	2000	
	Number	% Total
Management	402	15.4%
Professional	600	23.1%
Sales	279	10.7%
Clerical/Office	416	16.0%
Construction	369	14.2%
Production/Transportation	216	8.3%
Farming	0	0.0%
Services	320	12.3%
Total	2602	100%

Sources: U.S. Census Bureau; Census of Population and Housing, 2000.

Figure 13
Employment Forecast



*Source: DVRPC Forecasts

old, who were not in the military or an institution, but who did have mobility limitations that meant they could not move around the community without assistance.

In addition, 126 people fell below the poverty level in 2000, representing 2.6 percent of the Township's population. Poverty level was determined by the Census based on food costs, food purchases as a percentage of total income, number of persons in a household, and number of children in a house-hold.

HOUSING TYPES

Lower Frederick's diverse housing stock,

includes townhouses and single-family homes, as well as single-family homes converted to two or more dwelling units. The variety of types and lot sizes provides Township residents with various housing choices based on income, family size, and lifestyle.

The Township's 1990 and 2000 distributions of housing types are shown in Figure 11. Lower Frederick's distribution reflects that of the county as a whole, with a slightly higher percentage of single-family detached units (63.2% vs. 56.0%), and a significantly higher percentage of single-family attached units in the Township (30.3% vs. 18.7%).

Between 1990 and 2000, the largest

increase in number of units was single-family detached, with 269 additional units (30.9% increase), followed by single-family attached, with 255 additional units (87.3% increase).

EMPLOYMENT

Figure 12, Labor Force by Occupation, identifies the occupations of Lower Frederick Township's 2,602 person labor force. Fifty-four (54) percent of the total population is employed.

Figure 13 shows the generalized Delaware Valley Regional Planning Commission (DVRPC) forecast for new jobs in the Township. If these projections hold true, the number of persons working in the Township in 1990 would more than double by 2020.

STATUS OF RELEVANT PLANS

The most important plan to affect Lower Frederick Township for the foreseeable future is the Central Perkiomen Valley Regional Comprehensive Plan. This plan was drafted by the six member municipalities in the region and was adopted in June 2005.

The Regional Comprehensive Plan provides guidance for future growth, development, transportation, and open

space purposes. As a complement, the Lower Frederick Township Open Space Plan intends to guide implementation of the Regional Plan regarding parks, open space, preservation of farmland, and preservation of natural features.

In addition, numerous conservation plans for Lower Frederick and municipalities in the region, have been completed by local organizations. While generally not adopted by municipalities, they play a role in identifying important areas for protection.

CONCLUSION

Changes in community demographics impact the services Lower Frederick Township provides to residents. Specifically, the municipality's responsibility to provide recreation spaces changes as the population, housing, and land use profile change within the community. Likewise, land use and community demographic changes increase the importance of protecting valuable natural resources, and thus impact the ways in which open space decisions are made by the municipality. This chapter serves as an initial profile of the community and the following chapters use the information gathered here to direct the Township's Open Space Plan goals, objectives, and recommendations.

CHAPTER 2

GOALS & OBJECTIVES

Lower Frederick's Goals and Objectives provide an appropriate framework for making decisions regarding preservation of open space and protection of natural features within the community. The Township's Open Space Committee evaluated the 1995 Open Space Plan, noting successes and failures and making appropriate revisions for the 2006 Open Space Plan. The 1995 Open Space Plan noted the following five areas of concern:

1. **Growth Management.** Adoption of the Central Perkiomen Valley Regional Comprehensive Plan is an immeasurable advance toward this goal. It limits future growth and designates most of the land area of Lower Frederick and adjoining lands in Upper Frederick Township as "Rural Resource Conservation Area".
2. **Active Recreation.** Cuddy and Foy Parks were acquired and the Middle School ball fields and tennis courts were constructed; however, the Spring Mount and Zieglerville areas remain underserved, partly due to continuing growth and limited availability of active recreation opportunities.
3. **Natural Amenities.** Acquisitions in the Stone Hill and Swamp Creek areas and zoning refinements are positive steps; however, development of vacant and underdeveloped land continues to threaten sensitive natural features.
4. **Pedestrian and Bicycle Mobility.** Limited achievements toward this goal were recognized, partly because of limited opportunities under subdivision proposals and because an overall systematic trail plan was not pursued.
5. **Agricultural Preservation.** Three of the four farms that joined the Agricultural Security Area remain as farmland. However, other farms are currently proposed for development, and opportunities for preserving the Township's agricultural heritage are diminishing rapidly.

2006 GOALS AND OBJECTIVES

The 2006 Open Space Goals retain the same priorities with minor revisions and reordering.

1. **Preserve Natural Resources and Scenic Character.**
2. **Maximize Active Recreation Opportunities.**
3. **Facilitate Pedestrian and Bicycle Mobility.**
4. **Preserve Agricultural Heritage.**
5. **Accommodate Efficient Growth.**
6. The following sections expand these goals and list objectives. They reflect Lower Frederick's emphasis on preserving and protecting natural resources and the Township's rural agricultural heritage, while providing appropriate active and passive recreation opportunities. Coordination with adjacent municipalities will be needed to better achieve these goals and objectives.

1. PRESERVE NATURAL RESOURCES AND SCENIC CHARACTER

Preserve stream valleys, floodplains, wetlands, steep slopes, woodlands, wildlife habitat areas and connections, and other natural resource areas for environmental benefits and purposes, passive recreation, and the scenic character of Lower Frederick Township's landscapes.

Objectives:

- Expand conservation of significant woodlands.
- Preserve environmentally sensitive natural features associated with stream corridors.
- Conserve the quantity and protect the quality of surface water, subsurface water resources, and surrounding buffer areas.
- Ensure sufficient capacity in natural and artificial waterways, wet areas to limit or reduce flooding.

Recommended Action Steps:

- Identify, protect, and preserve natural resources, in areas such as: the Mine Run corridor along Game Farm Road and associated forested tributaries; Salford Station/Colonial Drive area and tributary to the Perkiomen Creek; Gravel Pike from the Meng Road-Swamp Creek tributary to Memorial Road; the Swamp Creek/Stone Hill corridor; and, the Spring Mount Creek headwaters.
- Create greenway connections among protected resource areas.
- Pursue acquisitions of preserved riparian buffers along all major streams whenever possible.
- Revise municipal ordinances to further protect stream corridors, steep slopes, floodplains, wetlands, and riparian corridors, woodlands, wildlife habitat and greenways connections, and other natural resource amenities.

- Preserve the wellhead protection zone surrounding Schwenksville Borough Authority Water storage facility on Zieglerville Road.
- Educate landowners regarding the benefits of natural resource protection and stewardship guidelines.

2. MAXIMIZE ACTIVE RECREATION OPPORTUNITIES

Expand access to active recreation facilities located conveniently to the Township's population centers.

Objectives:

- Provide for a variety of active recreation opportunities within a hierarchy of facilities, ranging from small neighborhood parks to larger community facilities.
- Pursue expanded active recreation opportunities in the Spring Mount area.

Recommended Action Steps

- Cuddy Park: Expand Cuddy Park to form connections from Cuddy Park to the Perkiomen Creek and retain it as a passive open space area.
- Foy Park: Pursue opportunities to provide better pedestrian access to existing facilities at Foy Park and acquire additional parcels for active recreation in the Spring Mount area.
- Coble Park: Pursue extensions and connections to the existing recreation facilities via planned and future developments and the surrounding community.
- Middle School Facilities: Cooperate with the Perkiomen Valley School District to develop guidelines to optimize Township residents' use of the new middle school's ball fields and tennis courts.
- Enhance opportunities for active recreation opportunities provided by local organizations, such as the YMCA.



Play Equipment at Coble Park

3. FACILITATE PEDESTRIAN AND BICYCLE MOBILITY.

Maximize pedestrian and bicycle access throughout the Township and connect to the growing regional network of bike routes and trails that extend recreation and transportation opportunities.

Objectives:

- Create a sustainable, interesting, and accessible open space network with active and passive recreation opportunities and linkages, using suitable stream corridors and other preserved areas.
- Pursue opportunities for multi-purpose trails to provide public access to natural areas of scenic quality while ensuring a high standard of protection.

Recommended Action Steps:

- Identify Township activity centers and key natural areas.
- Create a pedestrian and bicycle trail plan.
- Develop guidelines for road widening and use of road shoulders as components of the pedestrian and bicycle trail system and implement these standards routinely under subdivision and land development proposals.
- Establish criteria to evaluate the need for sidewalks and designated growth areas and identify areas presently in need of sidewalks.
- Create passive recreation linkages connecting Limerick Township with Spring Mount via Stone Hill Greenway.
- Pursue acquisitions of preserved riparian buffers along all major streams wherever trail linkages are possible.

4. PRESERVE AGRICULTURAL HERITAGE.

Preserve the Township’s agricultural heritage and scenic rural character by protecting historic agricultural resources within their rural, open space context.

Objectives:

- Maintain as much agricultural land as feasible and retain agricultural buildings in their historical settings.
- Encourage farming as a business by supporting the sale of agricultural products and farmers’ efforts to maintain agriculture as a productive industry.
- Continue to encourage farmers and other owners of farmed lands to consider farmland preservation through the established State and County program.
- Maintain the visual character of rural landscapes to the greatest extent practical as additional development is proposed.

Recommended Action Steps:

- Preserve farmland and scenic resources particularly along Simmons Road in the vicinity of Gravel Pike (Jensen Farm) and Little Road, Big Road, and Salford Station Road in the vicinity of Colonial Drive.

- Encourage alternative, innovative and sustainable farming practices.
- Revise municipal ordinances to incentivize the preservation of farms and scenic rural landscapes.

5. ACCOMMODATE EFFICIENT GROWTH.

Minimize the loss of natural resources and maximize the efficiency of public facilities by directing growth toward Spring Mount and Zieglerville, as designated in the Central Perkiomen Valley Regional Comprehensive Plan.

Objectives:

- Enhance the quality of life in designated growth areas by focusing recreational facilities close to population centers.
- Ensure protection of natural resources and agricultural lands throughout the Rural Resource Conservation Area of the Township, as defined in the Regional Comprehensive Plan.

Recommended Action Steps:

- Implement the recommendations of the Regional Comprehensive Plan regarding rural resource conservation, protection of natural features, and provision of open space for active and passive recreation.
- Enforce (environmental adjustment factors) zoning performance standards that relate intensity of development to the capacity of the land to sustain it.
- Pursue opportunities for small scale pocket parks in Spring Mount and Zieglerville.

CHAPTER 3

EXISTING PROTECTED LAND

An inventory of existing protected land, along with an assessment of future needs, is necessary to formulate the 2006 Open Space Plan recommendations. Existing protected land refers to land preserved for active or passive recreation use and/or for environmental conservation purposes. In addition to municipally-owned areas, it can include land preserved by private conservation groups, farmland, school sites, and private open space preserved as part of residential or non-residential development.

Chapter 3 identifies existing open and recreational land in Lower Frederick Township and separates it into two categories of protection - permanently and temporarily protected land. The latter category can be an important component of the overall base of a community open space network; however, temporarily protected land can easily be lost. In evaluating open space needs, this distinction is important, as is the goal of increasing the amount of permanently protected land to ensure that the benefits of recreational and natural areas are enjoyed by future residents of Lower Frederick Township for many years.

PERMANENTLY PROTECTED LAND

Permanently protected lands include Township parks, County parks, State parks, Federal parks, land owned by watershed associations or conservancy organizations, homeowners' association open space, and other protected lands. A total of 241.09 acres of public open space in Lower Frederick represents about 4.6 percent of all Township land. This land is owned by Montgomery County and by Lower Frederick Township.

MUNICIPAL OPEN SPACE

Lower Frederick Township has numerous active and passive open spaces for residents and visitors (see Figure 14).

- A. **Coble Park** is located in Zieglerville with frontage on Little Road and Gravel Pike. This park includes a ball field, basketball court, playground area, picnic pavilion, walking trail, and parking area.
- B. **Foy Park** is located adjacent to the Spring Mount growth area along the Perkiomen Creek. This 5.43-acre neighborhood park includes a basketball court, playground, walking

trail, and passive open space amenities along the Perkiomen Creek.

- C. **Second Street Park** is located adjacent to the ambulance building, on 2nd Avenue, just off Main Street in Spring Mount. A tributary to the Perkiomen Creek runs through the park.
- D. **Township Complex** consists of 4.8-acres behind the Lower Frederick Township Building. These lands are designated as passive spaces along the Perkiomen Creek.
- E. **Veterans Memorial** at the corner of Old Gravel Pike and Gravel Pike, is a Township-owned memorial to Lower Frederick residents who died in battle. The parcel contains the monument and a flagpole.
- F. **Cedar Hill Open Space** was dedicated to Lower Frederick Township as part of the Cedar Hill townhouse development in Spring Mount. It is adjacent to Cedar Hill II cluster development, and encompasses more than 16-acres of naturally preserved land.
- G. **Cuddy Park** was preserved as a result of the County Open Space program in the 1990s. Lower Frederick received funds to preserve 12.37-acres of land in the northern portion of the Township just off Colonial Drive. This natural passive open space park is named in honor of Lorraine Cuddy, Township Manager for 30 years.



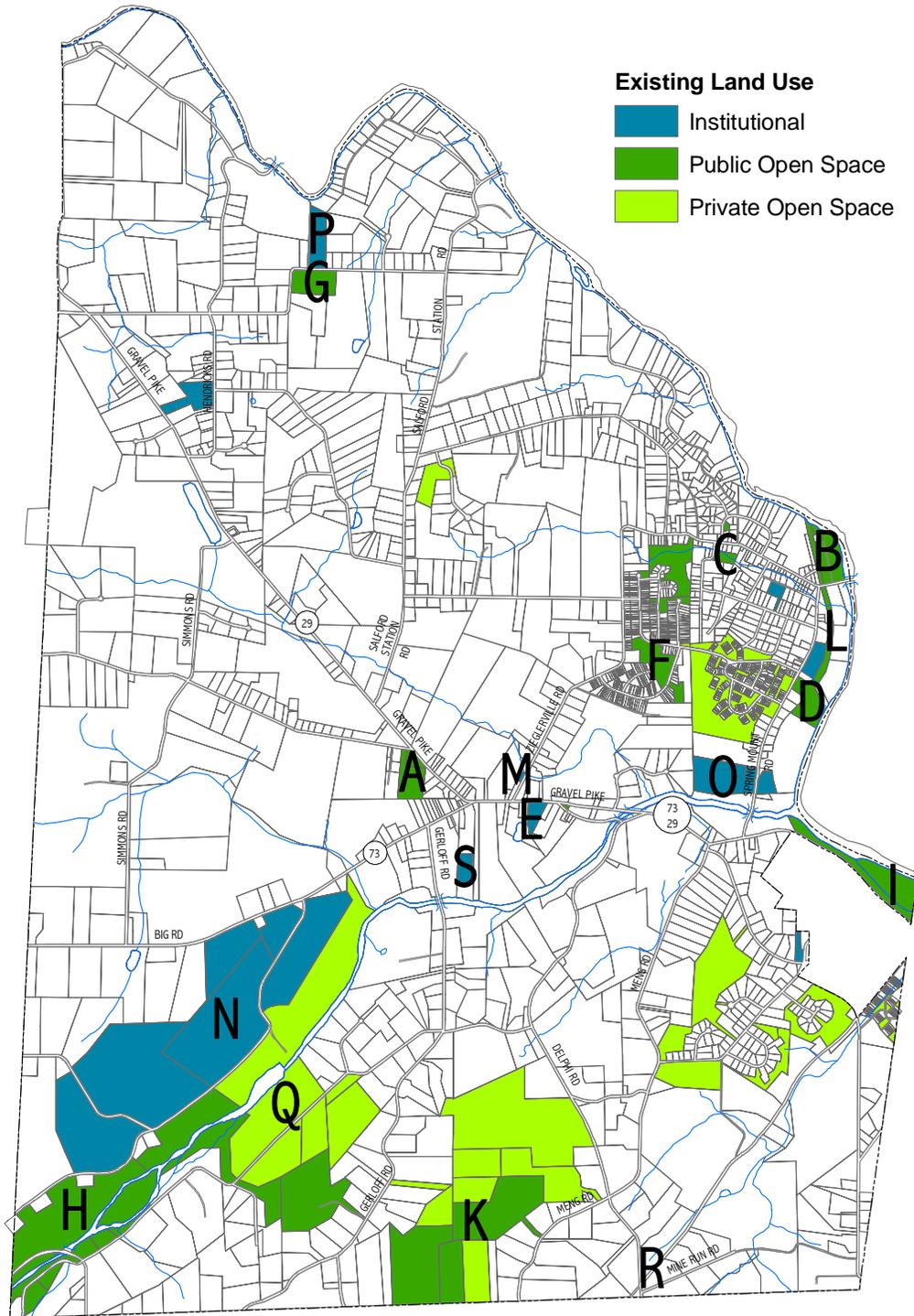
Foy Park in Spring Mount

COUNTY OPEN SPACE

Montgomery County owns several parks and open space areas in Lower Frederick Township. These include Sunrise Mill, Memorial Park, and the Perkiomen Trail.

- H. **Sunrise Mill** is a 164-acre historic site that overlaps Upper Frederick, Lower

Figure 14
 Permanently and Temporarily Protected Land



MCPC Montgomery County Planning Commission
 Montgomery County Courthouse - Planning Commission
 PO Box 311 • Norristown PA 19404-0311
 (p) 610.278.3722 • (f) 610.278.3941
 www.montcopa.org/plancom

This map is based on 2000 ortho photography and official sources. Property lines were compiled from individual block maps from the Montgomery County Board of Assessment Appeals, with no verification from the deed. This map is not meant to be used as a legal definition of properties or for engineering purposes.

0 1,200 2,400 4,800 Feet
 Base map prepared March 2002

Frederick, and Limerick Townships. More than 60 acres of the site are in Lower Frederick Township.

- I. **Memorial Park** is an island in the Perkiomen Creek, accessible from Park Avenue via Schwenksville Borough or Perkiomen Township only. The park includes a ball field.
- J. **The Perkiomen Trail** is a 22.5-mile trail along the Perkiomen Creek, using the right-of-way of the former Perkiomen Branch of the Reading Railroad, from Lower Providence Township to the Green Lane Reservoir. Montgomery County owns part of the trail in fee simple and the remainder by quit claim, which is a series of easements, leases and other

ownership interests taken over from the railroad. A small portion of the trail is in Lower Frederick Township.

HOMEOWNERS' ASSOCIATION LANDS

Two of the three townhouse developments in Lower Frederick Township contain open space that is owned and maintained by homeowners associations. Open space in the third townhouse development (Cedar Hill) is owned by the Township, as mentioned previously.

Spring Mount Village is a 246-unit townhouse development on Spring Mount Road that includes eight parcels of open space, totaling 21.8 acres. High Point is a 58-unit townhouse development on Smith and Game Farm Roads, with additional units in Schwenksville Borough. The Lower Frederick portion of the development includes nine parcels of open space, totaling 1.8 acres.

OTHER PROTECTED LANDS

K. **Stone Hill Greenway** is jointly owned by the Township, the Valley Forge Audubon Society, Limerick Township, and the County. 52.02 acres are currently owned by the Township and designated as public open space. 105.7 acres of Stone Hill Greenway are owned by the Valley Forge Audubon Society which maintains the Meng Preserve.

L. **The Lower Frederick Sewage Treatment Plant** is between Spring Mount Road and the Perkiomen Creek.

M. **Underkoffler Graveyard** is on Zieglerville Road just north of Route 29. Although the 1995 Open Space Plan stated the Township may own the cemetery, County Board of



A trail in the Stone Hill Greenway

Assessment records do not show the owner of this parcel.

TEMPORARILY PROTECTED LAND

ACT 319

The Pennsylvania Farmland and Forest Land Assessment Act (Act 319) was created to preserve land devoted to agricultural use, agricultural reserve, or forest reserve. This preferential tax assessment gives landowners a small incentive to keep their parcel intact (minimum 10-acre parcel size). If a breach occurs, the landowner must pay roll-back taxes for the previous seven years plus interest. With the high demand for land, this penalty is not a significant deterrence, and therefore Act 319 provides minimal land protection. There are 34 parcels in Lower Frederick Township that are preferentially assessed under Pennsylvania Act 319, representing 904.5 acres, or roughly 17.2 percent of the Township. These lands are shown in Figure 15 on the following page.

ACT 515

The Pennsylvania Open Space Covenant Act (Act 515) was created to stabilize open areas through the use of real estate tax assessment techniques. It allows certain counties to covenant with landowners for preservation of land in farm, forest, water supply or open space uses. Some eligible lands can be as small as ten acres and must be consistent with the county or municipal open space plan. Unless properly terminated, covenants require the landowner to pay roll-back taxes for the previous five years plus interest. Act 515 provides little to no long-term land protection. Lower Frederick Township has no properties with Act 515 covenants in place.

INSTITUTIONAL

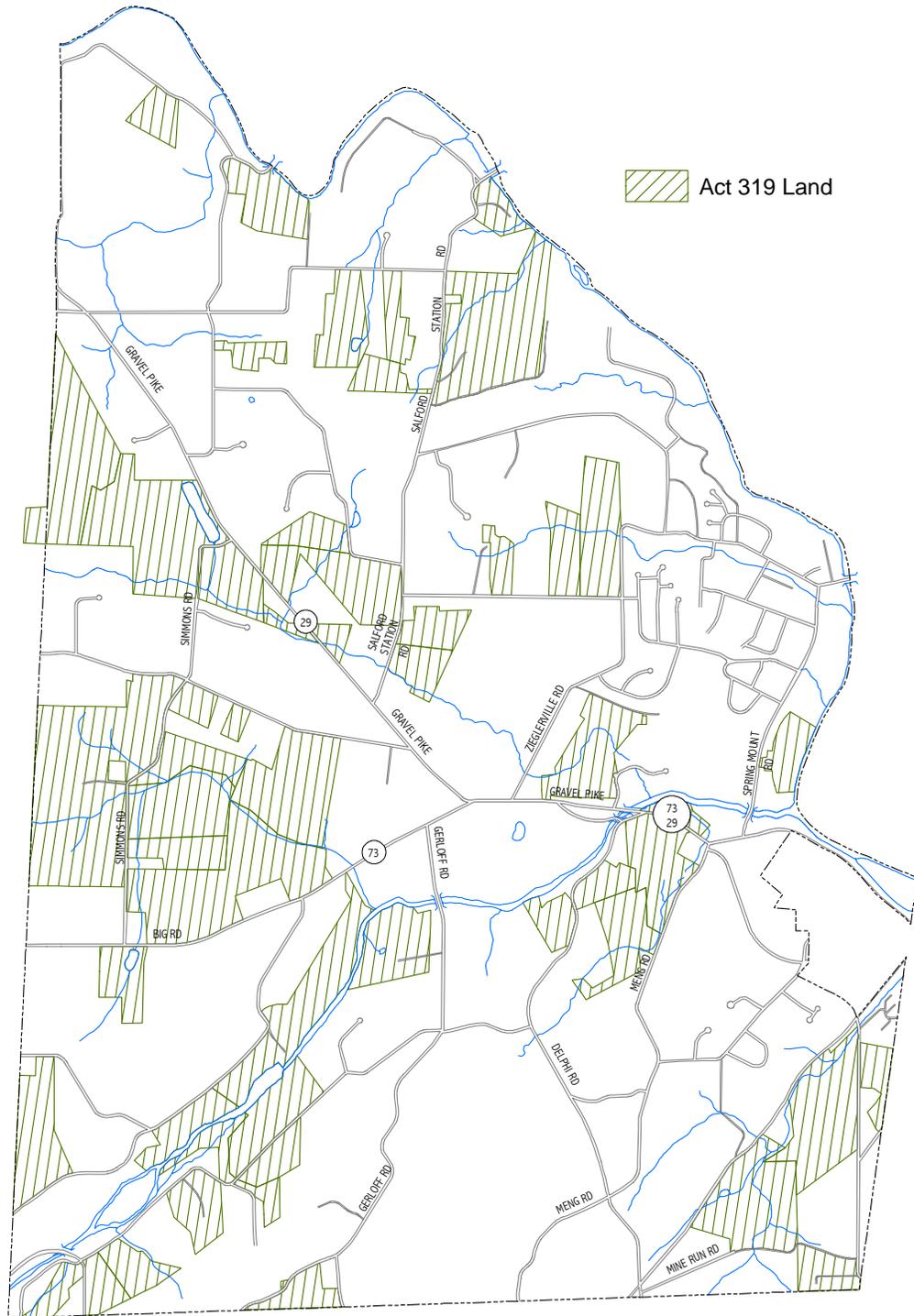
Lower Frederick Township has 181.5 acres of institutional land, including school sites, religious institutions, and others.

- N. **The Perkiomen Valley School District** owns nearly 160 acres, a majority of the institutional land in Lower Frederick Township. The land is located along Big Road (Route 73) near Swamp Creek. The Perkiomen Valley Middle School exists on the School District's land and an elementary school is planned. The school district land has various baseball and soccer fields, tennis courts, and a track for recreation; however, a large section of the land currently remains undeveloped.
- O. **St. Mary's Catholic Church** on Spring Mount Road owns 13 acres of land on both sides of the road just north of Swamp Creek. Approximately 4.5 wooded acres of the tract behind the existing buildings on the west side of Spring Mount Road could be considered open and developable land.
- P. **St. John's Reformed Church** owns 3.99 acres of open space at 101 Colonial Drive, just north of Cuddy Park and south of the Perkiomen Creek. Acquisition of the property would provide linkages from Cuddy Park to the Perkiomen Creek and the Perkiomen Trail in Upper Salford Township.

AGRICULTURAL SECURITY AREA

Lower Frederick joined Upper Frederick's Agricultural Security Area (ASA) since the 1995 Open Space Plan was completed. ASA farms are eligible for the County's Farmland Preservation Program, which permanently preserves farmland by purchasing development rights from the farmer.

Figure 15
Act 319 Temporarily Protected Land



 Act 319 Land

MCPC Montgomery County Planning Commission
Montgomery County Courthouse - Planning Commission
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0 1,200 2,400 4,800 Feet
Base map prepared March 2002



GOLF COURSES

The **Rolling Turf Golf Club** is located on Cemetery Road, predominantly in Perkiomen Township. A small part of the golf club extends into the southeastern corner of Lower Frederick Township near Smith Road. Its acreage in Lower Frederick Township is insignificant.

PRIVATE RECREATION LAND

- Q. **Camp Arthureeta** is a 87-acre summer camp along the northern and southern sides of the Swamp Creek. Camp Arthureeta abuts the County’s Sunrise Mill as well as land recently acquired by the County to connect to Stone Hill Greenway. It also abuts the 160-acre Perkiomen Valley School District property. The Camp, situated in the heart of the Swamp Creek corridor, has a wide range of recreational activities and open space sites including sports fields, tennis courts, gymnasiums, and natural feature amenities due to its close proximity to the creek.
- R. **Camp Kweebec** is a sleep away camp, located on 150 acres of land (only a few acres are in Lower Frederick), which has been in continuous operation for almost 70 years.
- S. **The Swamp Creek Rod and Gun Club**, a private recreational club located in Zieglerville. Its address is Route 73, but the property actually has no frontage on any public road.

OTHER PRIVATE LANDS

A significant portion of Lower Frederick Township consists of moderately large private parcels. These parcels are critical to the rural character of the community but are vulnerable to subdivision and land development pressures.

CONCLUSION

Temporarily protected open spaces differ from the municipally owned spaces because they may not remain open forever. The Perkiomen Valley School District is the primary holder of temporarily preserved lands in Lower Frederick Township and land use decisions for public schools and other institutions are not made by the township. If the institutional space changes hands, there is no guarantee that the new owners will want or be able to offer the same public access to open spaces.

Nearly half of Lower Frederick’s 904 open space acres are temporarily protected. This land provides Lower Frederick Township residents with many opportunities to enjoy all that open space can offer – recreation, tranquility, beauty, and a sense of community. Despite their temporary nature, these open spaces are still important to Lower Frederick Township as they offer residents a greater range of choices to meet their current open space needs.

Significant natural areas and important recreation spaces have been preserved by Lower Frederick Township thus far; however, the unprotected open spaces of the Township are also critical to the character and environmental integrity of the overall community. Opportunities exist to permanently protect additional natural areas and expand recreational opportunities to Township residents. The need for permanent protection is made more urgent by the current increase in land development proposals.

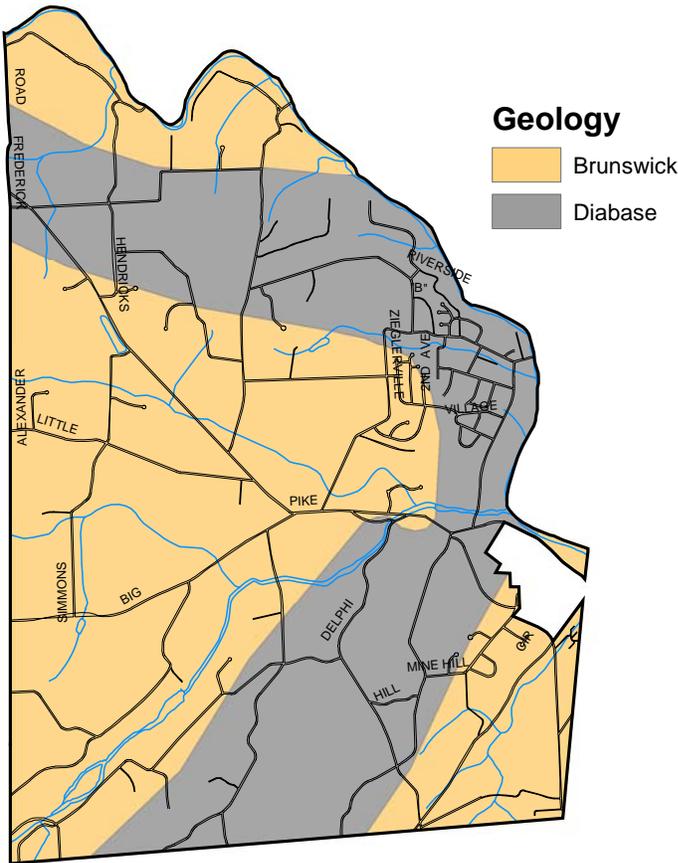
CHAPTER 4

INVENTORY OF POTENTIALLY VULNERABLE RESOURCES

An important part of any planning effort is the identification of vulnerable resources. This section gives a description of some of Lower Frederick's most important resources as they relate to open space. In Lower Frederick Township, the combination of potentially vulnerable resources, such as geology, soils, streams, woodlands, and historic resources, creates one of the most unique landscapes within Montgomery County. This landscape gives the township a distinct identity and contributes significantly to the overall quality of life for residents.

The community should identify natural resources that are most important for the health and welfare of the community. It should also consider the importance of preserving all the resources that help build Lower Frederick's unique sense of place. Then the community can prioritize these according to their vulnerability and local importance.

Figure 16
Geology



GEOLOGY

Except for surface outcrops, bedrock geology is unseen, and its influence on natural features is not always acknowledged. However, bedrock geology is the foundation of an area and, along with the hydrologic cycle, is responsible for the changes in elevation, steep slopes, location of watercourses, and orientation of the landscape. Orientation, in turn, will influence vegetative communities, soils, and the availability of sunlight. Bedrock has a great influence on the types of soils formed and on groundwater yield. Therefore, bedrock can make an area suitable for farming or development, or it

can place major obstacles, such as steep slopes and soils with a high stone and boulder content, in the way of practical uses for the land. It significantly affects groundwater yield with the difference in Montgomery County ranging from under 1 to more than 30 gallons per minute.

Montgomery County is located in the Triassic Lowland and Piedmont Upland sections of the Piedmont Physiographic Province. The Triassic Lowlands are primarily red shales and sandstones, with intrusions of diabase. The formations underlying Lower Frederick are described below and shown in Figure 16:

- **The Brunswick Shale** formation underlies most of Lower Frederick Township and much of the northwestern half of the county, except where diabase intrusions are found. Brunswick Shale is characterized by reddish brown rock. In some areas, diabase sills and dikes occurred in the Brunswick Formation, and transformed the shale into argillite as a result of heat from the molten rock. Argillite is a harder form of shale that curves around the Swamp, Scioto and Goshenhoppen Creek watersheds, and contributes to the rolling topography of the southern part of the Township. Groundwater yields vary and joints and fractures are the key to adequate flow.
- **Diabase** intruded as molten rock into large cracks in the Brunswick formation. These Diabase sills and dikes are generally several feet to less than half a mile wide. Diabase intrusions strongly affect northern Montgomery County, forming a ring around East Greenville, Pennsburg, and Red Hill, and extending a crescent shaped arm through Lower

Frederick, as shown in Figure 16. Diabase is very resistant to erosion, weathering, water infiltration, and groundwater movement. Some fractures near the surface absorb minimal amounts of water and result in notoriously low well yields. It is very difficult to excavate and areas are often steeply sloped and wooded, with numerous surface rocks and boulders.

- **Lockatong Argillite/Shale** underlies the very northern edge of Lower Frederick Township, along the Perkiomen Creek. Generally, the Lockatong formation exhibits low groundwater yields and is resistant to weathering.
- Adjacent to the diabase intrusions, the shales of the Brunswick and

Lockatong formations have been transformed by the intense heat of molten rock into dark, hard hornfels. The hornfel zones are a transition between the diabase and other formations. The widths of the hornfels zones differ greatly, and vary from 40 feet to more than one mile in width. Groundwater reserves are small.

TOPOGRAPHY

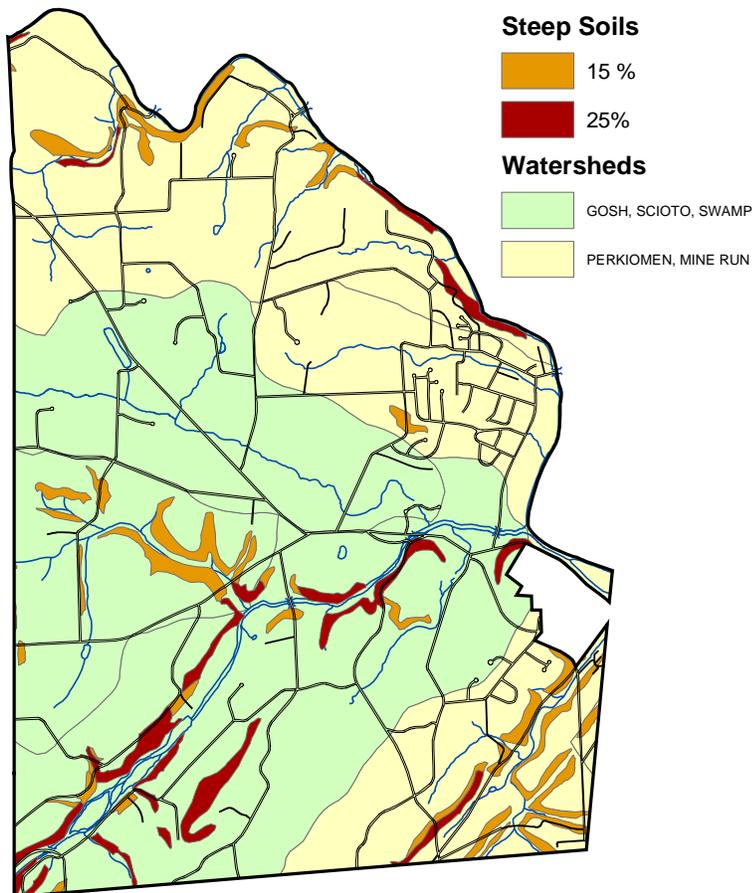
STEEP SLOPES

Slope, or frequency of change in elevation, is an important environmental condition. When expressed as a percentage, slope is defined as the amount of change in vertical elevation over a specified horizontal distance. For example, a three foot rise in elevation over a one hundred foot horizontal distance is expressed as a three percent slope. These changes in elevation throughout a community contribute greatly to its appearance and natural diversity.

This is especially true of the steep slope areas of a community, which also cause limitations to development. The slope and soils present on steep slopes are in balance with vegetation, underlying geology and precipitation levels. Maintaining this equilibrium reduces the danger to public health and safety posed by unstable hillsides. Steep slopes often have a combination of vegetation, climate, soil and underlying geology that differs from the surrounding area. Frequently this means that the environmental sensitivities of the steep slope are different as well.

Susceptibility to erosion and mass

Figure 17
Steep Slopes



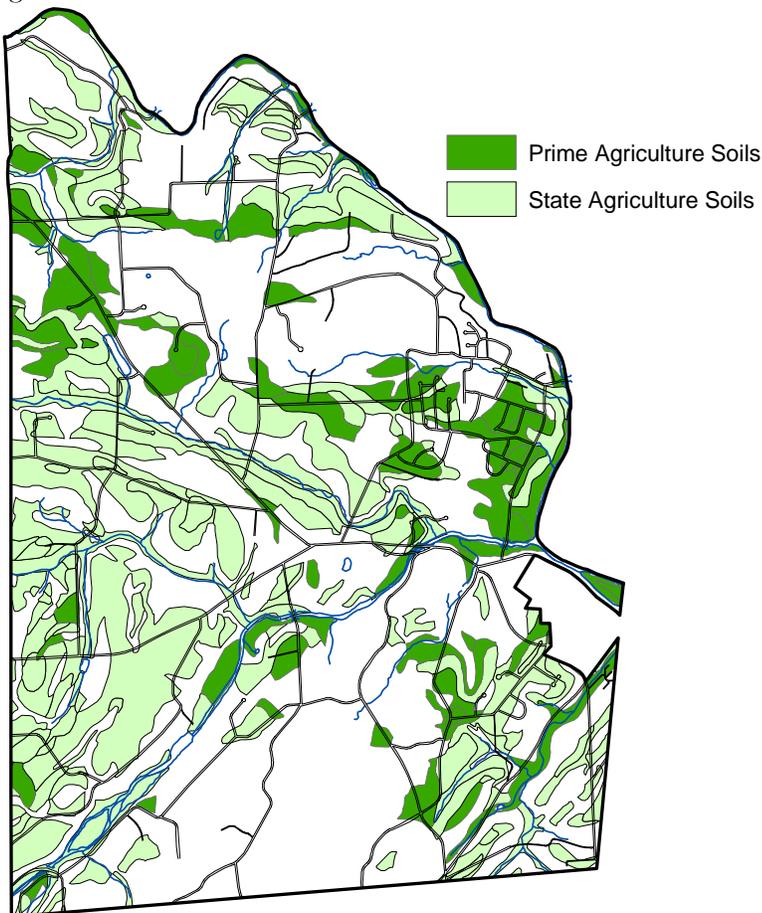
movement may be greater than the surrounding area, especially if vegetation is removed. Increased stormwater runoff and sedimentation from disturbed slopes require public expenditure for flood control and stormwater management. Also, different species of plants and the associated wildlife that depends on these plants may be present only on the slopes, creating unique habitat communities.

The USGS Topographic Quadrangles show that Lower Frederick Township has an extensive amount of steep slopes. Figure 17 shows two categories of steep slopes: slopes between 15 and 25 percent, and slopes exceeding 25 percent. Steep slopes are located in the

southern part of the township, generally south of Swamp Creek along Yerger, Gerloff, Meng and Delphi Roads. Additional steep slope areas include the banks of the Scioto Creek, up to about Simmons Road; along the Mine Run, near State Game Farm Road and Smith Road; and, along the bank of the Perkiomen Creek for much of its length through the Township.

Very little of the steep slope land in the Township has been developed, for several reasons: road access to these areas is poor (i.e., most areas are not well served by Routes 73 or 29); the areas are part of the Township's lowest density zoning district (the R-1 Rural Density Residential District); public sewer and water facilities do not extend to the areas; on-site water and sewage systems are difficult, due to the diabase formations and poor soils; and a significant amount of the land is owned by Montgomery County (Sunrise Mill) and Camp Arthureeta. The Township has a steep slope ordinance, adopted by the Board of Supervisors in 1981. The ordinance regulates the uses and development of land with slopes exceeding 15 percent.

Figure 18
Agriculture Soils



SOILS

Soils are a natural assortment of organic materials and mineral fragments that cover the earth and supports plant life. The composition of soils changes slowly over time, due to weathering of rock and activity of soil organisms. As a consequence, soils vary with respect to depth to bedrock, depth to groundwater, color, mineral characteristics, fertility, texture, and

erodibility. One of the most influential natural features, soils are a result of the hydrology and the weathering capacity of the underlying geology in a given area. They are also influenced by the orientation of the land and the types of vegetation that grow in them.

Conversely, the type of soil influences the vegetative cover of the land, which effects the quality and quantity of surface and groundwater, wildlife diversity, rates of erosion, and the aesthetic quality of the landscape.

Though soils are diverse, soil scientists have classified the soils found in Montgomery County into several groups called soil series. Soils listed within the same series will display similar subsurface characteristics. The surface characteristics of soils within a particular series can vary in slope, degree of erosion, size of stones, and other easily recognizable features. In addition to the soil mapping units, soils can also be divided into prime and important agricultural soils, hydric components, and alluvial soils. The groups of soil pertinent to Lower Frederick Township are described below.

PRIME AND IMPORTANT AGRICULTURAL SOILS

The agricultural capability of soil is measured based on fertility, depth to bedrock and groundwater, texture, erodibility, and slope. Soils are classified as prime farmland, farmland of statewide importance, and other land, based on these characteristics. Prime farmland includes deep, well drained, and moderately sloped soils that can support high yields of crops with little management. Farmland of statewide

importance includes soils that support cultivation but require careful crop management. The remaining soils are best used for pasture and woodlands.

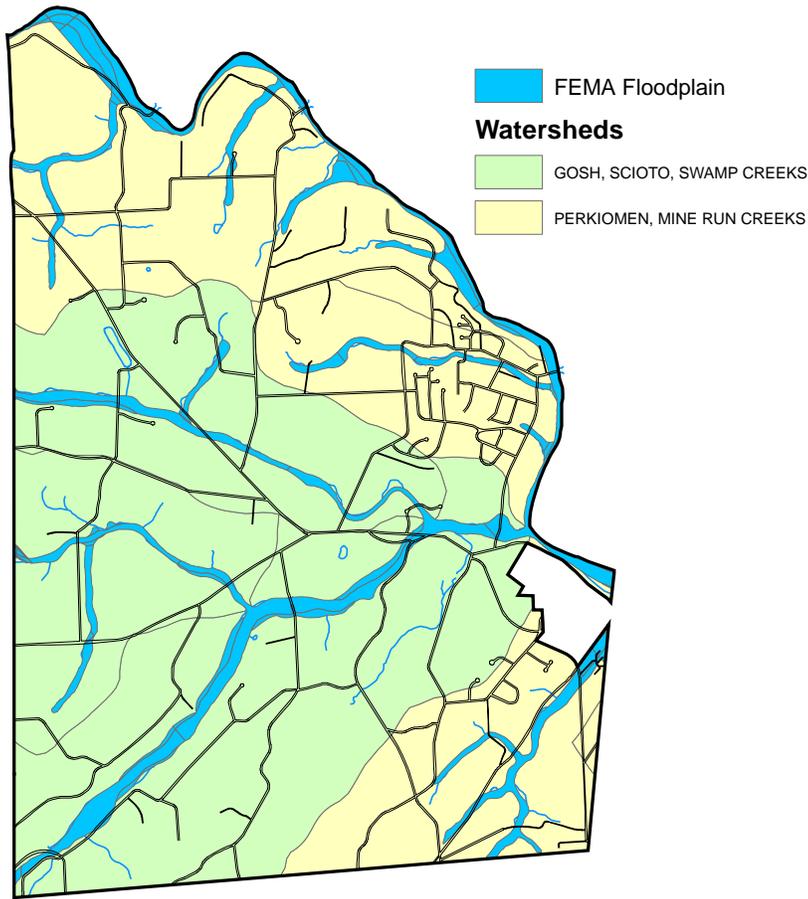
Lower Frederick Township has three areas of prime farmland or farmland of statewide importance, which are mapped in Figure 18. One is the southern part of the township, between Meng Road and State Game Farm Road. Another is the far northeastern part of the Township, between Perkiomen Creek and Colonial Drive/View Lane. The largest area of such soils forms a rough triangle between the Swamp Creek to the south, and Upper Frederick Township line to the northwest, and Route 29/Schwenk Road/Main Street to the northeast.

HYDRIC SOILS

Hydric soils are periodically wet soils in an undrained condition that often support the growth of wetland vegetation. Hydric soils that have been drained for agricultural use are one example of this situation. Soils with major hydric components are a conservative indicator of wetlands. Other soils have hydric components in limited settings, such as depressions, bottom lands, swales, drainage ways and alluvial soils. These soils have a high water table and frequently pond.

Hydric soils exist along all of the creeks in Lower Frederick Township, with a large area existing in the southern part of the Township between Swamp and Mill creeks.

Figure 19
Floodplain and Watersheds



ALLUVIAL SOILS

Alluvial soils are frequently, but not always, located within a floodplain. They have been deposited by flowing water and are not stable as a result of their texture and composition. The presence of alluvial soils is only one indicator of a floodplain. Changes in the tributary drainage area or slope of the adjacent stream may create a floodplain that is either larger or smaller than the area of alluvial soils. Also, alluvial soils do not indicate the probability of recurrence of a flood (for example, a 100 year flood). An important aspect of alluvial soils is that they often form aquifer recharge areas.

In general, soils that are saturated with water at or near the ground surface, particularly during certain times of the year, are considered to have a high water table. As would be expected, such areas often exist near water bodies and watercourses and may be part of wetlands. Because of wetness, these soils present a major constraint for development wherever on-site subsurface sewage treatment is utilized, as in many rural areas, since treatment depends largely on adequate water percolation through the soil. Alluvial soils exist in Lower Frederick Township along the Perkiomen Creek, Swamp Creek and Mine Run.

SURFACE WATERS AND HYDROLOGY

WATERSHEDS AND DRAINAGE AREAS

Water is a valuable resource, consumed by people and industry, enjoyed at recreation facilities, employed in the assimilation of treated sewage, and integral to the landscape. The average rainfall in the county varies from 43 inches near City line Avenue to 47 inches in the vicinity of the Green Lane Reservoir.

It should be noted that in any given year, annual precipitation can vary from the average by as much as ten inches. Generally speaking, 25 percent of precipitation becomes direct runoff, 50 percent evaporates or is transpired by plants, and 25 percent replenishes groundwater. The surface water that falls on or is carried through Lower Frederick Township affects the topography, soils, vegetation, and

groundwater and comes from two natural sources: direct runoff and groundwater. The Township is in the Perkiomen Creek watershed, which also includes most of the municipalities in central and western Montgomery County. Those municipalities that are upstream contribute surface water flow to Lower Frederick. Those downstream receive flow from Lower Frederick. The water flowing through the Township comes from two natural sources: direct runoff and groundwater. A third manmade source may also contribute to the stream flow: effluent from sewage treatment plants, which tends to dampen the variation between high and low flow periods.

Groundwater behaves much like surface water, flowing like a stream, only much more slowly. Groundwater is tapped as a source of drinking water and for industrial purposes where surface water is unavailable. Lower Frederick obtains 100 percent of its water supply from groundwater (both public and private wells), and none from surface water. Groundwater replenishment occurs slowly, as precipitation and in some cases stream water seeps through the soil down to the aquifer. Open, undisturbed land is essential to groundwater recharge. Vegetation serves to retain precipitation where it falls, allowing it to seep into the soil rather than run off the surface. Impervious surface from development prevents infiltration of precipitation.

FLOODPLAIN AND STREAM CORRIDORS

Lower Frederick is crossed by the

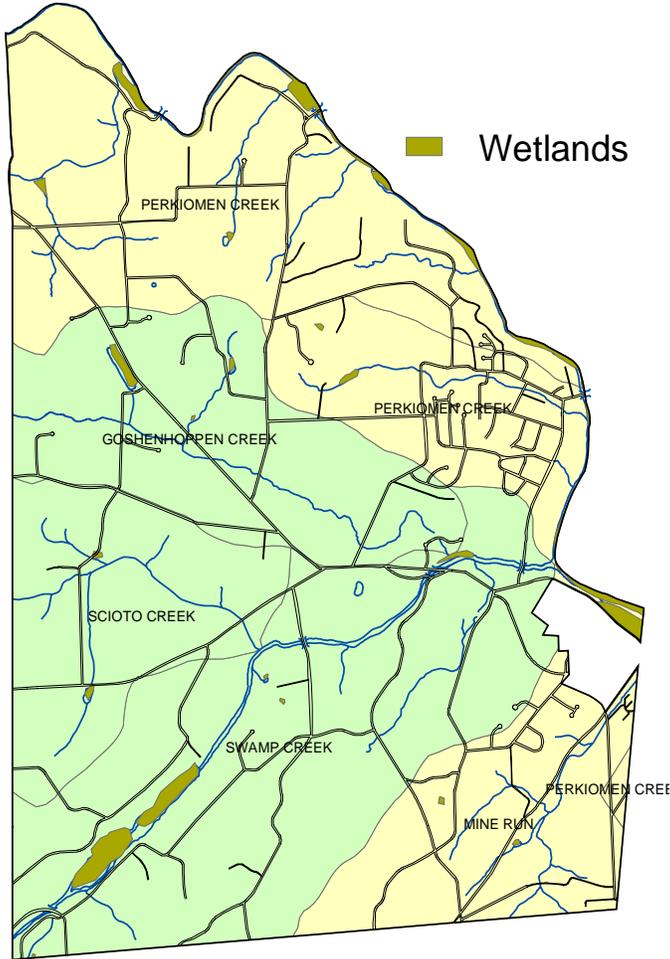
following streams: the Perkiomen Creek, along the Township's eastern border with Upper Salford; the Swamp Creek, which flows between Yerger and Swamp Creek Roads and joins the Perkiomen Creek near the intersection of Routes 29 and 73 and Spring Mount Road; the Goschenhoppin Creek, which flows through the center part of the township just north of Zieglerville and joins the Swamp Creek at the Routes 29 and 73 bridge; the Scioto Creek, which flows between Little Road and Route 73 and joins the Swamp Creek near Gerloff Road; and the Mine Run, which flows through the southern part of the Township near State Game Farm Road and joins the Perkiomen Creek in the Borough of Schwenksville.

Each of these five major streams has associated floodplain along the banks, mapped on Figure 19. In addition, several unnamed tributaries of the Perkiomen Creek also have floodplains for a limited distance. In general, most of the floodplain area is undisturbed, as a result of the undeveloped nature of most of the Township. The most important exception is the development in Spring Mount around the tributary to the Perkiomen Creek that flows along Main Street. Lower Frederick Township has a floodplain conservation ordinance, adopted in 1977 and further amended in 1984.

WETLANDS

Wetlands have value and are worthy of protection due to a number of characteristics. However, it is easier to discuss the benefits of wetlands than it is to delineate the wetland itself. Some

Figure 20
Wetlands



wetlands are easily recognizable by most people because the presence or influence of water is obvious. However, many wetlands are subject only to seasonal flooding. For much of the year, surface water may not be present. Still other wetlands develop in areas where the soil is saturated for long periods, but never flooded. The Environmental Protection Agency and the Army Corps of Engineers have defined wetlands as, "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence

of vegetation typically adapted for life in saturated soil conditions."

Depending on where they are located, wetlands may serve one or more beneficial functions. Almost all wetlands provide habitat for birds, amphibians and fish. These in turn support other wildlife. Wetlands also mitigate flooding, by holding back floodwater and slowing stream velocity. Wetlands improve water quality as well. As water flows through a wetland, it slows and drops much of its sediment load. In addition, nutrients that can cause algae blooms and other pollution problems are taken up by wetland vegetation. Wetlands located in depressions often encourage infiltration of stormwater, contributing to groundwater recharge.

Lower Frederick has a moderate amount of wetlands, shown in Figure 20. The map is based on the National Wetlands Inventory (NWI), prepared by the U. S. Department of the Interior, Fish and Wildlife Service. The NWI offers a broad based, generalized overview of wetlands; other wetlands may exist in the Township. Most of the mapped wetlands are along the Perkiomen, Scioto and Swamp Creeks, and are in the Riverine ecological system. Additional small wetland areas in the Palustrine ecological system are scattered across the Township, mostly as small ponds or depressions. The Goschenhoppen Creek and Mine Run are both Palustrine wetlands.

Hydric soils, primarily Bowmansville, Croton, Doylestown, Hatboro and Watchung soils, may also indicate the presence of wetlands. The Army Corps of Engineers or a qualified consultant may be

enlisted for a final determination where wetlands are suspected to be present.

VEGETATION AND WILDLIFE WOODLANDS

The original vegetation of Montgomery County was a dense forest of hardwoods which covered over 99 percent of the county. Oaks were the dominant species, but chestnut, tulip poplar, hickory, ash, red maple, and dogwoods were also present. Several hundred years of clearing and cultivation, and in more recent times the rapid development of houses and commercial facilities, have reduced woodlands to a shadow of their

former extent. The principle types of woodlands remaining in the county are:

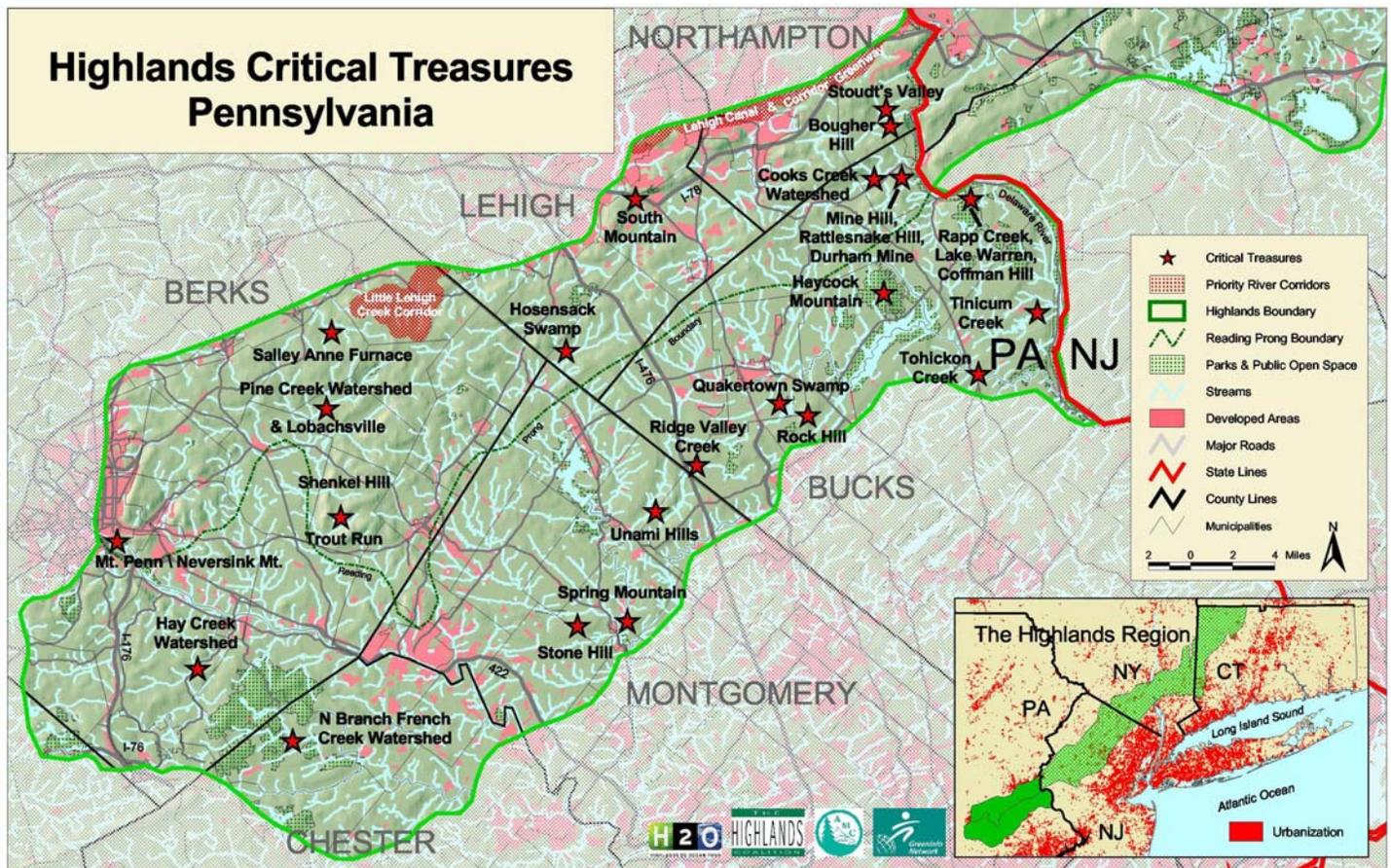
Red Oak - About 60 percent of all remaining woodlands. Northern Red Oak is predominant, but Black, Scarlet and Chestnut Oak are also abundant.

Ash/Maple/Elm - About 19 percent of all woodlands. Local mixtures will vary, and include minor species, such as the Slippery Elm, Yellow Birch, Black Gum, Sycamore, and Poplar.

Eastern Red Cedar - Eighteen percent of the county's wooded acres are covered with this species and associated species: Gray Birch, Red Maple, Sweet Birch, and Aspen.

Sugar Maple/Beech/Yellow Birch - The remaining three percent of

Figure 21
Highlands in Pennsylvania Source: *The Highlands Coalition*



woodlands is comprised of this association. Species include Red Maple, Hemlock, Northern Red oak, White Ash, and Tulip Poplar.

Woodlands and hedgerows serve many purposes, both functional and aesthetic. Woodlands prevent erosion, provide habitat for wildlife, provide buffers for creeks, and offer recreational opportunities for residents. Hedgerows and wooded corridors also prevent erosion, and provide cover for wildlife movement, shelter, and migration.

The distribution of woodlands in Montgomery County can be described in three different patterns. Small, widely

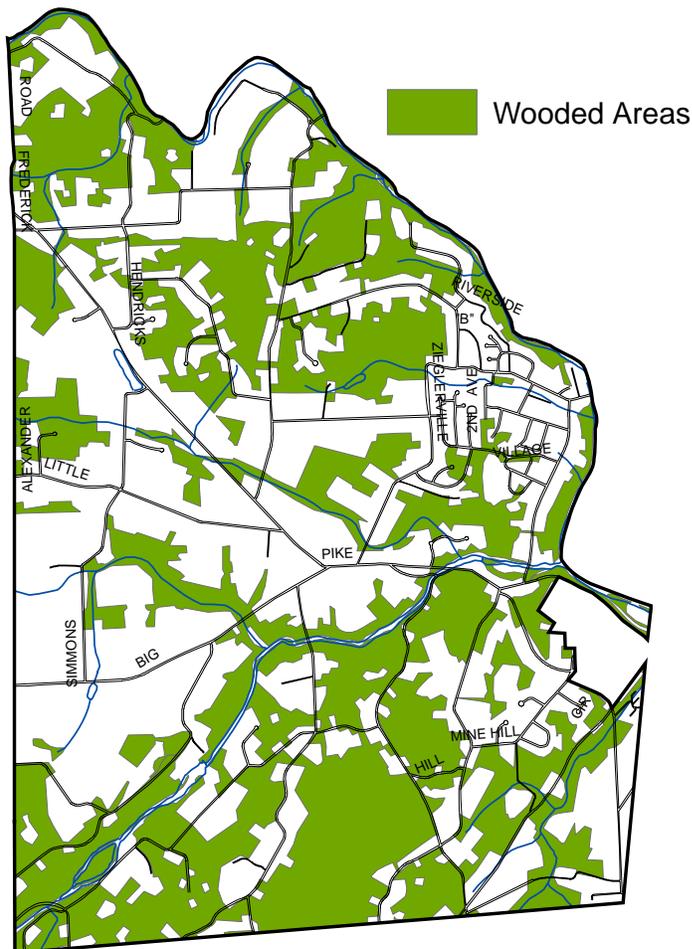
scattered stands can be found east of the central county ridge, often strung along alluvial soils. Long, linear stands along streams and on alluvial soils are typical in the central part of the county. Large forested blocks of land, often hundreds to thousands of acres in size, are found on ridges in the central and northern areas of the county.

Forested areas are scarce in the built up portions of the county. Very large stands are located in the western part of the county, including the woodlands surrounding Green Lane Reservoir, a stretch of woodlands running from Upper Pottsgrove to Lower Frederick, and a second growth forest in Marlborough, Salford and Upper Salford Townships along the Ridge Valley Creek. The latter example is unique, in that it is the largest contiguous forested area in Montgomery County.

Lower Frederick Township is also part of a nationally significant forested landscape, known as the Highlands. This Highlands extend across the Mid-Atlantic region from Maryland to Connecticut, as shown in Figure 21. The Highlands is currently being studied by the U.S. Forest Service, to identify critical natural areas.

The wooded areas of Lower Frederick Township are mapped in Figure 22. Nearly all land south of the Swamp Creek is covered by dense woods, as a result of the topography and the relative absence of farming. Most of the Scioto Creek corridor is wooded, especially up to Simmons Road. Nearly the entire Goschenhoppen Creek corridor is also wooded. In addition, much of the

Figure 22
Woodlands



northern part of the Township is wooded, especially along Schwenk, Salford Station, Cepp, Fulmer, Hendricks and Kratz Roads. Finally, much of the land on the banks of the Perkiomen Creek is wooded, since it was never developed or farmed because of the presence of the floodplain. Most of the wooded areas are located in areas underlain by diabase bedrock. In fact there are only two types of land in the Township that are not heavily wooded. One type is the developed areas of Spring Mount and Zieglerville. The other type is land that is now or was recently actively farmed. These areas include Big Road (Route 73), Gravel Pike (Route 29) and Little Road all west of Zieglerville.

HISTORIC AND CULTURAL RESOURCES NATIONAL REGISTER SITES

Lower Frederick Township contains several sites listed on the National Register of Historic Places. These sites are identified on the Historic Properties map in Figure 23.

Gerloff Road Bridge - This Swamp Creek bridge was closed for a number of years, but now has been completely restored and is open for traffic. It was listed on the National Register in 1988.

Sunrise Mill Historic Site - Owned by Montgomery County, this site is listed as a Historic District on the National Register. The property was first listed in 1977. The site's buildings are in Upper Frederick Township, but the property extends into Lower Frederick Township. The County recently acquired an additional 21.42 acres to extend this site

along the Swamp Creek, with the intent to connect to the Stone Hill Preserve.

OTHER HISTORIC PROPERTIES

There are several sites in the Township that are not listed on the National Register, but appear in the Inventory of Historic and Cultural Resources prepared by the Montgomery County Planning Commission in 1975 and mapped in Figure 23.

Charles Steffey Farm - The house was built around 1805 and the barn around 1740.

Underkoffler Graveyard - The Underkoffler Graveyard is a cemetery on Zieglerville Road, north of Route 29.

Meng Homestead - The Inventory contains no information on this site, but the Montgomery County Board of Assessment tax maps and computer records suggest that the homestead has been subdivided into at least six parcels.

Weldon House - Constructed around 1800, this building has been renovated and is still in use as a restaurant and tavern.

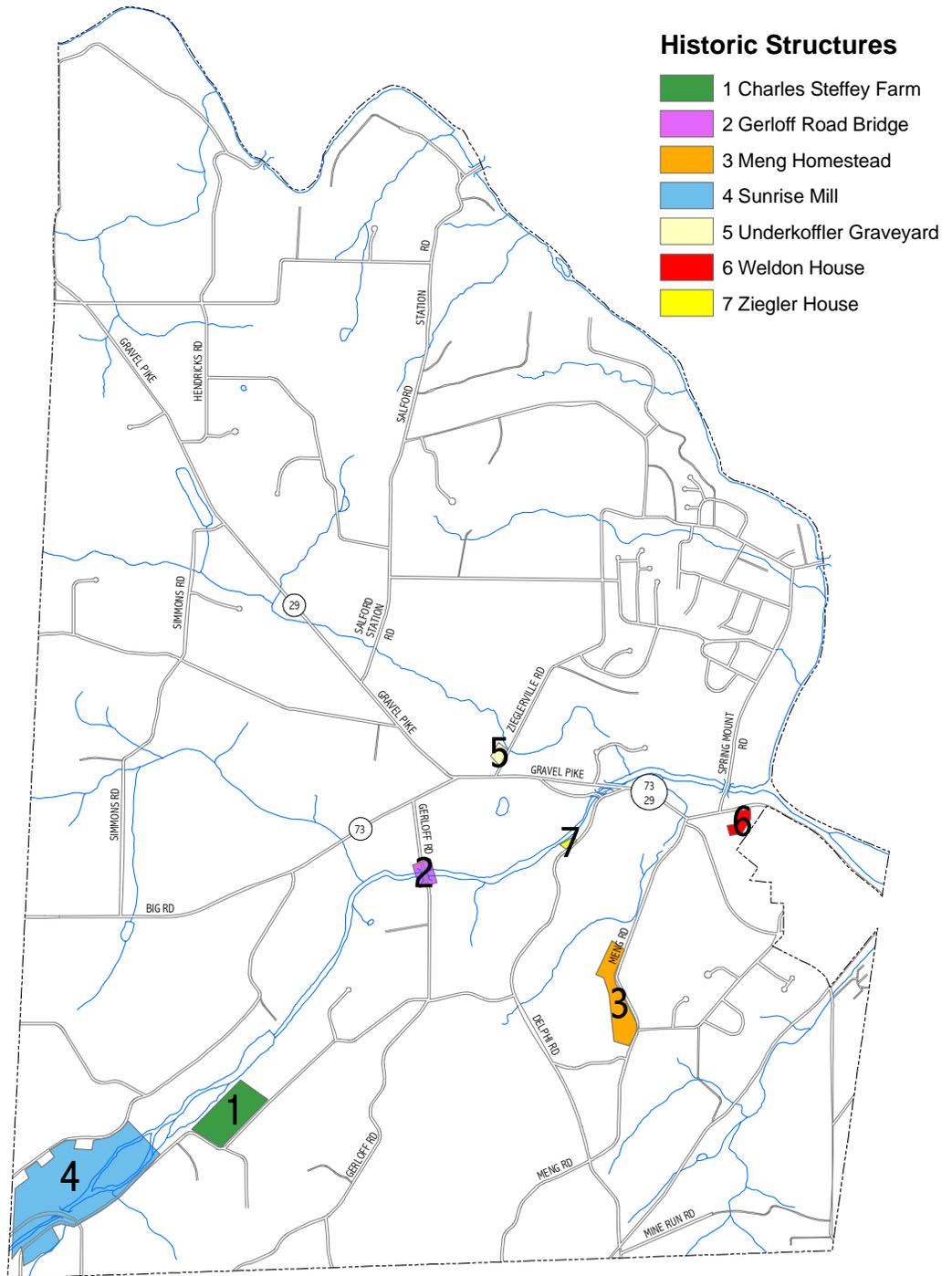
ADDITIONAL HISTORIC PROPERTIES

Additional historic resources are listed on the following page in Figure 24.

ARCHAEOLOGICAL SITES

There are several archaeological sites in Lower Frederick Township documented by the Pennsylvania Historical and Museum Commission. The Hendricks site contains material from the prehistoric period and the Meng site contains material from the historic period. The

Figure 23
Historic Properties



MCPC Montgomery
County
Planning
Commission
Montgomery County Courthouse - Planning Commission
PO Box 311 ▪ Norristown PA 19404-0311
(p) 610.278.3722 ▪ (f) 610.278.3941
www.montcopa.org/plancom



This map is based on 2000 ortho photography and official sources. Property lines were compiled from individual block maps from the Montgomery County Board of Assessment Appeals, with no verification from the deed. This map is not meant to be used as a legal definition of properties or for engineering purposes.

Figure 24
Additional Historic Sites

Description	Address/Location	Details	Circa
Gable Farmstead; Georgian-style Architecture	Salford Station Road	Includes barn and residential dwelling	1855
The Rimmer, I.&M.; Georgian Architecture	Little Road	Farm house and single dwelling	1815
Spring Mount Rd. Bridge (46)	Crosses the Perkiomen Creek in Spring Mount	Builders: Houbt, I.B.; Smith, William; stone and concrete materials	1869
Spring Mount School House	111 Main Street	Gothic Revival; brick	1875
St. Mary Church, St. Mary Convent, St. Mary School	Spring Mount	n/a	n/a
Turnpike Co. Toll House	1207 N. Gravel Pike	Dwelling; brick, stucco	1860
G.A. Wick House	329 Main Street	Stone and stucco w/ shingle roof; single dwelling	1875
Church	1134 N Gravel Pike	Gothic Revival; brick	1885
Dwelling in Spring Mount	118 Main Street	Colonial Revival; slate roof and stone, stucco exterior dwelling	1925
Barn and Dwelling	212 Meng Road	Stone, stucco	1814
Store	3 Main Street	Italianate-style Architecture; department store/commercial use	1875
Old Bridge	Old Gravel and Delphi Road	Gresson-architect and Sheeter-builder; stone	1915
Dwelling	1430 N Gravel Pike	Greek Revival; brick	1850
Dwelling	1319 N Gravel Pike	Bungalow/craftsman; brick	1920
Dwelling	1309 Gravel Pike	Greek Revival; slate roof, brick exterior	1865
Dwelling	211 Fulmer Road	Bungalow/craftsman; log and shingle roof material	1925
Dwelling	13 Little Road	Early Republican Architecture; stone/stucco and slate roof	1799
Dwelling	110 Main Street	Late Victorian; stone	1875
Dwelling	2 Woodside	Queen Anne; stone and brick	1895
Dwelling	17 Route 738 in Zieglerville	Greek Revival; brick	1850
Dwelling	104 Main Street	Dutch Colonial; Bungalow/Craftsman; stone/brick	1915
Dwelling	108 Main Street	Queen Anne; brick and shingle, slate roof	1900
Dwelling	17-19 Route 73 in Zieglerville	Stone, stucco	1865
Dwelling	Cepp Road	Stone	1830
Hopkins House	1237 Old Gravel Pike	Oldest existing home in Zieglerville; original Underkoffler House of the original European settlers; brick, stone	Early 18th Century

third site is the Old Perkiomen Copper Mine which is bounded by Swamp Creek, Mine Run and the Perkiomen Creek area of the township. The fourth is the Michael Krause Grave Site (PHMC #36MG391), found along the property border of the Perkiomen Valley School District’s Middle School West. In addition, the sites listed below are also Pennsylvania Historical and Museum Commission Archaeological Sites:

- #36 MG 311—registered March 11, 1998 (prehistoric)
- #36 MG 312—registered March 11, 1998 (prehistoric)
- #36 MG 313—registered March 11, 1998 (prehistoric)
- #36 MG 314—registered March 11, 1998 (prehistoric)
- #36 MG 391—registered August 13, 2003 (historic)

As a matter of policy, the Historical and Museum Commission does not list the locations of archaeological sites in order to protect them. Therefore, the locations

of the sites are not mapped in this report.

SCENIC RESOURCES

The scenic resources of Lower Frederick Township are separated into the categories of scenic roads and scenic vistas. A map on the following page shows the scenic roads and vistas in Lower Frederick Township (see Figure 25).

A. SCENIC ROADS

A road can be scenic for many reasons, but the two chosen as criteria for this plan are the presence of natural features along the roadway such as woodlands or streams, and a long view from the roadway. Though it may be visually pleasing, a road through a developed area is generally not considered scenic.

Because of the well developed character of Spring Mount and Zieglerville, few scenic roads exist in those areas. Most of the scenic roads are in the outlying parts of the Township. South of the Swamp Creek, all roads are considered scenic, since the entire area is hilly and heavily wooded. West of Zieglerville, the roads have long views of farmland and other open areas. North of the villages, the roads are scenic because of the presence of woodlands and farmlands.

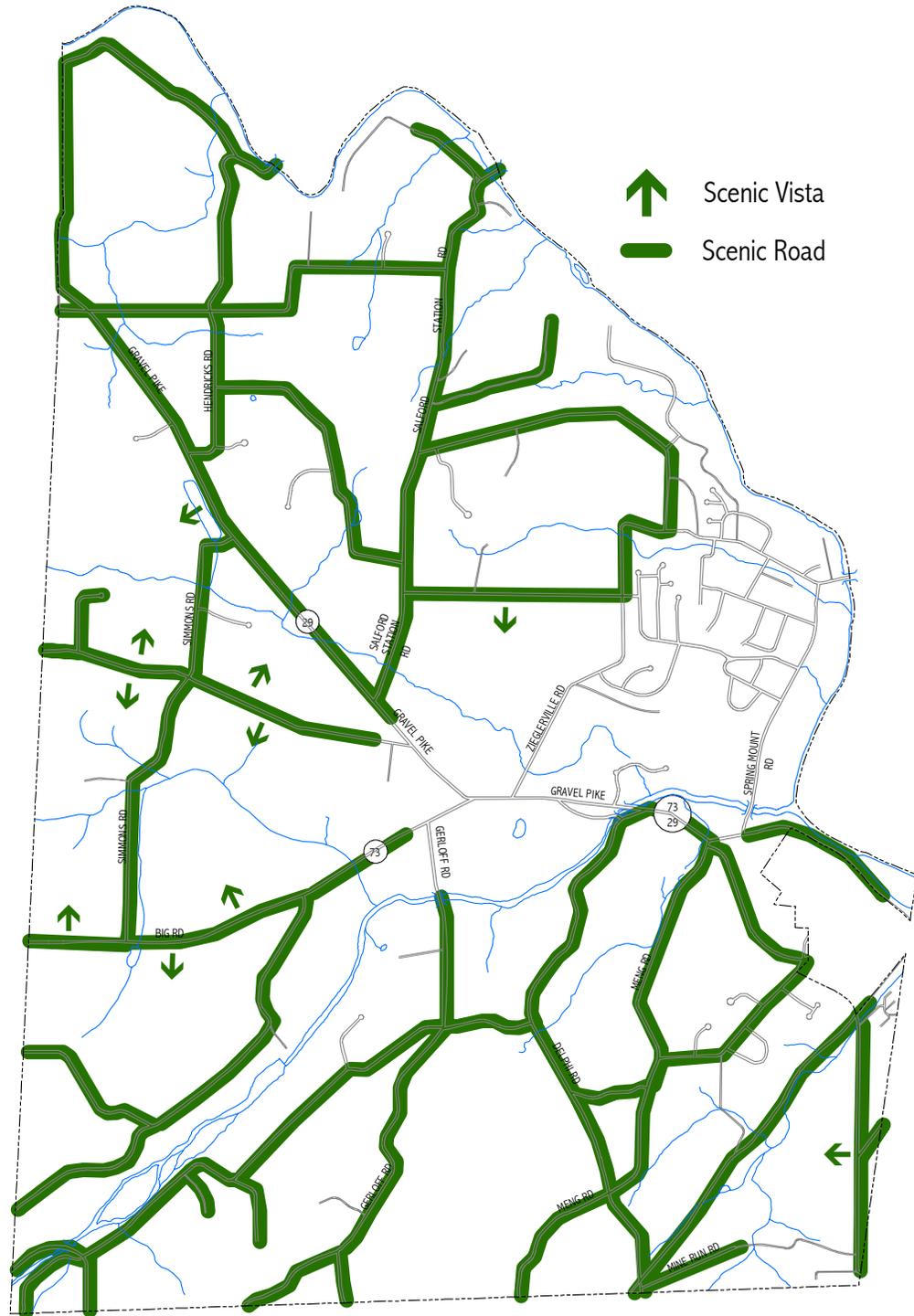
B. SCENIC VISTAS

Lower Frederick has several areas of scenic vistas, defined as long views of farmland, woodlands, or other natural features. In particular, the views from Big Road (Route 73) and Little Road are of the agricultural areas of the Township. These two roads also run along ridges



This view is taken from Big Road (Route 73), which is considered a scenic road in Lower Frederick Township

Figure 25
Scenic Resources



-  Scenic Vista
-  Scenic Road

MCPC Montgomery County Planning Commission
 Montgomery County Courthouse - Planning Commission
 PO Box 311 • Norristown PA 19404-0311
 (p) 610.278.3722 • (f) 610.278.3941
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This map is based on 2000 ortho photography and official sources. Property lines were compiled from individual block maps from the Montgomery County Board of Assessment Appeals, with no verification from the deed. This map is not meant to be used as a legal definition of properties or for engineering purposes.

0 1,200 2,400 4,800 Feet
 Base map prepared March 2002



separating stream valleys (north to south, the Goschenhoppen, Scioto and Swamp Creeks), so the high elevation also increases the length of the view. Additional scenic views exist from State Game Farm Road and Mine Hill Road in the southern part of the Township, along Gravel Pike (Route 29) in the northern part of the Township, and along Schwenk Road near Zieglerville. Some areas also have scenic views of the Perkiomen Creek valley, especially north of Crystal Drive where the hills of the surrounding valley become steeper.

**C. SCENIC RESOURCES –
CONCLUSION**

The purpose of examining scenic resources in Lower Frederick is to provide a basis for decisions regarding preservation in the Township. However, the extent of scenic resources is so widespread, that virtually all areas of Lower Frederick – with the exception of

the villages themselves – could be considered scenic. Therefore, the Township cannot base its preservation decisions solely on the scenic character of properties or areas.

CONCLUSION

The rural character of Lower Frederick leaves many natural resources remaining for preservation or protection. Past efforts of the township have protected valuable stream corridors and woodlands and further protection of the remaining resources should be a priority. In addition to the natural features of the community, Lower Frederick’s cultural and scenic resources will only become more vulnerable as development pressures continue. New development within the Township should enhance resources and preserve the rural landscape.



This view of farmland from Simmons Road is one of many scenic vistas in the Township

CHAPTER 5

POTENTIAL OPEN SPACE LINKAGES with 2015 Update

An important aspect of open space is the accessibility of that space to community residents and to the region as a whole. This section of the plan identifies potential open space linkages that can connect park and open space sites within the Township to open space and trail opportunities in adjacent communities. Such connections help form a more comprehensive open space system for residents and contribute to the creation of a more effective and enjoyable regional network. Trails and pathways increase accessibility to parks by encouraging pedestrian and bicycle access and also offer recreational opportunities in and of themselves as passive, natural recreational space.

In addition to local linkages, identification of potential linkages on a regional level will help to contribute to Montgomery County's vision of a county-wide trail system complemented by local spurs. The Perkiomen Creek, and subsequently the County's newly finished Perkiomen Trail, runs along the Township's eastern border with Upper Salford for a short distance. The Perkiomen Trail offers Lower Frederick an existing foundation upon which to base its local trail system. Several possible connections for Lower Frederick Township are described below and shown in Figure 27. An additional section, incorporating the Township's "Connections" map project, was added in 2015 to further define and illustrate possible connections throughout the community. This section begins on page 52. Finally, suggested guidelines for trail design have been added as a part of the 2015 update. These begin on page 59.

BENEFITS OF GREENWAYS

Greenway networks are generally conservation oriented landscape features. Pennsylvania DCNR's publication, [Pennsylvania's Greenways—An Action Plan for Creating Connections](#) published in 2001, identifies the following list of specific benefits of greenways:

- Greenways enhance the sense of place in a community or region.
- Greenways accentuate the scenic beauty and majesty of our state.
- Greenways protect our state's water resources by buffering non-point sources of pollution.
- Greenways provide opportunities to protect and manage wildlife, forests and ecological systems.
- Greenways provide recreation opportunities for families and individuals of all ages and abilities.
- Greenways provide alternatives to automotive transportation, reducing traffic congestion.

- Greenways add positively to our economic climate.
- Greenways are a core component of strategies to foster health and wellness, especially as our population ages.

In addition, greenways help increase real estate values and promote eco-tourism, as well as cultural, heritage, and recreational tourism.

COMMUNITY ASSETS

Currently, over 550 acres of publicly, privately, and institutionally-owned open space exist within Lower Frederick Township. Although the total open space acreage for the Township is significant, many of these acres have less than optimal access for pedestrians either because of natural constraints or property restrictions. If parks and other open spaces are interconnected, they create a greener image for a community, a more vibrant pedestrian atmosphere, and more useable public space. By improving linkages between public open spaces, neighborhoods, commercial districts, and the existing Perkiomen Trail, the township will add recreation and transportation opportunities for the entire community.

Defining specific open space destinations, the township open space system possesses several major nodes. Each node has its own character and amenities, as described below:

- [Perkiomen Trail](#) - Currently, the Perkiomen Trail acts as both a strong connection along the eastern side of the township and a strong starting



Section of the Perkiomen Trail near Foy Park

point upon which to affix future local trails.

- Swamp Creek Greenway - The County's Sunrise Mill Historic Site is the anchor for a growing focus on creating a preserved greenway along the Swamp Creek. Lower Frederick, in cooperation with other partners, has concentrated on preserving land from Sunrise Mill downstream to the confluence of Swamp Creek and Perkiomen Creek.
- Stone Hill Greenway - This scenic area includes many acres of preserved lands that adjoin state game lands, and there are a number of additional undeveloped properties that would make connections to the Township's open space attainable.
- Zieglerville—Situated at the intersection of Routes 29 and 73, this community is located in the heart of the township, providing an active commercial focal point for nearby residents.
- Spring Mount—Along with Zieglerville, Spring Mount is a primary area of commerce, recreation, and residence for a large portion of township residents.
- Perkiomen Valley Middle School West—This newly constructed middle school serves the larger community of the Perkiomen Valley. The school site offers recreational opportunities in the form of two football/soccer fields, numerous tennis courts, a track, a walking trail, and a significant amount of undeveloped acreage.
- Established Parks—There are several well established parks within the township. These community assets provide residents with easy access to tot lots, picnic shelters, walking trails, ball fields, and scenic views.

Lower Frederick Township is fortunate to have an abundant selection of open

spaces, in addition to the major nodes described above, which serve as community assets. In the following sections, regional assets and linkages are discussed, as well as potential linkages within the township itself.

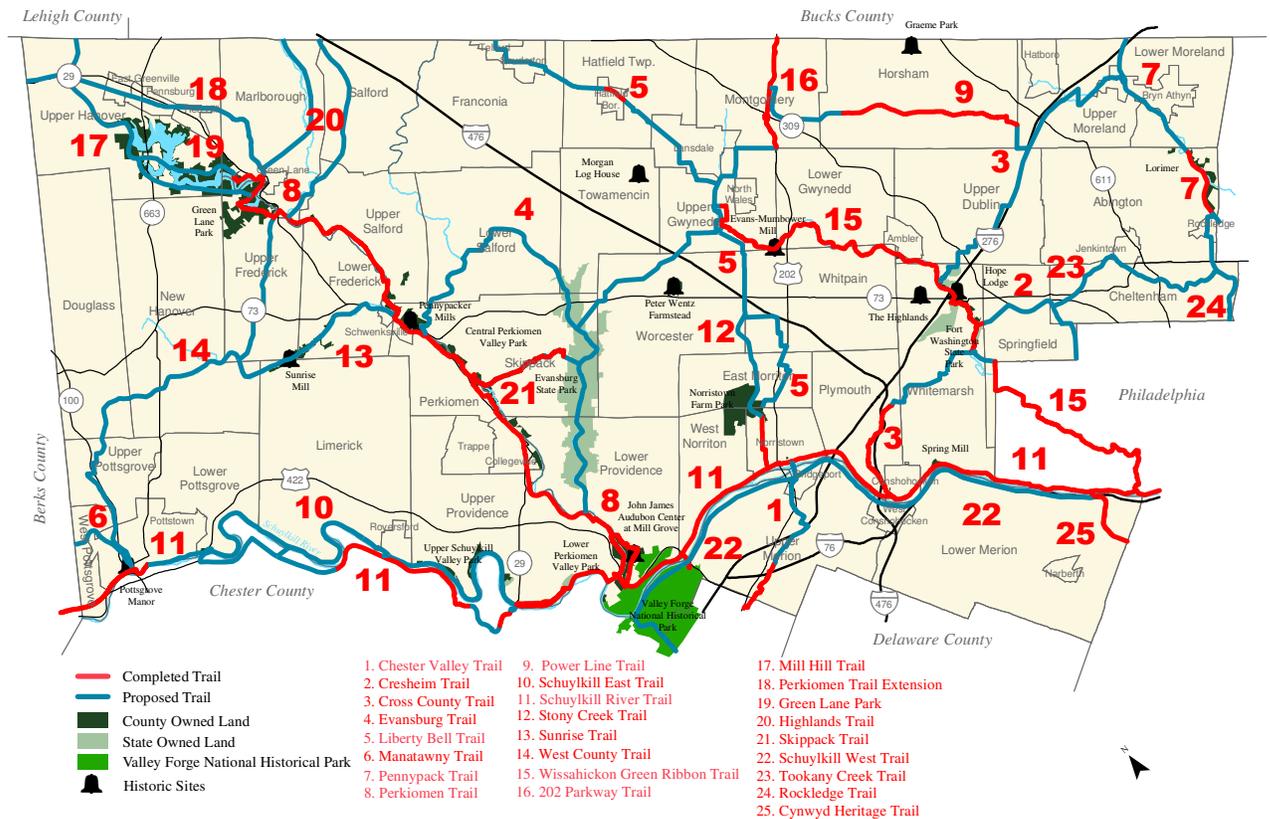
REGIONAL LINKAGES

Surrounding Lower Frederick are several efforts that will become significant recreation and transportation alternatives to residents of the Central Perkiomen Valley. The township has the opportunity to link into these efforts at strategic points to develop strong connections with its neighbors. They could offer the township residents a means of accessing other trails and parks that exist outside the municipal borders. Figure 26 displays the proposed County Trail Network.

Perkiomen Trail - The 22.5-mile Perkiomen Trail is a rail-trail that follows the Perkiomen Creek from Oaks in Upper Providence to Green Lane Park in Upper Hanover Township. The scenic trail passes near the eastern edge of Lower Frederick Township and contains sections of asphalt or mixed gravel surface for bicycling, walking, hiking, and equestrian use.

The Perkiomen Trail is especially important for the County because it links three regional county parks, two county historic sites, and the county-owned natural area at Spring Mountain. The trail also connects with Valley Forge National Historic Park via the Schuylkill River Trail. The trail thus forms an ideal transportation network from the heart of

Figure 26
2015 Proposed County Trail Network



Montgomery County to Philadelphia and may in the future extend alternative transportation options into Berks County as well.

Sunrise Trail - The proposed 5-mile Sunrise Trail, will run along the scenic rural Swamp Creek valley between the county's Sunrise Mill Historic Site and the Perkiomen Trail at the confluence of the Swamp Creek and Perkiomen Creeks in Lower Frederick Township. The trail, which will utilize county and municipal lands, easements on private and school district properties, and local rural road segments where necessary, will connect the north-central part of the county to Pottstown to the northwest. This trail will

also make connections to a system of nature footpaths located in the nearby Stone Hill Greenway, as noted below. In addition to the proposed trail, Swamp Creek itself is an important open space destination. Lower Frederick, in cooperation with other partners, has concentrated on preserving land from Sunrise Mill downstream to the confluence of Swamp Creek and Perkiomen Creek. Regional linkages may be made with the continuing expansion of the nearby Stone Hill Greenway.

Spring Mountain - Spring Mountain, listed as an "Open Space Focus Area" by the County, is a prominent feature of the Perkiomen Valley with the Perkiomen

Trail, areas of spectacular views, sensitive diabase landscapes, and actively used winter sports facilities. Spring Mountain encompasses a complex blend of preservation opportunities and connections to municipal open space, parkland around the county's Pennypacker Mills, and historic and scenic views and vistas. As a result, various organizations have partnered together in preservation efforts in the Spring Mountain area.

Stone Hill Greenway - A Stone Hill Cooperative Agreement includes Lower Frederick and Limerick Townships, Valley Forge Audubon Society, Natural Lands Trust, and the county as partners in a focus area of preserved diabase woodlands. Potential linkages between the Sunrise Mill Historic Site/Swamp Creek Greenway and the Stone Hill Greenway will assume a regional scope.



The trail pictured above is in Stone Hill Greenway near Limerick Township

POTENTIAL LINKAGES

The most important open space linkages to Lower Frederick will be those that link the Township's streams and natural areas with one another and to the established Perkiomen Trail. In addition, those linkages that connect pedestrians to the existing parks and neighborhoods in the Township are a priority. The linkages should not be strictly linear in design; they should include loops or bypasses to provide residents diverse trail lengths and experiences. The following potential linkages, shown in Figure 27, have been identified to enhance the overall open space network:

Connecting the Stream Corridors

Stream corridors are significant, natural resource linkages in the community. Trails along the stream corridors provide access to unique natural features while linking other activity areas. The Township would like to pursue trail linkages along the following creeks (these linkages are shown as greenway corridors in Figure 27 on the following page):

- Perkiomen Creek - The Perkiomen Creek is the region's most significant open space linkage.
- Swamp Creek - Swamp Creek encompasses some of the most unique geologic and natural resource features in the Township.
- Goshenhoppen Creek - Connects Swamp Creek with scenic, rural landscapes.
- Scioto Creek - Connects Zieglerville growth area with potential open space linkages in Upper Frederick Township.
- Mine Run - Natural features

associated with Mine Run include numerous wetlands, swampy areas and floodplains that should be preserved to reduce flooding in adjacent Schwenksville Borough.

Connecting to the Perkiomen Trail

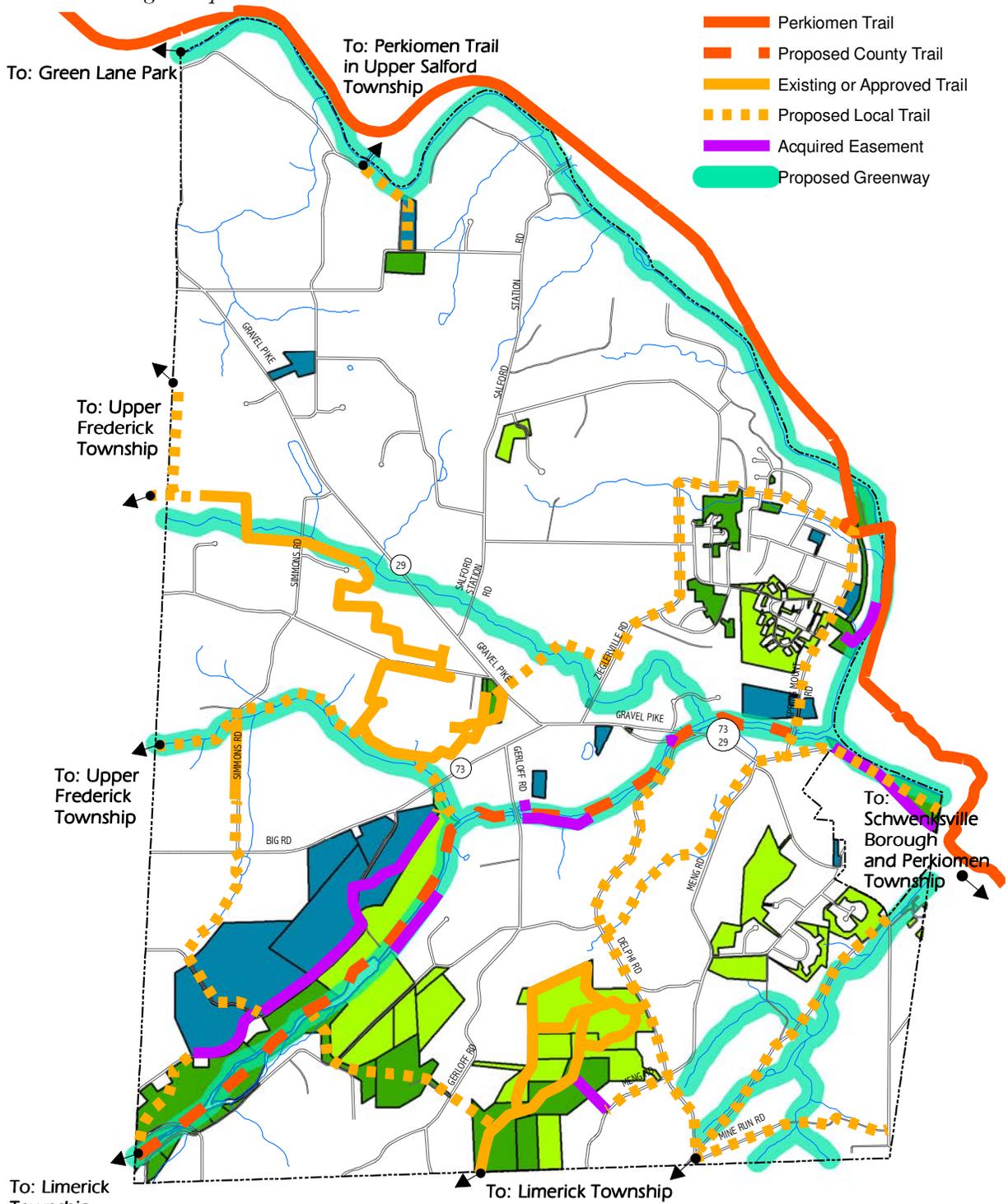
- Cuddy Park - The Township would like to link Cuddy Park to the Perkiomen Trail.
- Swamp Creek - The Township would like to link Swamp Creek to the Perkiomen Trail, as part of the proposed County Sunrise Trail.
- West side of Perkiomen Trail - A linkage on the west side of the Perkiomen Trail from Spring Mount to Delphi would give Lower Frederick Township residents enhanced access to the existing trail network, and would provide residents an alternate trail system with varied lengths and landscapes. A trail access easement exists along the creek in the vicinity of the Township building.

- Spring Mount to Zieglerville - A connection linking Lower Frederick's growth areas, Spring Mount and Zieglerville, would enhance the overall linkages in the Township. A linkage could be constructed using the Water Authority property.
- Lower Frederick to Schwenksville—Improved pedestrian linkages with the borough of Schwenksville will provide residents of both municipalities with increased access to recreational and commercial opportunities. One such proposed linkage is via the County's Sunrise Trail.

Connecting Pedestrians to Community Assets

- Stone Hill Greenway - The closed section of Delphi Road, near the Stone Hill Greenway, between Game Farm Road and the Valley Forge Audubon Society Meng Preserve is an ideal location for an open space connection. The township would like to create a linkage between the Greenway and Zieglerville in order to make the Greenway more accessible to township residents.
- Gerloff Road - Improve the pedestrian connection from the eastern edge of Sunrise Mill to the Valley Forge Audubon Society's Meng Preserve/ Stone Hill Greenway.
- Coble Park - Existing and proposed residential development in the vicinity of Coble Park should be connected, via trails and pathways or sidewalks, to the park.

Figure 27
2006 Potential Linkages Map



- Perkiomen Trail
- Proposed County Trail
- Existing or Approved Trail
- Proposed Local Trail
- Acquired Easement
- Proposed Greenway

- Existing Land Use**
- Institutional
 - Public Open Space
 - Private Open Space

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 This map is based on 2000 ortho photography and official sources. Property lines were compiled from individual block maps from the Montgomery County Board of Assessment Appeals, with no verification from the deed. This map is not meant to be used as a legal definition of properties or for engineering purposes.

0 1,200 2,400 4,800 Feet
 Base map prepared March 2002

THE CONNECTIONS MAPS

A few years after the original adoption of the 2006 Lower Frederick Township Open Space Plan, the township decided to revisit the potential linkages and explore in more detail where how those linkages might come to fruition. The series of “Connections” maps on the next few pages illustrate a more detailed possible scenario that would meet the open space linkages goals of the township. Figure 27.1, on the next page, is an overall concept for the township. The following maps break the township into focus areas: Zieglerville Village, Spring Mount, Northwest, Northeast, and South.

Trail Locations

It should be noted that the lines on the Connections maps are conceptual in nature and represent the generally preferred alignment for future trails. It is the intent of the township to use public and utility-owned land and/or rights-of-way and avoid trail alignments that would impact privately owned land wherever possible and the Connections maps reflect that intent. In situations where a linkage is proposed along a roadway, improved shoulders could be utilized as temporary bicycle lanes until such a time arrives when it may be feasible to construct a grade-separated multi-use path within the right-of-way alongside the road. Connections along roadways may be constructed as macadam trails, while trails through forested open space may be constructed of macadam or stone.

Trails and the Development Process

The township will only pursue trail development across private property in situations where the private property owner wishes to do so, or in situations where the township and a developer have worked together to ensure that trails are built as a

part of the land development process. As such, the land development process will be instrumental in the development of trails throughout the township. The township should ensure that the proposed improvements within this plan are included in all new land development and roadway improvement projects. It should be noted that acquiring trail development through the land development process is a fiscally responsible step, eliminating the need to use taxpayer dollars for trail construction.

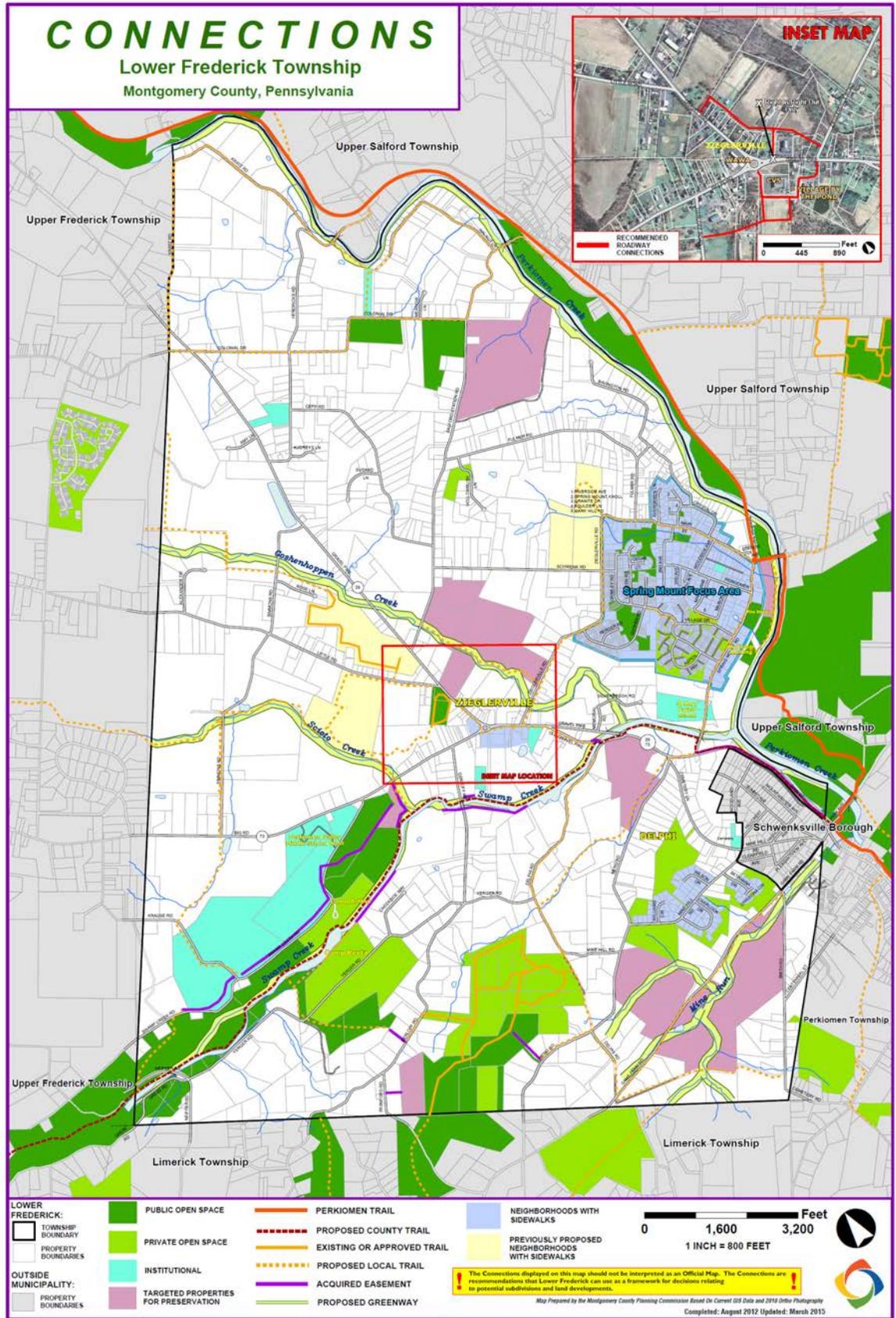
Trails Along Roadways

Many of the proposed trails in the Connections maps are located within the right-of-way along roadways throughout the township. Trails may also be located along roadways within new developments. In that case, the township should be involved with the roadway design process to make sure space is made for the proposed bicycle and pedestrian facilities, including bike lanes or routes, signage, and crossing improvements. Suggested trail and bicycle facility guidelines are included at the end of this chapter, beginning on page 59.

Property Owner Liability

Property owners may be concerned about their liability if a trail crosses their property. It should be noted that the Pennsylvania Recreational Use of Land and Water Act (P.S. §477-1 etc.) protects landowners who permit, without charge, use of their property for trail use from liability or any duty of care to users other than for a willful or malicious failure to guard against or warn of a known dangerous condition.

Figure 27.1



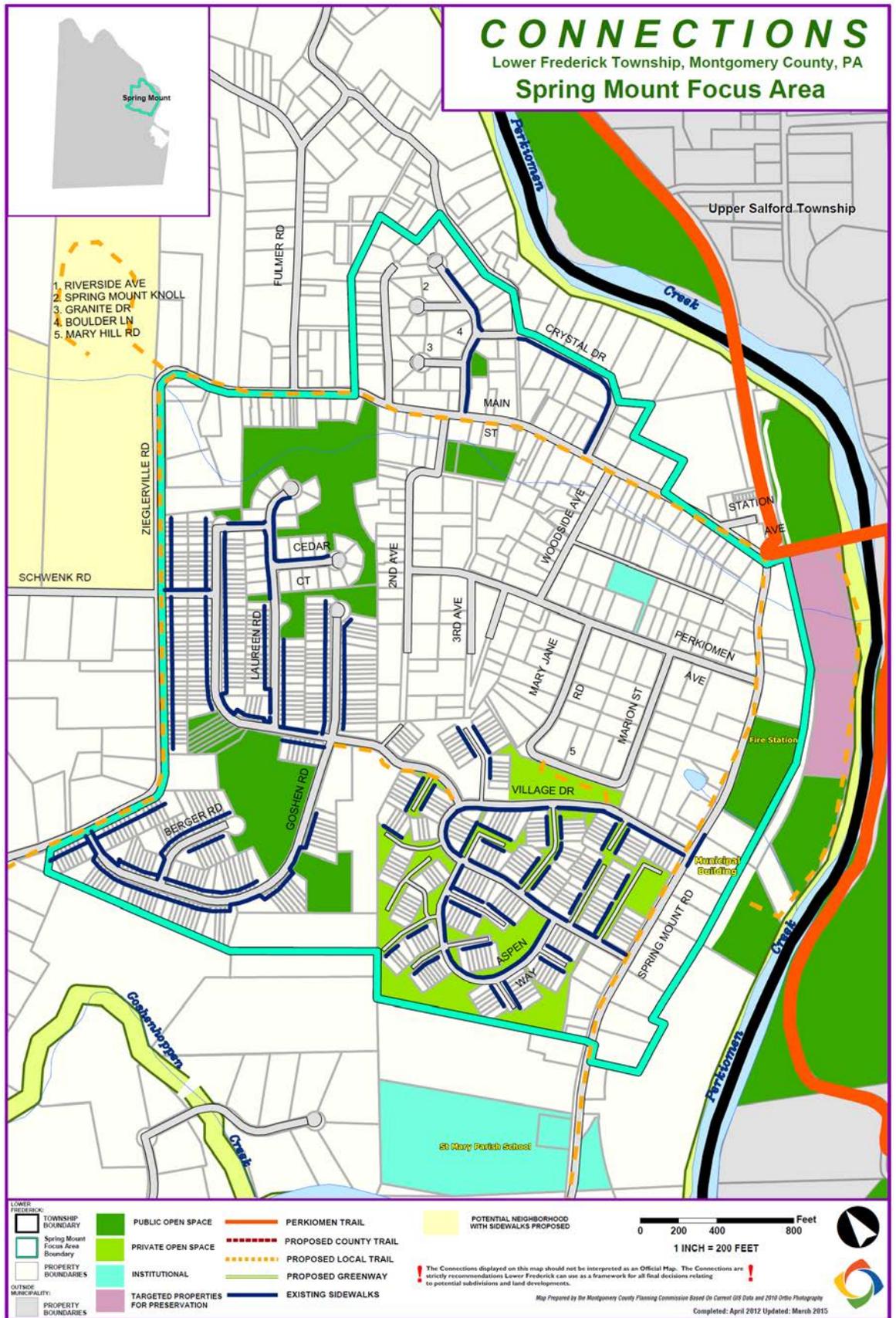
This map shows the overall concept for connections throughout the community. Each of the maps on the next five pages give a more detailed look at a focus area within Lower Frederick Township. The overall map shows the importance of connections to other townships in building a comprehensive trail system.

Figure 27.2



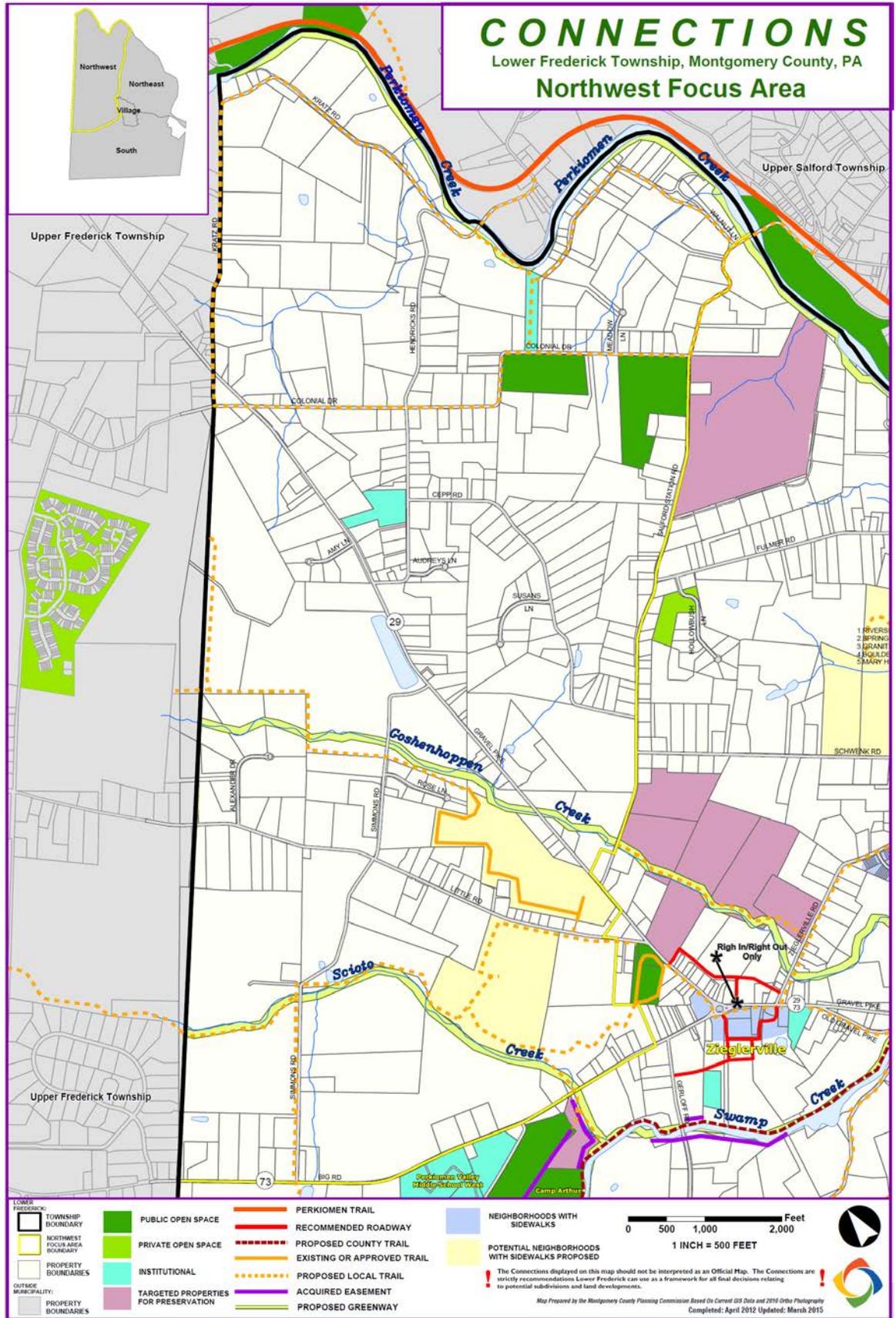
Zieglerville is intended to be an interconnected village that can be a focal point for the township. This map shows how an interconnected pattern of streets might look in the village. The Village Commercial zoning district, which applies to the area, further promotes the goal of creating an interconnected village.

Figure 27.3



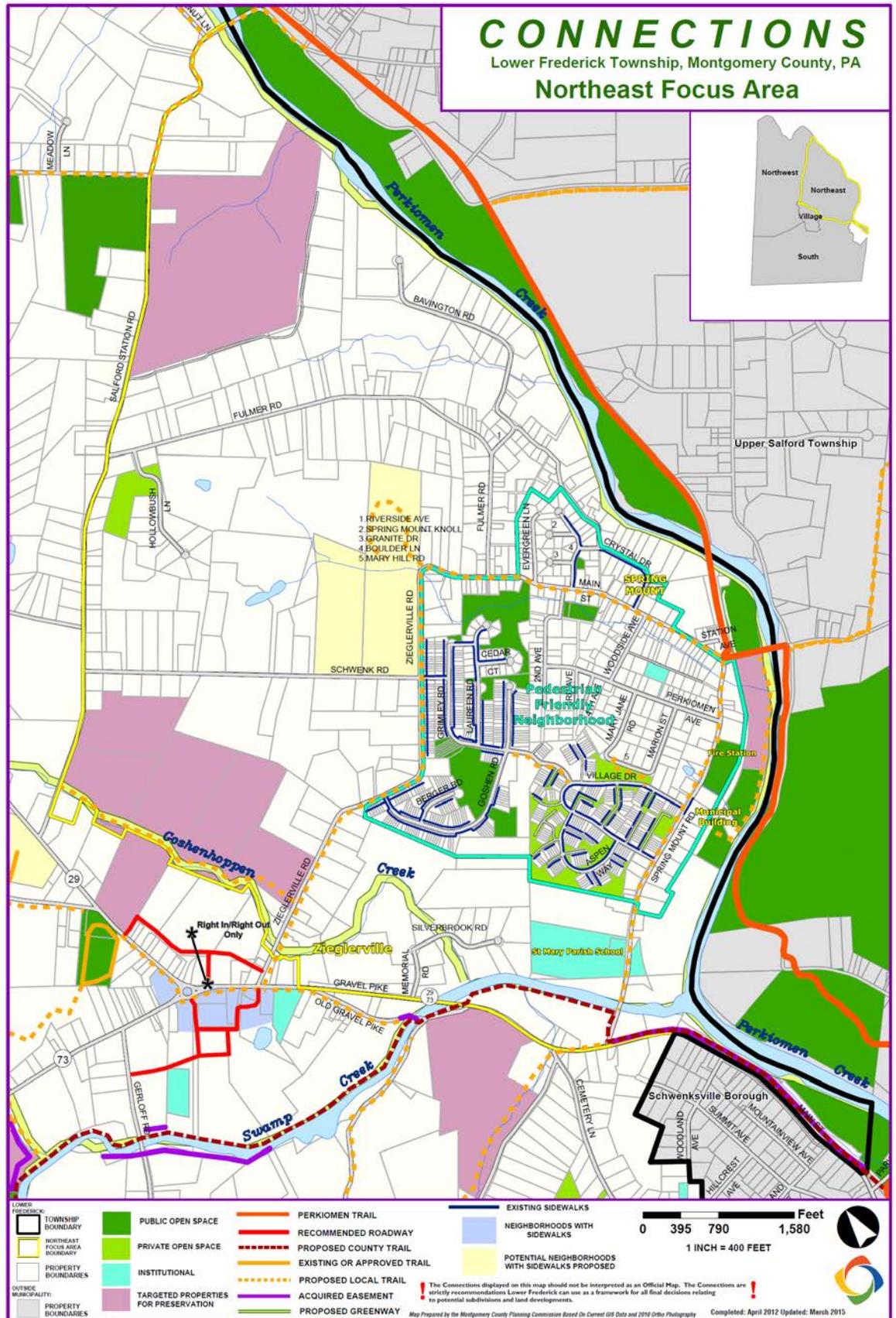
Spring Mount is also intended to be an interconnected village. Potential connections here should complement the existing sidewalk network by providing pedestrian and bike access to open space and the rest of the township.

Figure 27.4



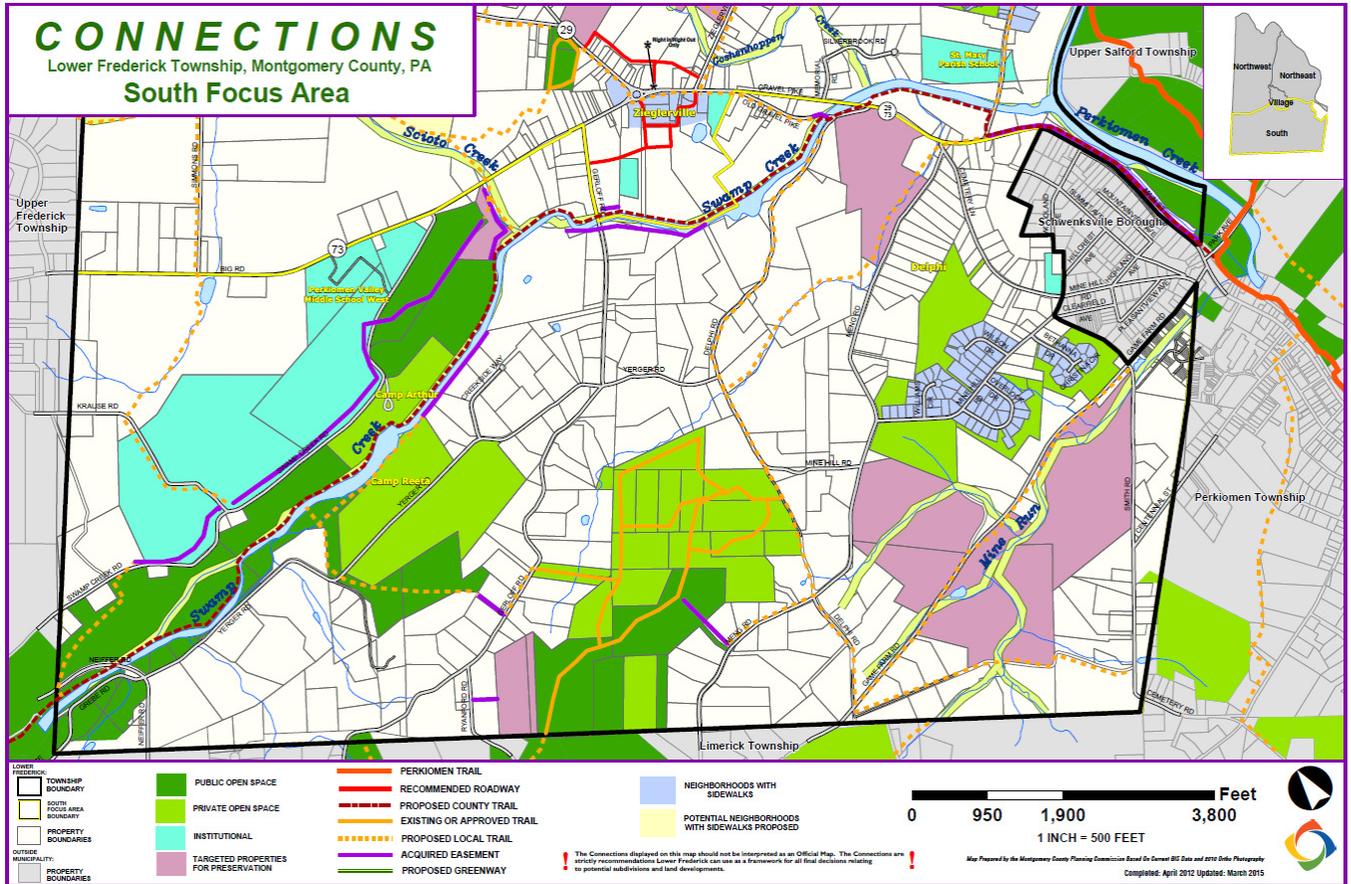
The Northwest Focus Area includes important possible connections to the proposed Swamp Creek Trail and the Perkomen Trail, as well as possible connections to Township open space such as Cuddy Park.. Connections may be made as macadam or stone trails, or as improved shoulders along roadways.

Figure 27.5



The Northeast Focus Area contains important connection opportunities to the proposed Swamp Creek Trail and the existing Perkiomen Trail, and also to the Lower Frederick Township Office. Many of these connections can be made along roadways, including along Spring Mount Rd and along Zieglerville Road.

Figure 27.6



The Southern Focus Area includes many connections, mostly along roadways, to the Sunrise Mill historic site and to the Stone Hill Greenway. The county-proposed Swamp Creek Trail will run through the center of the focus area, presenting an opportunity to connect into the county trail system. It should be noted that significant opportunities exist with several easements in place and a large amount of land under the ownership of the Perkiomen Valley School District.

Figure 27.7
Montgomery County Trail Guidelines

Standard Description		Trail Classification Type			
		Multiuse	Pathway	Retrofit Sidewalk	On Road Improvements for Bicyclist
Trail Width (75' trail corridor width minimum)	Desirable	12'	6'	10'-12' (multi-use w/o bike lane: two-way shared use)*	Bike Lane: 6'-5'
	Minimum	8'-10'	4'	6'-8' (multi-use with bike lane: two-way shared use)**	Bike Lane: 4'
Trail Shoulder Width	Desirable	4-5'	2'	4' (multi-use w/o bike lane: two-way shared use)	Road Shoulder: 8'-6'
	Minimum	2'	2'	2' (multi-use with bike lane: two-way shared use)	Road Shoulder: 4'
Trail Surface Type***	Desirable	Macadam	Cinder/Macadam	Concrete	Macadam
	Acceptable	Cinder	Cinder	Macadam (if acceptable by local zoning regulations)	Macadam
Trail Grade (longitudinal slope)	Desirable	1%-3%	1%-3%	1%-2%	--
	Maximum	5%	5%	5%	--
Trail Surface Grade (cross slope)	Desirable	1%	1%	1%	--
	Maximum	2%	2%	2%	--
Vertical Clearance	Desirable	10'	10'	10'	--
	Minimum	8'	8'	8'	--
Horizontal Clearance (edge of trail vegetation clearance)	Desirable	4-5'	2'	4'	--
	Minimum	2'	2'	2'	--
Design Speed (mph)	Desirable Grades	20	3-7	8-15	25-30
Viewshed (linear feet) {line of sight within a corridor}	Desirable	200'-175'	75'	200'-175'	--
	Minimum	150'	50'	150'	--
Signage	Trail	See 'Sign Dimensions for Trail & Bicycle Facilities' for chart and sign examples			
	Roadway				
* 6' (typical ped. sidewalk) ** 4' (typical ped. sidewalk) *** Macadam should be considered for trail grades over 2%				All Trail Surface Depths are assumed @ 2-4" and Trail Sub-base Depths are assumed @ 4-8".	

TRAILS GUIDELINES

The above standards are taken from the publication **Guidelines for Trail Development within Montgomery County, Pennsylvania**. They have been provided here as a general guidelines for the township and for developers that may be considering trail development. They have been provided as guidelines only, and final details of construction standards for trails should be determined by the Lower Frederick Township Code and by the advice of the Lower Frederick Township Engineer. Further, the next two pages

contain standards for signage along trails and bike routes that should also be considered guidelines to assist any potential development of trails or bicycle facilities.

Figure 27.8
Suggested Dimensions for Signs Along Trails and Bicycle Facilities

Sign Type	Reference Code	Minimum Sign Size - inches	
		Multiuse	Roadway
Bike Route Ahead	1	18 x 18	30 x 30
Bike Route	2	24 x 18	24 x 18
Bike Lane	3	—	30 x 24
Share The Road	4	—	24 x 24
Bicycle Warning	5	18 x 18	24 x 24
Share The Road Plaque	5	—	18 x 24
Interstate Bicycle Route Sign	6	18 x 24	18 x 24
Bicycle Route Sign	7	12 x 18	12 x 18
Bicycle Parking	8	12 x 18	12 x 18
Bicycle Surface Condition	9	18 x 18	24 x 24
Bicycle Surface Condition Plaque	9	12 x 9	12 x 9
Playground	10	18 x 18	24 x 24
Hill	11	18 x 18	24 x 24
Bump	12	18 x 18	24 x 24
Pedestrian Crossing	13	18 x 18	24 x 24
Dip	14	18 x 18	24 x 24
Narrow Bridge	15	18 x 18	30 x 30
Bikeway Narrows	16	18 x 18	30 x 30
Signal Ahead (Same dimensions apply to Stop & Yield Ahead Signs)	17	18 x 18	30 x 30
Bicycle Guide Direction Signs	18,19	24 x 6	24 x 6
Street Name	20	18 x 6	18 x 6
Bicycle Route Supplemental Plaques	21,22,23	12 x 4	12 x 4
Route Sign Supplemental Plaques	24-29	12 x 9	12 x 9

Figure 27.8
Suggested Dimensions for Signs Along Trails and Bicycle Facilities (cont'd)

Sign Type	Reference Code	Minimum Sign Size - inches	
		Multiuse	Roadway
Standard County Trail Sign	30	18 x 18	18 x 18
Stop	31	18 x 18	30 x 30
Yield	32	18 x 18 x 18	30 x 30 x 30
Bicycle Lane Supplemental Plaques	33	—	30 x 12
Movement Restriction	34-36, 38	12 x 18	18 x 24
Begin Right Turn Lane Yield to Bikes	37	—	36 x 30
Push Button for Green Light	39	9 x 12	9 x 12
Bicycle Wrong Way	40	12 x 18	12 x 18
Ride With Traffic Plaque	40	12 x 12	12 x 12
No Motor Vehicles	41	24 x 24	24 x 24
No Bicycles	42	24 x 24	24 x 24
No Parking Bike Lane	43,44	—	12 x 18
Pedestrians Prohibited	45	18 x 18	18 x 18
Bicycle Regulatory	46,47	12 x 18	12 x 18
Shared-Use Path Restriction	48	12 x 18	—
To Request Green Wait on Symbol	49	12 x 18	12 x 18
Railroad Crossbuck	50	24 x 4.5	48 x 9
Advance Grade Crossing	51	15 Dia.	15 Dia.

Figure 27.9
Sign Illustrations



Figure 27.9
Sign Illustrations (Cont'd)



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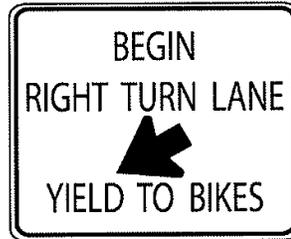
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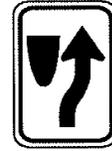
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CHAPTER 6

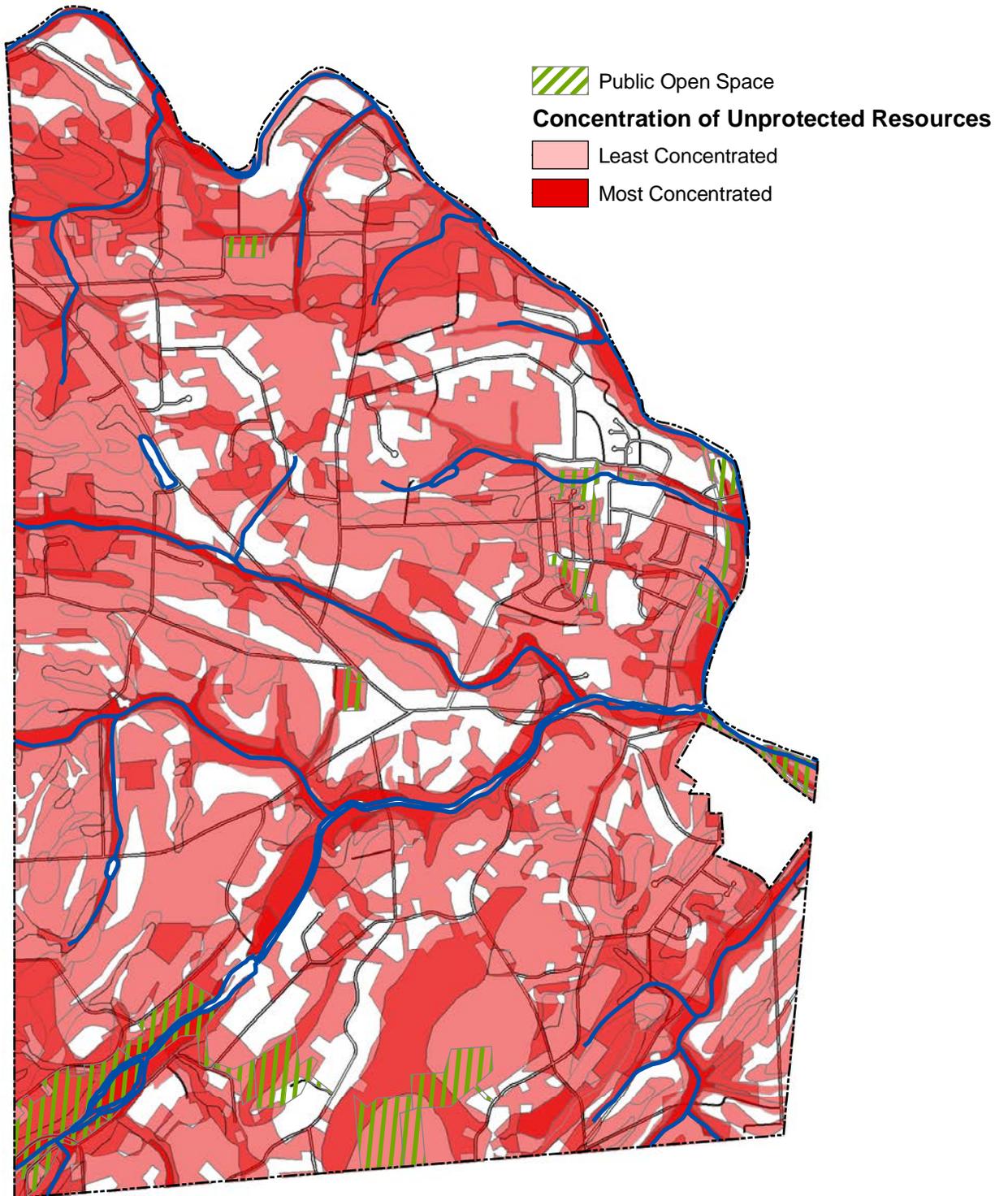
PRIORITIZATION OF UNPROTECTED RESOURCES

The inventory of vulnerable resources in Chapter Four provides a detailed description of Lower Frederick's lands underlain by bedrock with poor aquifer characteristics, steep slopes, wetlands, high infiltration soils, hydric and alluvial soils, prime and statewide important agricultural soils, woodlands, historic resources, and viewsheds. In the previous chapters, the Township's cultural and environmental features were mapped individually without showing any interconnected relationships or highlighting areas containing more than one resource. When combined, the inventoried resources contribute to Lower Frederick's environmental and scenic integrity, and suggest priorities for protection. The following chapter briefly analyzes the unprotected resources as well as their significance and relationship to the township's larger goals, and proposes targeted priority areas for future conservation.

ANALYSIS OF VULNERABLE RESOURCES

In order to analyze the relationship between the township's unprotected resources and its currently protected land, a composite of all the natural features needs to be developed. With this in mind, a composite of vulnerable resources was created

Figure 28
Composite Natural Features



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0 1,200 2,400 4,800 Feet
Base map prepared March 2002

including woodlands, wetlands, steep slopes (15% or greater), alluvial soils, hydric soils, and state and prime agricultural soils within the township. Figure 28 shows the concentration of vulnerable resources in the township, with the darkest red areas being those with the largest amount or concentration of vulnerable resources, and the areas with a pink or lighter red color indicating some vulnerable resources exist.

In some instances, the township may wish to provide more comprehensive protection by maintaining control over the management of certain resource lands. For example, there are areas in which two, and sometimes more, vulnerable resources are found in the same area, providing an opportunity for the protection of multiple resources on one site. Protection of lands containing vulnerable resources may also complement land preservation for other purposes. This may occur when a property that the township is considering for active recreation or farmland preservation also has a concentration of significant vulnerable resources.

AREAS OF PRIORITY

STREAM CORRIDORS

Conserving open space along stream corridors accomplishes several things: 1) protection of the local water supply by securing an area adjacent to waterways that will act as a buffer, reducing the amount of non-point source pollution introduced into the stream network, 2) reduction of flood hazards by allowing a larger area of pervious surface through which precipitation can be absorbed, 3)

promotion of a diversity of plants and wildlife. Additionally, the linear nature of stream corridors provide ideal opportunities to create trail networks. Stream routes also provide a natural greenway which winds throughout the Township. The following stream corridors have been identified as priority targets for open space conservation.

PERKIOMEN CREEK

In addition to being the largest and most well known, this stream corridor provides the most significant linkage opportunities within the township. The natural path of the Creek creates an ideal north/south corridor that can serve as an anchor point for other systems.

SWAMP CREEK

The Swamp Creek stream system is the second most prominent in Lower Frederick, and a major tributary to the Perkiomen Creek, flowing east/west through the central portion of the township. Of all the stream systems, Swamp Creek flows through the largest amount of currently preserved open space.

GOSHENHOPPEN & SCIOTO CREEKS

These two creeks flow through the northern central part of the township, providing numerous opportunities for open space conservation in an area that is currently lacking in preserved open space.

MINE RUN

Mine Run flows through the southeastern portion of the township,

creating opportunities to connect Lower Frederick’s open space with that of municipalities along the township’s southwestern border.

PERKIOMEN TRAIL CONNECTIONS

The Perkiomen Trail is a countywide trail that runs from its southern terminus at the Schuylkill River Trail and the Valley Forge National Historical Park northward to Green Lane Park in Upper Hanover township. Connection to this extensive resource will provide an easily accessible recreation option for Lower Frederick’s community members, promote healthy physical activity, and present routes for alternative transportation to various destinations throughout the township via an interconnected pedestrian and bicycle network. The following proposed connections have been identified.

CUDDY PARK

This 12 acre park with paved parking lot is in the northern portion of the

township. Connecting this park with the Perkiomen Trail would provide an extended recreational opportunity into this underserved area of the township.

SWAMP CREEK

This trail, currently proposed by the County, would allow for access to recreational opportunities in the central portion of the township from border to border, east to west.

WESTSIDE PERKIOMEN TRAIL

In an attempt to increase accessibility for Lower Frederick’s residents to this already designated open space resource, the township may consider the construction of a pedestrian and bicycle trail along the western bank of the Perkiomen Creek.

COMMUNITY ASSETS

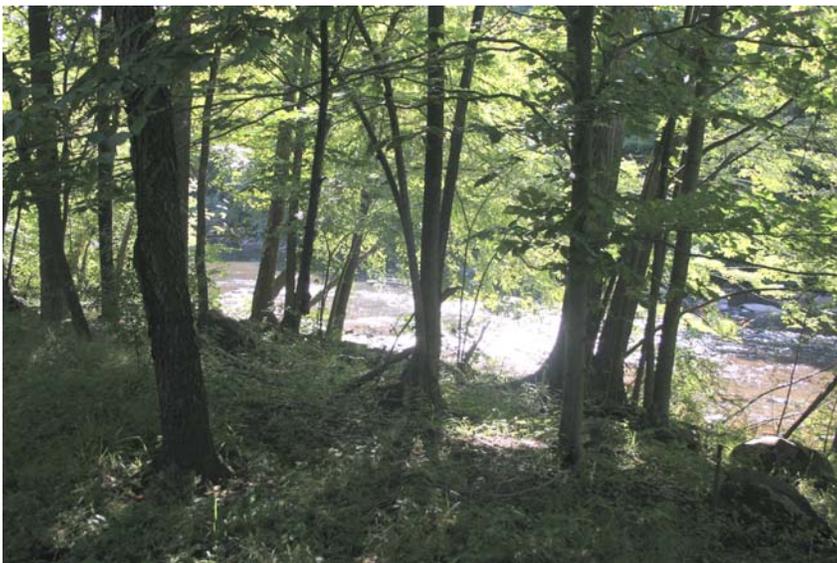
Within Lower Frederick there are several areas that have been identified as contributing to the unique identity of the township. These particular assets have been targeted as primary areas for open space conservation efforts.

STONE HILL GREENWAY

This extensive acreage of existing open space, consisting of both privately and publicly owned lands is located along the southwestern border of the township. The Greenway comprises the largest amount of publicly accessible, currently conserved open space, providing community members a prime opportunity to experience the township’s natural resources first-hand.

COBLE PARK

Providing ball fields, basketballs courts, tot lots, a picnic shelter and ample



Perkiomen Creek in Spring Mount

parking, Coble Park is the township's only active recreation park. Centrally located within Lower Frederick, it is the township's desire to make this resource more accessible to neighboring residents via pedestrian and bicycle trails.

SPRING MOUNT AND ZIEGLERVILLE

These two areas have been identified as areas into which the township would like to direct future growth. By providing a connective trail system, the township would increase access to these areas for nearby residents, and alleviate vehicular traffic by providing accommodations for pedestrian and bicycle traffic.

CHAPTER 7

EVALUATION OF GROWTH AREAS

Once preservation areas have been established and priorities have been set for resource protection, projected township growth must be directed to the most appropriate areas. In order to accommodate projected growth and retain open space in the Township, Lower Frederick participated in a regional planning effort that focuses future development to the most appropriate regional locations. This regional approach allows some municipalities, including Lower Frederick, to shift more intense residential and non-residential uses to the most appropriate areas, allowing the township's efforts to be focused upon the preservation of open space and the maintenance of its rural character. This chapter examines the growth projections for Lower Frederick Township and discusses the impact of the Central Perkiomen Valley Regional Comprehensive Plan on future growth in the area.

POPULATION, HOUSING, AND EMPLOYMENT PROJECTIONS

The Delaware Valley Regional Planning Commission (DVRPC), along with Montgomery County Planning Commission (MCPC) projects that Lower Frederick Township will have a population of 8,490 by the year 2025 (see Figure 29). This

projection is loosely based upon existing zoning and past development trends. Therefore, it is important to note that this projection will be revised every few years and implementation of the Regional Plan’s future land use policy will likely result in fewer units for Lower Frederick Township at ultimate buildout. Should the township increase by 3,695 residents, approximately 1,472 new units would need to be constructed by 2025 based upon the township’s current average household size of 2.7 persons per unit. This would be 81.5 percent more housing units than the township’s

existing 1,805 units.

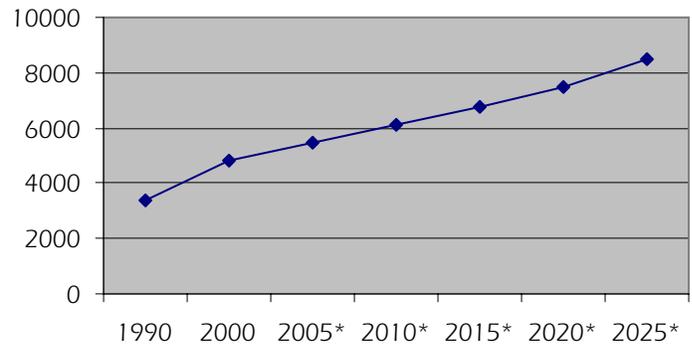
The DVRPC also estimates that there will be 656 persons employed within Lower Frederick by the year 2025 (see Figure 30). This represents an increase of 192 employees from the current figure of 464. This projected increase is minimal given the 20 year timeframe and reflects the rural and residential nature of the township (see Figure 31).

DESIGNATED GROWTH AREA

As a participant in the Central Perkiomen

Figure 29
Population Projection

Year	Population
1990	3396
2000	4795
2005*	5490
2010*	6130
2015*	6760
2020*	7450
2025*	8490

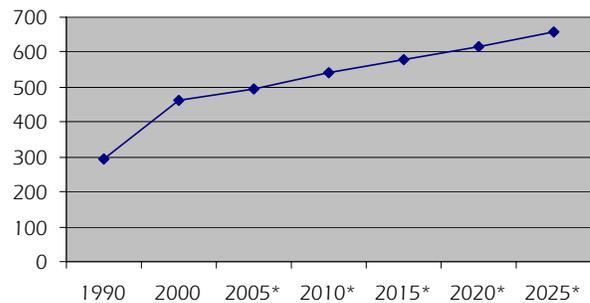


Source: U.S. Census Bureau; Census of Population and Housing, 2000; DVRPC projections.

* Projected population

Figure 30
Employment Forecast

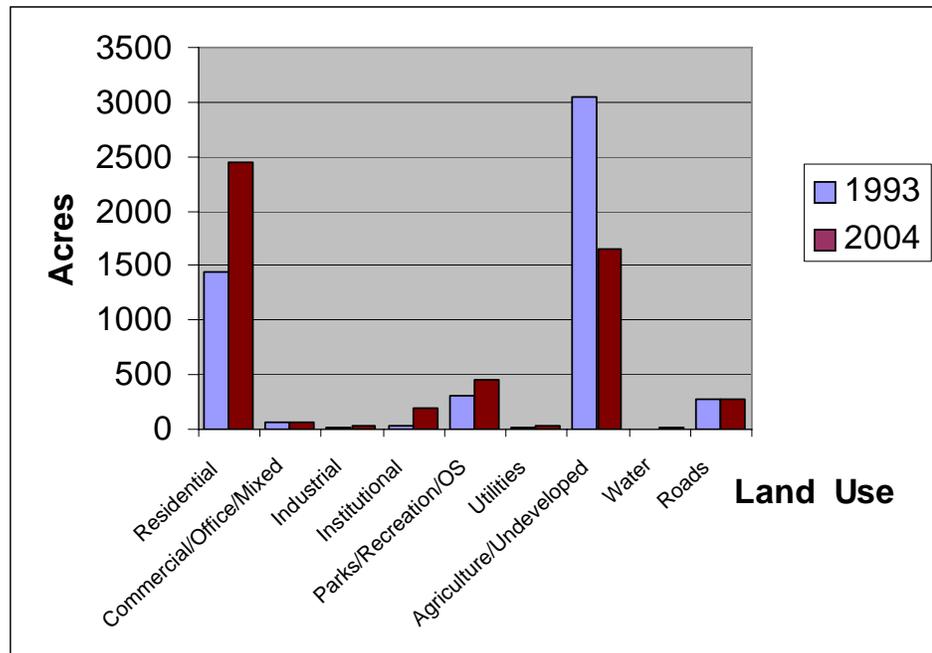
Year	Total Employment
1990	295
2000	464
2005*	493
2010*	540
2015*	577
2020*	615
2025*	656



*Source: DVRPC Forecasts

Figure 31
Existing Land Use Comparison: 1993 and 2004

Land Use	1993		2004		% Change
	Acres	% Total	Acres	% Total	199X-2004
Residential	1440	27.7%	2451	47.1%	70.2%
Commercial/Office/Mixed	60	1.2%	70	1.3%	16.7%
Industrial	18	0.3%	34	0.7%	88.9%
Institutional	37	0.7%	197	3.8%	432.4%
Parks/Recreation/OS	305	5.9%	461	8.9%	51.1%
Utilities	19	0.4%	33	0.6%	73.7%
Agriculture/Undeveloped	3050	58.6%	1649	31.7%	-45.9%
Water	0	0.0%	24	0.5%	n/a
Roads	272	5.2%	282	5.4%	3.7%
Total Acreage	5201	100%	5201	n/a	n/a



Valley Regional Comprehensive Plan, which includes Perkiomen Township, Upper Frederick Township, and Trappe, Collegeville, and Schwenksville boroughs, Lower Frederick Township is able to direct growth to the most suitable areas within the region. The areas designated for growth will have access to

public sewer and water, shopping, employment, and a more developed transportation network. Conversely, those areas of the region designated for rural resource conservation will contain the most vulnerable natural features, small villages, and low density residential development. In most cases, the rural

resource conservation areas are not served by community facilities and tend to be further removed from the existing shopping and employment centers.

In the case of Lower Frederick Township, the majority of the township has been designated for rural resource conservation and will not be expected to provide areas for high density residential development or significant non-residential uses. The remainder of the township, primarily situated around the villages of Spring Mount and Zieglerville, has been designated as future growth areas. Under the Central Perkiomen Valley Regional Comprehensive Plan, future development within the township should take the form of low-density residential development with some limited commercial uses within the existing villages.

Since the future land use element of the Central Perkiomen Valley Regional Comprehensive Plan will be the basis of the township's future land use policies, a more detailed understanding of the plan needs to be provided and a summary is supplied in the following pages.

CENTRAL PERKIOMEN VALLEY REGIONAL COMPREHENSIVE PLAN

The Future Land Use chapter is the cornerstone of the Central Perkiomen Valley Regional Comprehensive Plan. Understanding existing land use patterns and properly integrating future land use as part of a single, unified plan will result in a more efficient land use pattern that preserves open space, revitalizes business centers and preserves the small town

character that is so important to residents. The Land Use Plan designates appropriate areas for new growth and directs revitalization, new development and infrastructure improvements into those areas. Outside of the growth areas, the primary land use objective is preservation of the region's rural landscape and its natural and cultural resources.

The Future Land Use Plan establishes land use policies for the entire Central Perkiomen Valley. However, implementation of the Future Land Use Plan will rely upon the individual and collective efforts of the six participating municipalities. Specifically, it is the responsibility of the municipalities to implement the agreed-upon land use policies through local zoning ordinances and other municipal policies. In order to further the goals and objectives of the Regional Comprehensive Plan, while maximizing municipal control over local zoning decisions, the Future Land Use Plan will rely upon three elements for implementation:

Future Land Use Map

The future land use map (see Figure 32) divides the Central Perkiomen Valley Region into four land use categories: Borough Conservation, Designated Growth, Future Growth, and Rural Resource Conservation. The map depicts the location of the land use categories within the Central Perkiomen Valley Region and characterizes the relationships between the land use categories.

Future Land Use Matrices

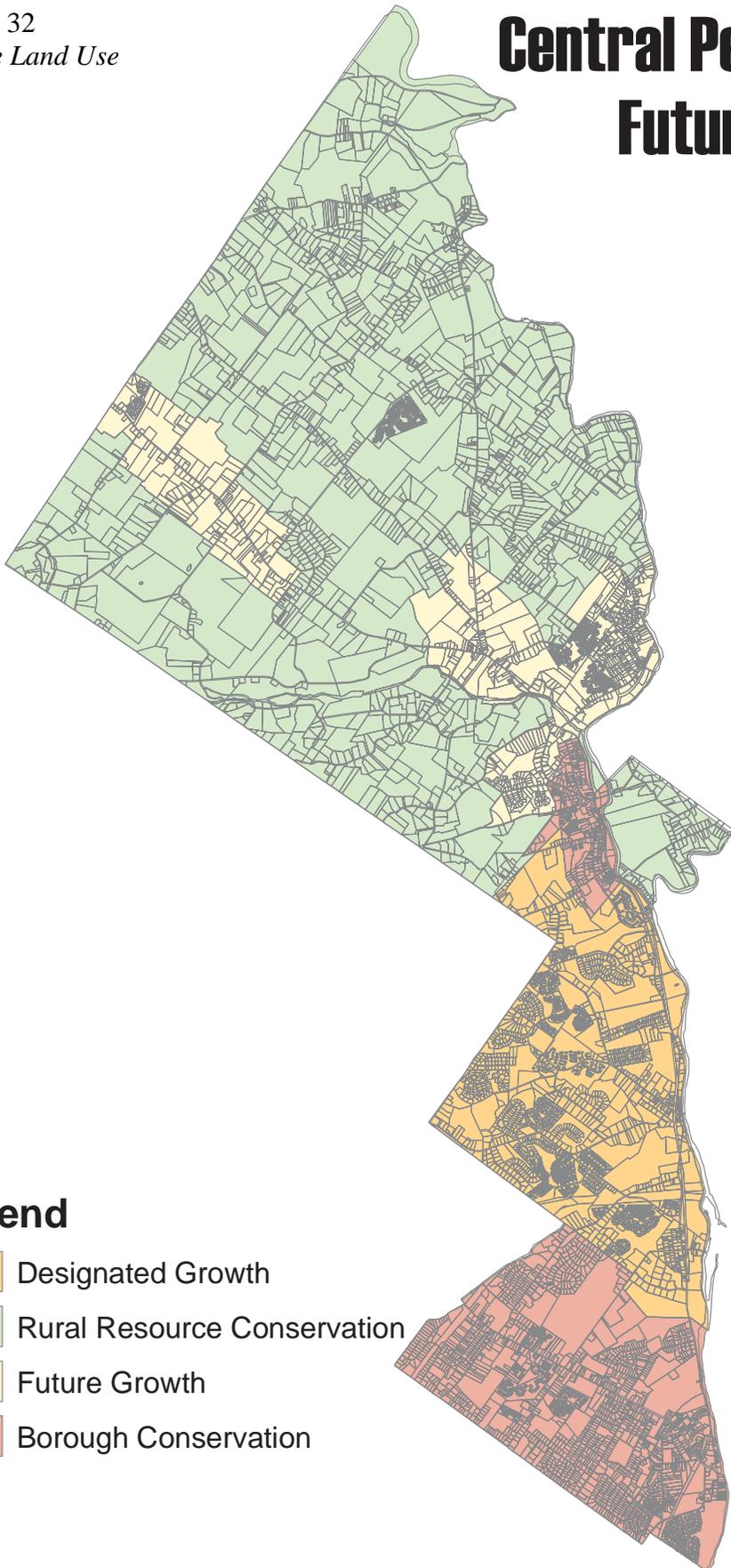
Each land use category has a

Figure 32
Future Land Use

Central Perkiomen Valley Future Land Use

Legend

-  Designated Growth
-  Rural Resource Conservation
-  Future Growth
-  Borough Conservation



corresponding Future Land Use Matrix. Each land use matrix authorizes municipalities to permit a variety of land uses within seven development classifications: residential, commercial, industrial, institutional, utilities, open space/recreation, and miscellaneous. For each development class, the matrix identifies the primary land use vision, permitted uses, allowable densities and intensities, and specific development policies.

Intergovernmental Cooperative Implementation Agreement

This agreement adopted by each of the six participating municipalities will guide implementation of the Central Perkiomen Valley Regional Comprehensive Plan. The Implementation Agreement recognizes the goals and objectives of the Regional Comprehensive Plan, authorizes continuation of the Regional Planning Commission, establishes processes for reviewing subdivisions and land developments of regional significance, comprehensive plan amendments, and local zoning changes, and provides commitments for maintaining higher density residential zoning and zoning for specific non-residential uses.

FUTURE LAND USE MAP

A fundamental policy of the Central Perkiomen Valley Regional Comprehensive Plan is to direct new residential and non-residential development to appropriate areas while protecting the region's natural features and rural character. This policy results in the establishment of Growth Areas and

Rural Resource Areas. Using four land use categories, the Future Land Use Map (see Figure 32) further defines the location of the Growth Areas and Rural Resource Conservation Areas.

Growth Areas

With attributes such as large tracts of undeveloped land, commercial amenities and access to major roads, new growth is inevitable in the Central Perkiomen Valley. Growth, if properly managed, can have many positive benefits for the community. It will help to maintain the economic vitality of the community and will provide new opportunities for residents. Growth in the Central Perkiomen Valley should be complementary to the community's character and should meet the goals of the comprehensive plan.

To maximize the positive aspects of growth, it is important to plan for it. By locating new growth around existing growth centers, existing services and infrastructure can be utilized, thereby reducing the need for new infrastructure. Additionally, concentrating growth into suitable locations preserves open space that may otherwise be sacrificed to accommodate new development.

The Municipalities Planning Code (MPC) recognizes two types of growth areas: designated growth areas and future growth areas. A designated growth area is defined as, "an area that preferably includes and surrounds a borough or village and within which residential and mixed use development is permitted or planned for at densities of one unit to the acre or more; commercial, industrial

and institutional uses are permitted or planned for; and public infrastructure services are provided or planned." Future growth areas are similar but recognize that while "public infrastructure services may not be [currently] provided, future development at greater densities is planned to accompany the orderly extension and provision of public infrastructure services."

In order to accommodate future growth and development within the Central Perkiomen Valley the following areas have been identified as designated and future growth areas.

Designated Growth Area

The Future Land Use Map establishes a designated growth areas within the majority of Perkiomen Township. Areas located in the Designated Growth Area contain a variety of land uses, with the predominant land use being "suburban-type" residential. Future land use objectives shall ensure that new development, both residential and non-residential, enhance the community character of the Designated Growth Area.

Future Growth Area

The future growth areas, as shown in Figure 30, include a portion of Lower Frederick Township around the Village of Zieglerville and the Village of Spring Mount, and a portion of Upper Frederick Township along Route 73. These areas are characterized by a mix of old and new development occurring on primary road networks in rural areas. The majority of development is served by public sewer and water. It

is anticipated that new development in the Future Growth Area will be of a scale and intensity characteristic of a rural village and a variety of residential and non-residential uses will be permitted.

Another important element of the Growth Area for the Central Perkiomen Valley includes the Boroughs of Trappe, Colledgeville, Schwenksville, and a small portion of Lower Frederick adjacent to Schwenksville. While not expected to accommodate significant amounts of future growth and development, the Boroughs offer a significant stock of housing and commercial opportunities, existing infrastructure, and the potential for redevelopment and downtown revitalization. Therefore, the Growth Area of the Central Perkiomen Valley Region will also include the following as a third land use category:

Borough Conservation

Historically, the areas which incorporate the Borough Conservation Area have been the economic and social center for the region and was the original site of early development in the Central Perkiomen Valley. The Boroughs of Trappe, Colledgeville, and Schwenksville currently contain a variety of housing types at varying densities found along the "Main Streets" of these boroughs. The boroughs also contain a mix of land uses that contributes to their unique character.

Rural Resource Areas

By directing the majority of new

development into the growth areas through the provision of public infrastructure and higher densities, rural resource areas outside the growth area can be established to preserve the Central Perkiomen Valley's natural and cultural resources. As defined in the MPC, a rural resource area is, "an area within which rural resource uses including, but not limited to, agriculture, timbering, mining, quarrying and other extractive industries, forest and game lands and recreation and tourism are encouraged and enhanced. Development that is compatible with or supportive of such uses is permitted and public infrastructure services are not provided for except in villages."

In order to protect the natural environment, rural character, and cultural resources of the Rural Resource Area, the Rural Resource Conservation land use category has been established:

Rural Resource Conservation

Preserving the open spaces, farmland, woodlands and other natural and cultural resources within these rural resource areas is very important to sustaining the natural environment, agricultural economy, and the quality of life in the Central Perkiomen Valley Region. The Rural Resource Conservation category encompasses large parts of Upper Frederick and Lower Frederick Townships, and a small portion of Perkiomen Township, east of the Perkiomen Creek. In addition, the rural resource area includes the undeveloped and environmentally sensitive land in the region. To

preserve the remaining undisturbed natural features and cultural resources, public infrastructure will not be permitted. Future development will be compatible with rural preservation and the predominant land uses will be low-density residential, farmland, preserved woodlands and reforested areas.

CONCLUSION

The Delaware Valley Regional Planning Commission (DVRPC), along with Montgomery County Planning Commission (MCPC), suggests that Lower Frederick Township's population and total employment will increase over the next 20 years. The regional planning effort in the Central Perkiomen Valley will help manage the future growth in Lower Frederick Township through its designated growth areas and rural township character will be preserved by rural resource conservation area designations. The effects of the Regional Plan may drastically change the population projections for Lower Frederick Township, by decreasing the amount of residents and changing the composition of the land. Although the growth changes are not reflected in the Regional Plan (new population projections were not incorporated), the Township anticipates new growth at a smaller scale than previously projected.

CHAPTER 8

EVALUATION OF OPEN SPACE NEEDS

This section of the plan examines the amount of existing public open space and types of recreation facilities in relation to current and expected future needs. An analysis of public open space considers how open space land is distributed in addition to showing whether a deficit exists or will occur in the future. Both the amount (acreage) and type (natural, passive or active) of open space are considered.

Also, organizations such as the National Recreation and Park Association (NRPA) recommend that municipalities strive to meet their open space needs independently of other providers, such as institutions and private developments. Therefore open space provided by quasi-public establishments is considered only peripherally.

EXISTING PARKS AND FACILITIES

Lower Frederick Township owns 11 parks and permanent open space areas (see Figure 33), including one that currently provide active recreational facilities. Coble Park is the Township’s primary active recreation space; however, Foy Park provides limited active recreation facilities as well. In addition to these public open space facilities, Montgomery County provides three open space sites in the Township and private and institutional developments provide additional open space areas. These park lands can be categorized into two main categories: Neighborhood Parks and Community Parks. For the purposes of this plan, neighborhood and community parks are separated by acreage and include passive and active sites.

NEIGHBORHOOD PARK LANDS

Neighborhood Park Lands generally range in size from 3 to 20 acres, although some of them, such as mini-parks and playgrounds, can be as

small as an acre or less. Larger neighborhood park lands should serve between 2,000 and 12,000 people within a half mile radius. Mini-parks and playgrounds may only serve apartment or townhouse developments, and should be located within a quarter mile of their users. All neighborhood park lands, no matter their size, should be primarily accessible by walking or riding a bike. An automobile should not be necessary to access neighborhood parks.

Neighborhood park lands in Lower Frederick, that are owned strictly by the Township or County, total 50.76 acres and include Cedar Hill Cluster Development, Cedar Hill Townhouse Development, the Perkiomen Trail, Coble Park, Cuddy Park, Second Street Park, Boulder Heights, Veterans Memorial, open space areas adjacent to the Sewage Treatment Plant, the Lower Frederick Township complex and Foy Park.

Coble Park provides both active and passive recreation areas totaling 6.2



From Left to Right: Basketball Court at Foy Park; Picnic Pavilion at Coble Park

Figure 33
Public Parklands

Name of Park	Acreage	Ownership
Neighborhood Parklands		
Cedar Hill Cluster Development	7.6	Township
Cedar Hill Townhouse Development	10.7	Township
Perkiomen Trail	2.5	County
Coble Park *	6.2	Township
Cuddy Park	12.37	Township
Second Street Park	1.3	Township
Boulder Heights	0.23	Township
Veterans Memorial	0.33	Township
Sewage Treatment Plant Land	1.7	Township
Township Complex	2.4	Township
Foy Park	5.43	Township
Total Neighborhood Parklands	50.76	
Community Parklands		
Memorial Park *	26.3	County
Sunrise Mill	61	County
Stone Hill Greenway	52	Township and Private
Total Community Parklands	139.3	
TOTAL Parklands	190.06	

* Denotes Active Recreation Sites

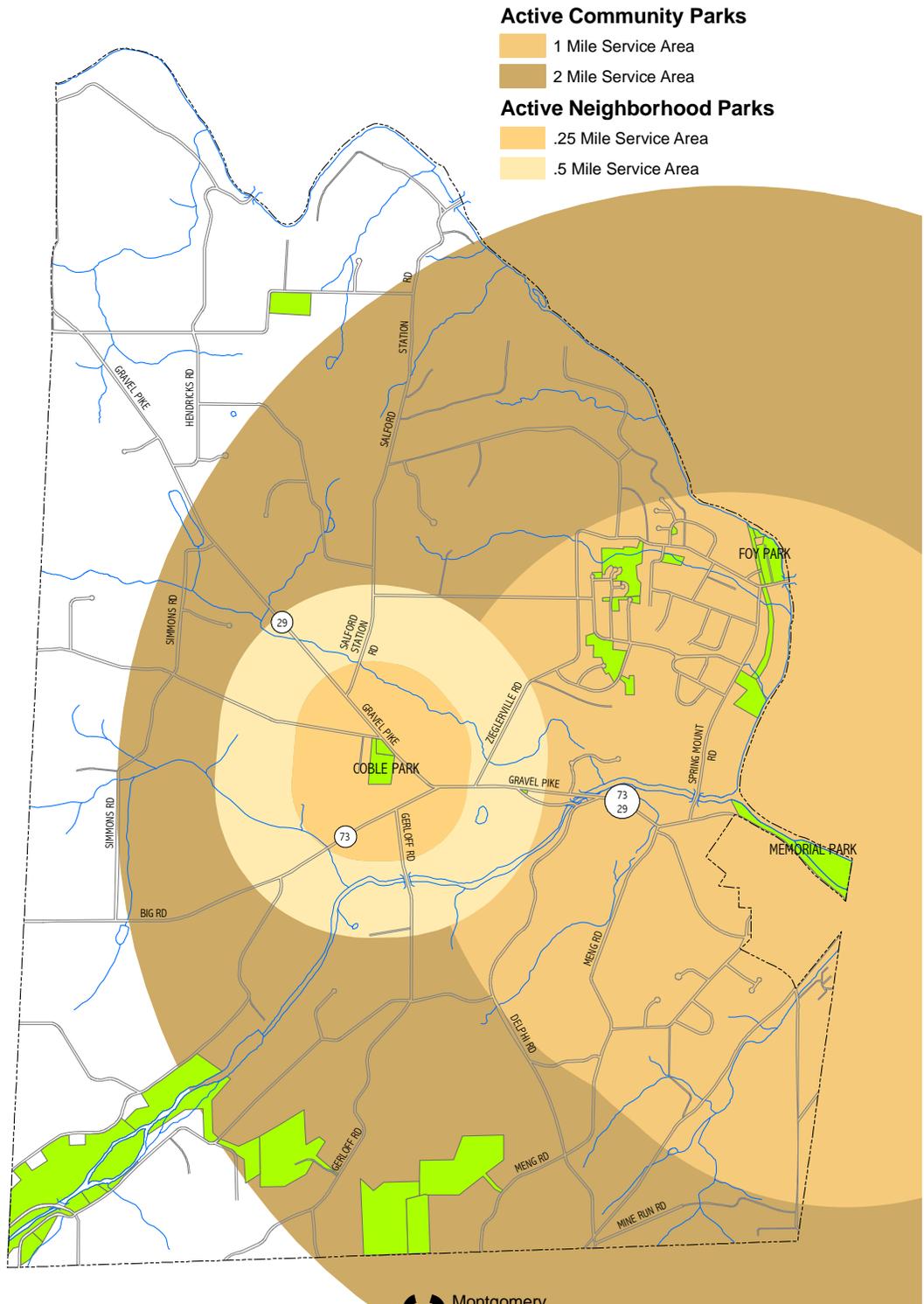
acres. The remainder of the neighborhood parks primarily provide passive recreation opportunities.

COMMUNITY PARK LANDS

Community park lands are larger than neighborhood parks and generally have more than 20 acres. These park lands should be centrally located to serve the active and passive recreation needs of more than one neighborhood and, if possible, the entire community. These park lands should serve residents within a one- to two-mile radius. Although most township residents will probably travel to community park lands by car, these parks should also be accessible by pedestrians and bicyclists. It is especially important that the community park lands be accessible by foot and bike from residents living within a half mile of the park, so that the community park lands can also

serve as neighborhood park lands for those living nearby. Community park lands in Lower Frederick, owned by the Township and/or County, total 190.06 acres and include Memorial Park, Sunrise Mill, and Stone Hill. Although it seems Lower Frederick has a substantial amount of community park land, nearly 80 percent of the land is from Sunrise Mill which has an historic site in Limerick Township, but is mainly used as passive open space. Memorial Park, a 26.3 acre County-owned park only accessible through Schwenksville Borough, is the only community park in Lower Frederick that provides active recreation space. However, Coble Park, which by acreage alone does not qualify as a community park, functions as a community park in the Township.

Figure 34
Public Open Space Service Areas



Active Community Parks

- 1 Mile Service Area
- 2 Mile Service Area

Active Neighborhood Parks

- .25 Mile Service Area
- .5 Mile Service Area

MCPC Montgomery
County
Planning
Commission

0 1,200 2,400 4,800 Feet

Base map prepared March 2002

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This map is based on 2000 ortho photography and official sources. Property lines were compiled from individual block maps from the Montgomery County Board of Assessment Appeals, with no verification from the deed. This map is not meant to be used as a legal definition of properties or for engineering purposes.

OPEN SPACE NEEDS

National park and recreation standards are helpful in determining how well Lower Frederick’s existing open space serves the needs of Township residents. The National Recreation and Park Association (NRPA) standards have been widely accepted and used for many years. The Recreation, Park and Open Space Standards and Guidelines provide level of service (LOS) recommendations and recognize that the residents should determine the size and use of land set aside for parks and recreation facilities in their communities. Many municipalities use a combination of the 1983 and 1996 standards when determining open space need. The NRPA standards mainly apply to recreational uses, rather than passive

or natural open space, as there are no minimum or maximum standard recommendations for natural resource protection areas.

The 1983 NRPA’s population ratio method estimates that 6.25 to 10.5 acres of municipally owned and developed open space per 1,000 people is a useful guide. The ratio should increase as the population density increases. Therefore, a less developed Township like Lower Frederick would apply a lower ratio than a more developed municipality such as Schwenksville and Colledgeville Boroughs. For the purposes of this plan, both the low and high ratios are used to create a range for evaluating existing conditions and to perhaps establish an acreage goal for the community. For example, the

Figure 35
Open Space Needs

Projected Population*	2000		2010		2025	
	4795		6130		8490	
Range	From	To	From	To	From	To
	Recommended Acreage**					
Community	24	38	31	49	42	68
Neighborhood	6	12	8	15	11	21
Total	30	50	38	64	53	89
	Existing Acreage					
Community	26.3		26.3		26.3	
Neighborhood	6.2		6.2		6.2	
Total	32.5		32.5		32.5	
	Difference					
Community	2	-12	-4	-23	-16	-42
Neighborhood	0	-6	-1	-9	-4	-15
Total	3	-18	-6	-32	-21	-57

Sources: U.S. Census Bureau; MCPC; NRPA

* Projected Population

** Recommended Acreage - Range per 1000 persons as follows:

Community Level = 5.0 - 8.0 acres; Neighborhood Level = 1.25 - 2.5 acres;

Total = 6.25 - 10.5 acres

midpoint value of the recommended range may be a good target.

Further, the NRPA recommends that the developed open space consist of a core system of parkland, distributed among mini parks (such as tot lots), neighborhood parks, and community parks. Each component, should have a defined "service area" and provide for specific uses (active and/or passive). For the NRPA analysis of Lower Frederick's park lands, Coble Park is considered a neighborhood park with active recreation; Memorial Park is classified as a Community Park. Figure 35 shows the results of applying the 1983 NRPA standards.

Lower Frederick currently meets both the low-end neighborhood and community park acreage needs for the community's 2000 population. It is deficient for the high end recommended acreage. By 2010 and beyond, the Township's growing population will need more community and neighborhood park space, as it will be deficient in both areas, according to the calculations. The Township's 26.3 acres of community park and 6.2 acres of neighborhood park that provide active recreation will no longer serve the residents adequately. The deficit in recreational public open space is further increased by 2025, when the Township's population is projected to reach nearly 8,500 residents. The total deficit of active recreation spaces within the Township could be overcome by creating or expanding current neighborhood-level parks that provide active recreational space and acquiring new lands within the Township, especially around the growth

areas of Zieglerville and Spring Mount.

It should be noted that private open space and open space used primarily for passive recreation are not accounted for in these calculations. In particular, the Central Perkiomen Valley Middle School provides many acres of active recreation facilities along Route 73 (Big Road). Facilities include football and baseball fields, tennis courts, and a running track. Although the School's property is not used for the calculations in Figure 35, the Middle School property can serve as an asset to the Township. If the School property was included in the above calculations, the Township would fulfill the active recreation needs of the community.

PASSIVE OPEN SPACE

As mentioned earlier, there is no standard to determine how much acreage should be devoted to passive open space uses or natural resource areas. Lower Frederick has chosen to create passive park land along its creeks and woodlands, and therefore has extensive passive recreation areas.

Lower Frederick's passive recreation land includes preserved areas along the Swamp Creek greenway and Stone Hill Preserve, historic buildings and monuments at Sunrise Mill (in Lower Frederick, Limerick, and Upper Frederick Townships) and Veterans Memorial. Picnic tables and pavilions are available at various open spaces and parks. Walking trails, woodlands, streams, historic farmland and gardens, fields, and steep slope areas are also included in this category.

CONCLUSION

Lower Frederick Township does not have enough areas with active recreation (and acreage) to satisfy current and future needs according to the NRPA standards; however, it is anticipated that implementation of the Central Perkiomen Valley Regional Plan will reduce and direct overall growth in the region over the next 20 years. In Lower Frederick, it is anticipated that the population will grow more slowly than most recent population projections forecast, thus creating less demand for active recreation facilities than the projections depict in this chapter. Besides the Regional Planning effort, the active recreational needs outlined in this chapter do not take into account other factors that effect the amount of open space for which the Township should plan.

The Central Perkiomen Valley School District's property along Big Road (Route 73) is one property that is not included in the calculations as an active recreation open space site, but it contributes greatly to the active recreation space available in the Township. If the rate of growth in the Township is limited by the Regional Plan implementation changes, then the land currently dedicated as active recreation open space may be somewhat sufficient for residents for the next 20 years. However, since new population projections have not been determined for the next 20 years, it is always sensible to plan for the needs of a larger population than what is projected. In Chapter 10 Recommendations of this plan, the Township outlines areas for possible acquisition of active recreation sites.

CHAPTER 9

EVALUATION OF COUNTY AND ABUTTING MUNICIPAL PLANS

The preceding chapters investigated the resources, needs, and opportunities that exist within Lower Frederick. With this information, recommendations can be made to effectively serve Township residents. However, the land use decisions that the Township makes affect the larger region just as decisions made in neighboring municipalities affect Lower Frederick. Therefore, this open space planning effort should not be performed in the vacuum of municipal borders, but consider planning efforts in surrounding municipalities.

This chapter outlines the open space recommendations of the County Comprehensive Plan, the Central Perkiomen Valley Regional Comprehensive Plan, and the plans of abutting communities. The intent is to prevent conflicts between these plans and those of Lower Frederick Township and to encourage collaboration of efforts. By gaining an understanding of how the Lower Frederick Open Space Plan will fit into the larger open space and trail linkage picture, partners can optimize both the quantity and quality of future open space preservation and management.

COMPARISON TO MONTGOMERY COUNTY COMPEHENSIVE PLAN

In 2001, Montgomery County began updating its Comprehensive Plan which was adopted in September 2005. This plan will help guide the growth of housing, transportation, economic development, community facilities, and natural and cultural resource management, through 2025 and beyond. Each of these factors could potentially bear great significance on open space needs and opportunities in Lower Frederick and the Central Perkiomen Valley region.

The Vision Plan section of the County Comprehensive Plan determined four issues as the highest priority, for action by 2025, based on a survey of County residents:

- Controlling sprawl
- Controlling traffic congestion
- Preserving open space/natural areas
- Revitalizing older boroughs and townships

Lower Frederick Township’s Open Space Plan addresses these issues by preserving

open space in both rural and growth areas, increasing linkages and accessibility in the Township to control congestion, and maintaining existing open space. This plan seeks to complement the County’s objectives, specifically through the preservation of open space and natural areas.

APPLICABLE COUNTY GOALS

The draft version of the Comprehensive Plan lists 48 goals that describe and expand upon the Vision of the County in 2025. Several of these goals parallel those in this Open Space Plan, adding strength to the recommendations set forth in the following chapter. These select goals are listed in the box below.

In addition, the County Comprehensive Plan has a specific volume dedicated to Open Space, Natural Features, and Cultural Resources. The Lower Frederick Open Space Plan complies with many of the recommended and proposed elements in the County Comprehensive plan, including the development of a Swamp Creek (Sunrise) Greenway and a trail starting at the Perkiomen Creek and

Applicable County Comprehensive Plan Goals

<p>LAND USE</p> <ul style="list-style-type: none"> • Direct development to designated growth areas • Preserve rural resource areas • Preserve and create community identity and a sense of place <p>OPEN SPACE, NATURAL FEATURES, & CULTURAL RESOURCES</p> <ul style="list-style-type: none"> • Preserve large interconnected areas of significant open space • Create a greenway system along rivers, creeks, 	<p>and other sensitive natural and historic features</p> <ul style="list-style-type: none"> • Protect scenic roads, vistas, and viewsheds <p>TRANSPORTATION</p> <ul style="list-style-type: none"> • Increase opportunities to walk, ride a bike, or other nonautomotive transportation means <p>COMMUNITY FACILITIES AND UTILITIES</p> <ul style="list-style-type: none"> • Integrate educational and cultural facilities into communities • Attract and retain business by maintaining a high
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along the edge of the Swamp Creek. Other elements of the Lower Frederick Open Space Plan that complement the County's Plan include preservation of lands in Stone Hill (a County Focus Area) and creating local linkages.

RELATION TO PLANS OF ABUTTING MUNICIPALITIES

Four townships and one borough abut Lower Frederick Township. The current open space policies, zoning and other pertinent information of each municipality are summarized below. Adjacent, yet incompatible, land uses may result in conflicts while potential linkages could lead to cooperative partnerships between municipal neighbors.

UPPER SALFORD TOWNSHIP

In Upper Salford Township's 1996 Open Space Plan, the township acquired a few

large open space properties, including lands for Moyer Road Park, Orchard Park and the Spring Mountain House Property (in conjunction with Schwenksville Borough). The community completed the update to its Open Space Plan in 2005. Upper Salford Township's main priority is to expand protection of the Spring Mountain area, which is situated near the eastern edge of Lower Frederick Township. In its Open Space Plan update, Upper Salford notes the Perkiomen Creek is an obstacle in facilitating possible connections with Lower Frederick; however, the Township does note the Perkiomen Trail has created a favorable connection in the Spring Mount area of Lower Frederick Township, to Upper Salford.

PERKIOMEN TOWNSHIP

Bordering Lower Frederick Township to the south, Perkiomen Township shares a small portion of open space, the Rolling Turf Golf Course, with Lower Frederick. Perkiomen Township adopted its update of the 1994 Open Space Plan in June 2006. Goals in the newest Open Space Plan include preserving agricultural land, providing active recreation opportunities, linking existing open space, and protecting natural resources. One highlight of particular importance to Lower Frederick is Perkiomen's interest in the location of the future Sunrise (Swamp Creek) Trail. Perkiomen Township would like local residents to have access to the Sunrise Trail by way of the Perkiomen Trail in Schwenksville.

Perkiomen Township is also a member community under the Central Perkiomen



Perkiomen Trail to Upper Salford

Valley Regional Comprehensive Plan, with Lower Frederick Township. Updates to each municipality's zoning ordinance will be made in the coming year to comply with the regional standards set forth in the Plan.

LIMERICK TOWNSHIP

Limerick Township, which borders Lower Frederick to the south, drafted its Open Space Plan Update dated December 2005. In the previous County Open Space Program, Limerick preserved lands for two community parks and nearly 27 acres in the Stone Hill Greenway, which it shares with Lower Frederick. The Township's new Open Space Plan update focuses on four main goals: 1) conserving more environmental resources; 2) establishing more publicly accessible open space; 3) furthering farmland preservation; and 4) preserving historic resources.

A primary recommendation of Limerick's 2005 Open Space Plan is to save more open space in the rural northern area of the Township through acquisition of parcels located adjacent to lands already preserved. The northern area of the Township borders Lower Frederick and includes Sunrise Mill and Stone Hill, both focuses of Lower Frederick Township's Open Space Plan. In addition, Limerick expresses interest in connecting Limerick Community Park to Sunrise Mill and possibly to the State Game Lands and Stone Hill Greenway. Limerick Township also expresses an interest in connecting the community to the existing Perkiomen Trail via the Mine Run corridor or Swamp Creek corridor, both in Lower Frederick Township. A joint partnership to preserve

open space with Limerick Township is a possibility that Lower Frederick should explore.

UPPER FREDERICK TOWNSHIP

As a member community under the Central Perkiomen Valley Regional Plan, Upper Frederick Township is also a rural township with fewer developed areas than Lower Frederick. Upper Frederick has an abundant amount of open space, including portions of the County's Green Lane Park and Sunrise Mill. The Township is currently updating its Open Space Plan, and it is anticipated that Upper Frederick will include connections to the proposed County Sunrise (Swamp Creek) Trail and the West County Trail. Of particular importance to Lower Frederick, is Upper Frederick's dedication to expand the Sunrise Mill greenway, which is an important open space and cultural resource in Lower Frederick. The Scioto and Goshenhoppen Creeks are also possible open spaces that could connect Upper Frederick with Lower Frederick.

SCHWENKSVILLE BOROUGH

Schwenksville Borough borders Lower Frederick in the southeastern portion of the Township, near Spring Mount. Schwenksville and Lower Frederick share two major roads in the Central Perkiomen Valley (Routes 29 and 73) and this leads to many opportunities for coordination among the municipalities. In addition, the Borough and Township also share Memorial Park, a 26-acre recreational site owned by Montgomery County. Schwenksville recently completed its Open Space Plan update and highlights

pertinent to Lower Frederick Township include a focus on the Perkiomen Trail, Spring Mountain House, Memorial Park linkages and the proposed County Sunrise (Swamp Creek) Trail.

Specifically, Schwenksville would like to coordinate with Montgomery County and Lower Frederick Township on the location of the Sunrise (Swamp Creek) Trail. The conceptual trail alignment indicates that the trail will start at Park Avenue in Schwenksville, along the edge of Memorial Park, and continue along this county owned land adjacent to Route 29 before it crosses to follow the Swamp Creek into Lower Frederick Township.

**OTHER PLANS
REGIONAL PLAN**

The Central Perkiomen Valley Regional Plan was adopted in June 2005. This plan

involves the communities of Lower Frederick, Collegeville, Schwenksville, Perkiomen, Trappe, and Upper Frederick. The plan highlights the importance of investment in open space and regional economic development. Specifically, some of the plan’s objectives include: preserving and protecting the environmentally sensitive areas and natural resources in the region, coordinating open space and recreational opportunities between member municipalities, encouraging linkages between public open space and the Perkiomen Trail, and developing active and passive recreational opportunities in the region.

CONCLUSION

The planning efforts of Montgomery County, various municipalities adjoining Lower Frederick, and the Regional Planning Commission shape the scope under which this plan is defined and the capacity for Lower Frederick to facilitate cooperation with partners for the acquisition and preservation of open space.



Swamp Creek at Gerloff Road

CHAPTER 10

RECOMMENDATIONS

Chapter 10 details Lower Frederick’s recommendations for meeting its open space goals (outlined in Chapter Two): **1) preserve natural resources and scenic character, 2) maximize active recreation opportunities, 3) facilitate pedestrian and bicycle mobility, 4) preserve agricultural heritage, and 5) accommodate efficient growth.**

The recommendations are tools for addressing the action steps associated with the five goals. They correspond to the township’s overall preservation plan, and focus on creating a sustainable network of connected open space parcels. Criteria to guide the township’s actions are included because portions of properties could potentially be considered for integration into Lower Frederick’s open space network. In addition to those recommendations listed in the first section of this chapter, also described are a number of alternative preservation and conservation methods available to the township in addition to outright purchase.

GOAL: PRESERVE NATURAL RESOURCES AND SCENIC CHARACTER

Preservation of important natural resources is a primary goal of this plan. These natural resources include: stream valleys, floodplains, wetlands, significant headwaters, steep slopes, woodlands, and wildlife habitat as well as various scenic views.

The Township will use the following criteria to identify large areas of environmentally sensitive land for open space preservation:

- Proximity to existing preserved lands,
- Ability to connect existing preserved tracts and parcels of significant size,
- Proximity to unique, ecologically significant natural features,
- Potential for trail access,
- Areas associated with groundwater and flood protection.

In addition to the criteria listed previously, the Township recommends the following actions for preservation of natural resources and scenic character:

- **Identify, protect, and preserve natural resources**, in areas such as: the Mine Run corridor, Salford Station/Cononial Drive area, Gravel Pike, Swamp Creek/Stone Hill Greenway, and Spring mount Creek headwaters. Some of these areas are specifically mapped in Figure 37 on page 84, where opportunities for easements or acquisitions may be available; however, all areas identified are considered important areas for resource protection.
- **Create greenway connections among protected resource areas.** The Township envisions greenways along its major streams (see Figure 36) and in other areas where large open space parcels have the capacity for preservation.
- **Revise municipal ordinances** to further protect stream corridors, steep slopes, floodplains, wetlands, and riparian corridors, woodlands, wildlife habitat and greenway connections, and other natural resource amenities.
- **Preserve the wellhead protection zone** surrounding Schwenksville Borough Authority water storage facility on Zieglerville Road.
- **Educate landowners** regarding the benefits of natural resource protection and stewardship guidelines.
- **Pursue acquisitions of preserved riparian buffers along all major streams** whenever possible (see Figure 36). The Township has not created a hierarchy of streams because it believes all its streams provide open space benefits. The streams provide many open space opportunities for trails and trail connections, open space and corridor protection, as well as



Lower Frederick Township would like to preserve natural resources such as the Perkiomen Creek, pictured here.

Figure 36
Stream Corridor Protection and Preservation Priorities



Figure 37
Properties for Potential Open Space Preservation

PROPERTIES FOR POTENTIAL OPEN SPACE PRESERVATION				
Map	Name	Location	Acreage	Potential Preservation
A	Cabin Craft Ski Shop, Inc.	2 Main Street	7	Active Recreation & Trails
B	David Blackwell Property	127 State Game Farm Rd	47.94	Natural Resource/Easements
C	Donald Rorabaugh Property	Gerloff Rd	16	Natural Resource Protection
D	Jensen Property	1400 N. Gravel Pike	90	Natural Resource & Trails
E	Kirk Grater Property	11 Smith Road	39	Natural Resource/Easements
F	Lily Keown Property	1101 N. Gravel Pike	39.5	Natural Resource Protection
G	Lorry Barber Property	333 Salford Station Road	77.15	Natural Resource Protection
H	Mollie Furia et al Property	Meng Road	56	Natural Resource Protection
I	Ram Investors LP Property	18 Colonial Drive	18-20	Natural Resource Protection
J	Schwenksville Borough Authority	Zieglerville Rd	38	Active Recreation & Trails
K	St. Johns Reformed Church	101 Colonial Drive	3.99	Linkage to Perkiomen Trail
L	Kenneth & Masue Oelschlager	Salford Station Rd	12.89	Natural Resource, Recreation & Trails
M	Harold & Victoria Oelschlager	Salford Station Rd	13.12	Natural Resource, Recreation & Trails
N	Ruth Hopkins	1237 N. Gravel Pike	28	Natural Resource, Recreation & Trails

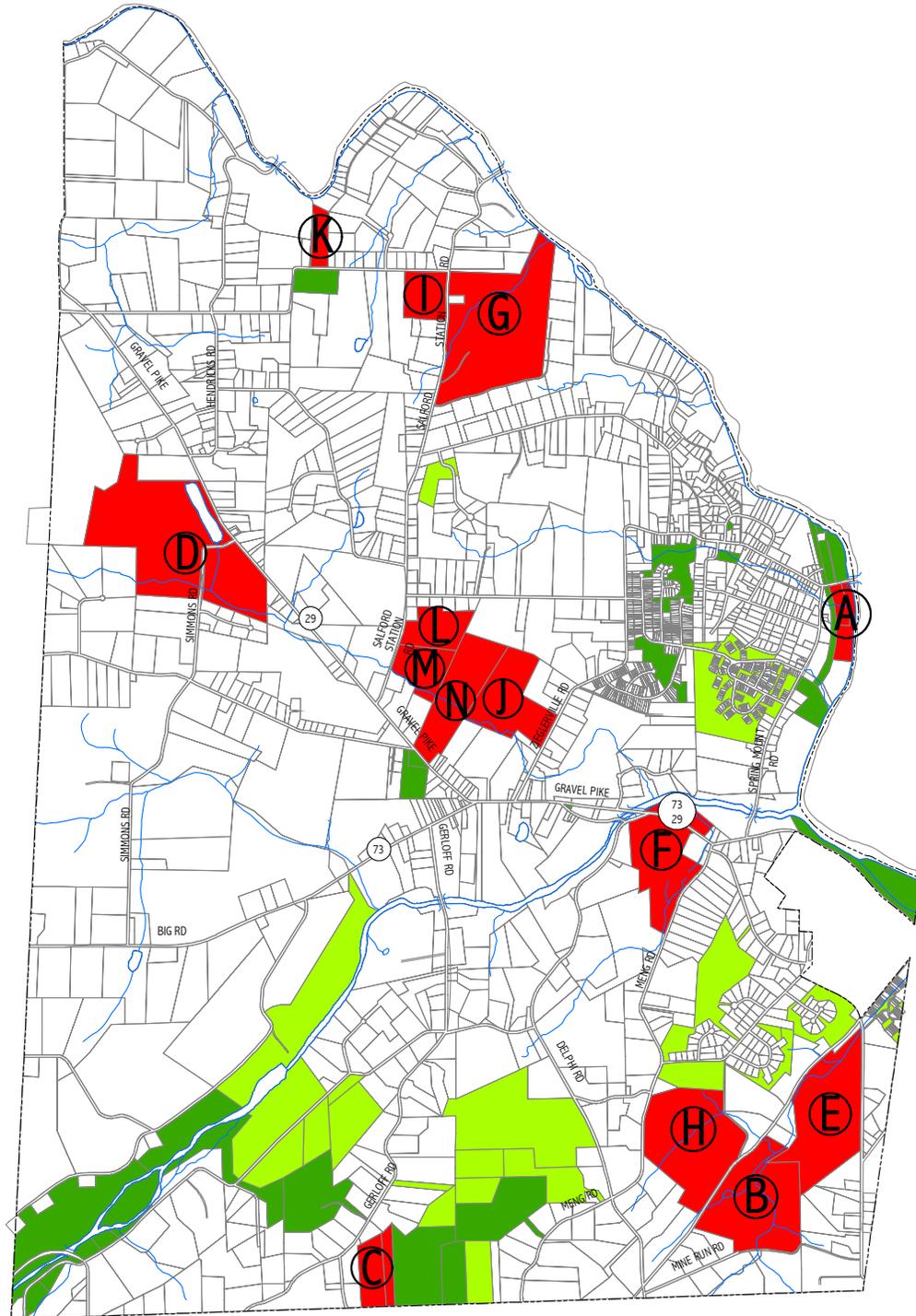
enjoyment of their scenic assets.

In addition to the criteria and general recommendations listed above, the Township has identified key parcels for open space preservation and protection—including passive and active open space opportunities, as well as trail opportunities. These properties are listed in Figure 37 below and mapped in Figure 38 on the following page. The parcels have been identified due to their natural resource amenities and/or trail potential and may be preserved in several ways, including acquisition, easement acquisition, farmland preservation (for applicable properties), as well as private preservation. The Township encourages preservation through various methods suitable to both landowners and the public.

GOAL: MAXIMIZE ACTIVE RECREATION OPPORTUNITIES

Providing an adequate park system with an appropriate mix of uses is a municipal responsibility; however, the needs of individual communities are different. As

Figure 38
Potential Open Space Preservation Parcels



- Private Open Space
- Public Open Space
- Parcels for Open Space Preservation

MCPC

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time passes, needs within communities change, and as a result, local municipalities must remain knowledgeable of residents' recreational needs. Recommendations to address current and future park and trail linkage needs include:

- **Acquire parcels in Spring Mount for use as active recreation sites.** Specifically, the Township has identified the Cabin Craft Ski Shop Inc. property (2 Main Street) as a potential site for active recreation.
- **Pursue the right to use the Schwenksville Water Authority property,** located along Zieglerville Road, for active recreational facilities complementary to Coble Park and to

serve population concentrations in Zieglerville and Spring Mount.

- **Closely monitor and enforce current requirements set forth in the subdivision and land development ordinance** for dedicated open space in new residential projects, and encourage developers to provide active recreation facilities within the dedicated land.
- **Enhance and expand existing park facilities** to meet current and future needs.
- **Explore ways to optimize residents' use of the new Middle School's recreational facilities.**

GOAL: FACILITATE PEDESTRIAN AND BICYCLE MOBILITY

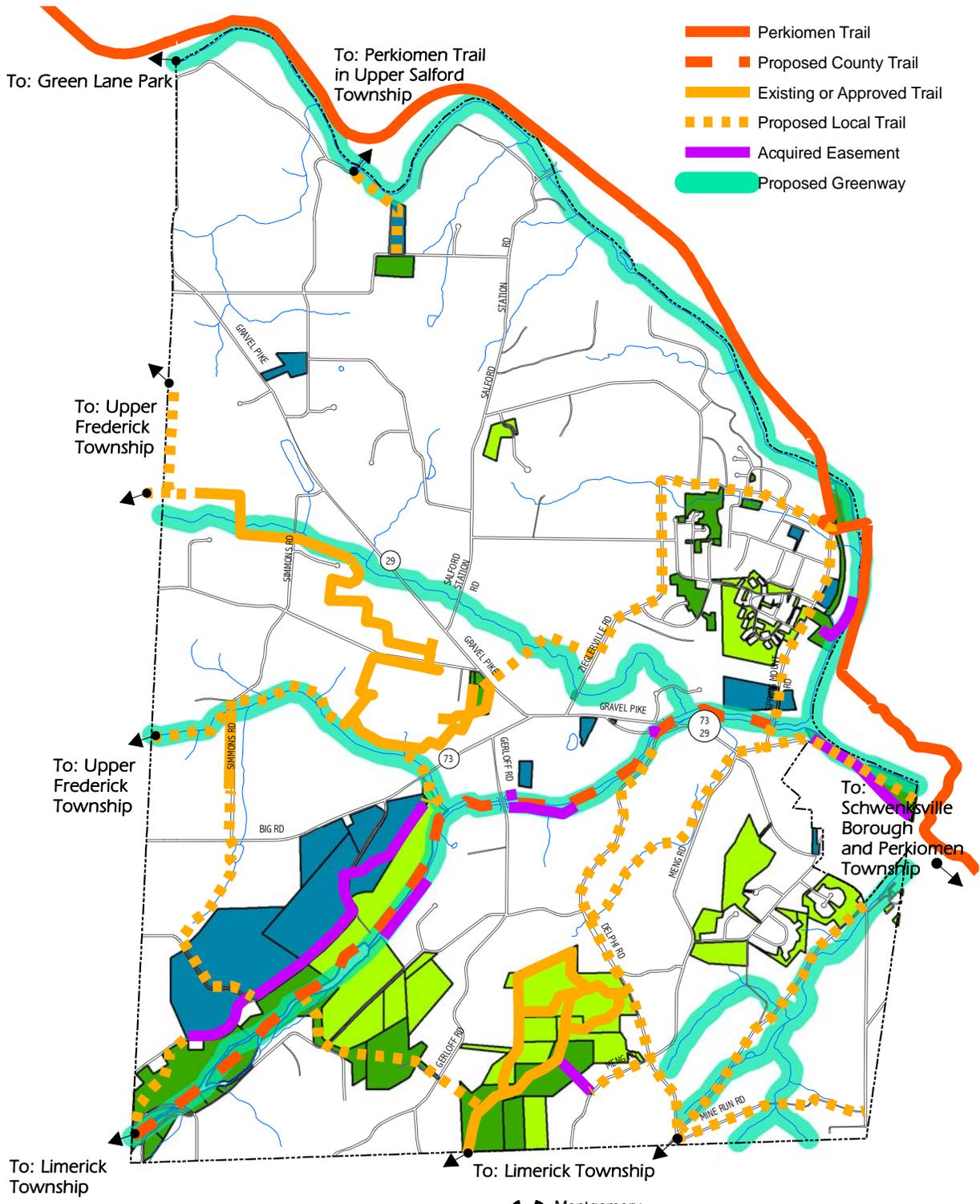
Linking new and existing open space is an effective way to expand passive and active recreation opportunities, as well as preserve essential natural linear features. The most significant linear features within the township are its five waterways: Perkiomen Creek, Goshenhoppen Creek, Swamp Creek, Scioto Creek and Mine Run. Sidewalks and roadside shoulders are other linear features the township can use when creating a comprehensive, cohesive network of pedestrian and bicycle routes. Recommendations related to mobility and linkages are mapped in Figure 39 and include the following:

- **Link residential developments to Coble Park,** especially new residential developments in the Township.
- **Restore the Old Gravel Pike Bridge for pedestrian trail use.** The Bridge is along the proposed Swamp Creek



Old Gravel Pike Bridge, above, is an ideal place for pedestrians to cross the Swamp Creek in the future

Figure 38
Potential Linkages



Existing Land Use

- Institutional
- Public Open Space
- Private Open Space

MCPC Montgomery County Planning Commission
 Montgomery County Courthouse - Planning Commission
 PO Box 311 • Norristown PA 19404-0311
 (p) 610.278.3722 • (f) 610.278.3941
 www.montcopa.org/plancom

This map is based on 2000 ortho photography and official sources. Property lines were compiled from individual block maps from the Montgomery County Board of Assessment Appeals, with no verification from the deed. This map is not meant to be used as a legal definition of properties or for engineering purposes.

0 1,200 2,400 4,800 Feet
 Base map prepared March 2002

Trail, which will follow Swamp Creek to Sunrise Mill and beyond.

- **Create a linkage between the Stone Hill Greenway and Zieglerville.** This includes re-opening a trail along Delphi Road from Meng Road to Mine Hill Road.
- **Improve the pedestrian connection from the eastern edge of Sunrise Mill to the Stone Hill Greenway.**
- **Link Lower Frederick’s growth areas**—Spring Mount and Zieglerville; and, improve sidewalks and roadside shoulders to accommodate pedestrian and bicycle traffic. The development of a bicycle and trail plan will demonstrate the best manner in which to accomplish these linkages and improvements.
- **Explore acquisition and easement opportunities for parcels adjacent to waterways,** for trail development or natural resource protection.
- **Acquire property that provides a link from Cuddy Park to a portion of the Perkiomen Creek,** with potential connection to the Perkiomen Trail in Upper Salford.

- **Develop a looped trail on the west side of the Perkiomen Trail** in Lower Frederick.
- **Link Swamp Creek to the Perkiomen Trail,** as part of the proposed County Swamp Creek Trail.

GOAL: PRESERVE AGRICULTURAL HERITAGE

The township has a diverse and rich history and is culturally identified with an agrarian landscape. There are several recommended actions the township has identified in order to preserve its agricultural heritage from development pressures, including:

- **Promote venues at which farmers might sell their harvest.**
- **Encourage current farmland owners to apply for permanent protection** under various State and County programs.
- **Explore innovative alternatives for farmland preservation,** such as transfer of development rights programs.
- **Direct future development to targeted growth areas,** such as Zieglerville and Spring Mount; discourage development in the designated Rural Resource Area.



The Jensen Farm, located on Route 29, is a prime example of the agricultural heritage the Township would like to preserve

Numerous properties within the Township remain not just agrarian, but cultural landmarks. In particular, the 90-acre Jensen farm, located at 1400 N. Gravel Pike (and pictured to the left), is a primary example of the type of land use that epitomizes the active farm uses, the more general agricultural heritage and scenic agricultural landscapes that the Township is trying to preserve.

GOAL: ACCOMMODATE EFFICIENT GROWTH

As a member of the Central Perkiomen Valley Regional Planning effort, Lower Frederick would like to continue efforts to direct growth to growth areas and preserve areas designated as Rural Resource. Recommendations include:

- Implement the recommendations of the Regional Comprehensive Plan regarding rural resource conservation, protection of natural features, and provision of open space for active and passive

recreation.

- Enforce zoning performance standards (environmental adjustment factors) that relate intensity of development to the capacity of the land to sustain it.
- Pursue opportunities for small scale pocket parks in Spring Mount and Zieglerville. Figure 40 shows undeveloped land in the villages which may be acquired for use as pocket parks.

ACQUISITION METHODS

FEE SIMPLE ACQUISITION

The most direct and sometimes most appropriate means of obtaining land for parks and open space is through fee simple purchase. The main advantage of this procedure is that an entire parcel of land belongs to the organization purchasing the land. However, the expense of fee simple purchase can sometimes exceed available funding sources.

CONSERVATION EASEMENTS

Conservation easements are used to preserve land at a relatively low cost without acquiring it. With a conservation easement, the land remains privately-owned; however, the owner voluntarily agrees to donate or sell the right to develop the land. A restriction is placed in the deed of the property, which then becomes binding on all future owners of the land. The easement can be written in many different ways to restrict or not restrict certain types of activities. Conservation easements can prohibit the construction of new buildings and cutting down

Figure 40
Undeveloped Lands in Spring Mount and Zieglerville

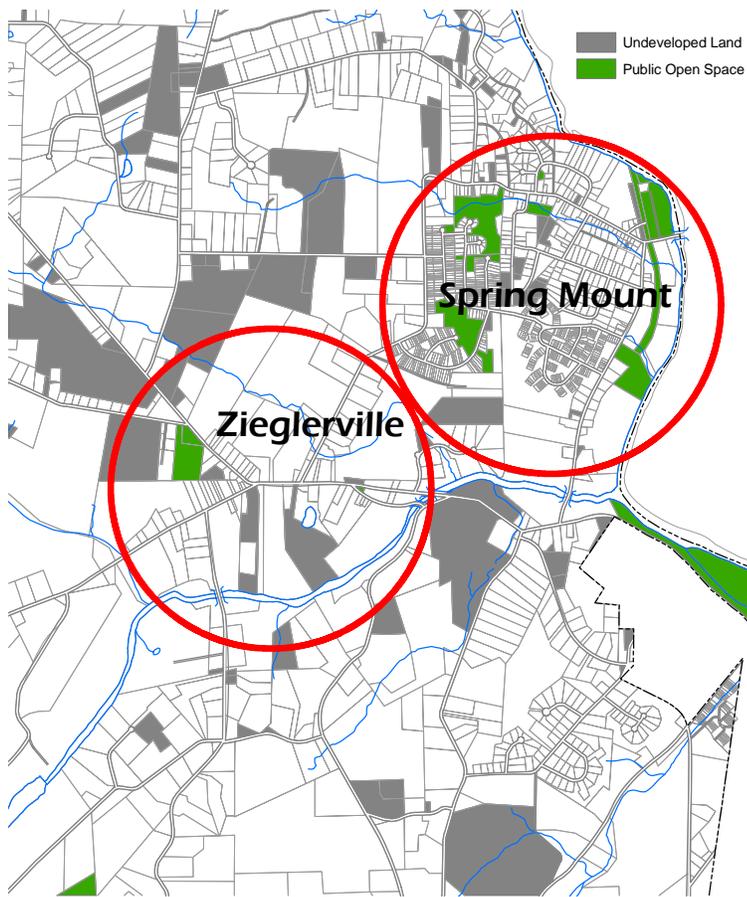
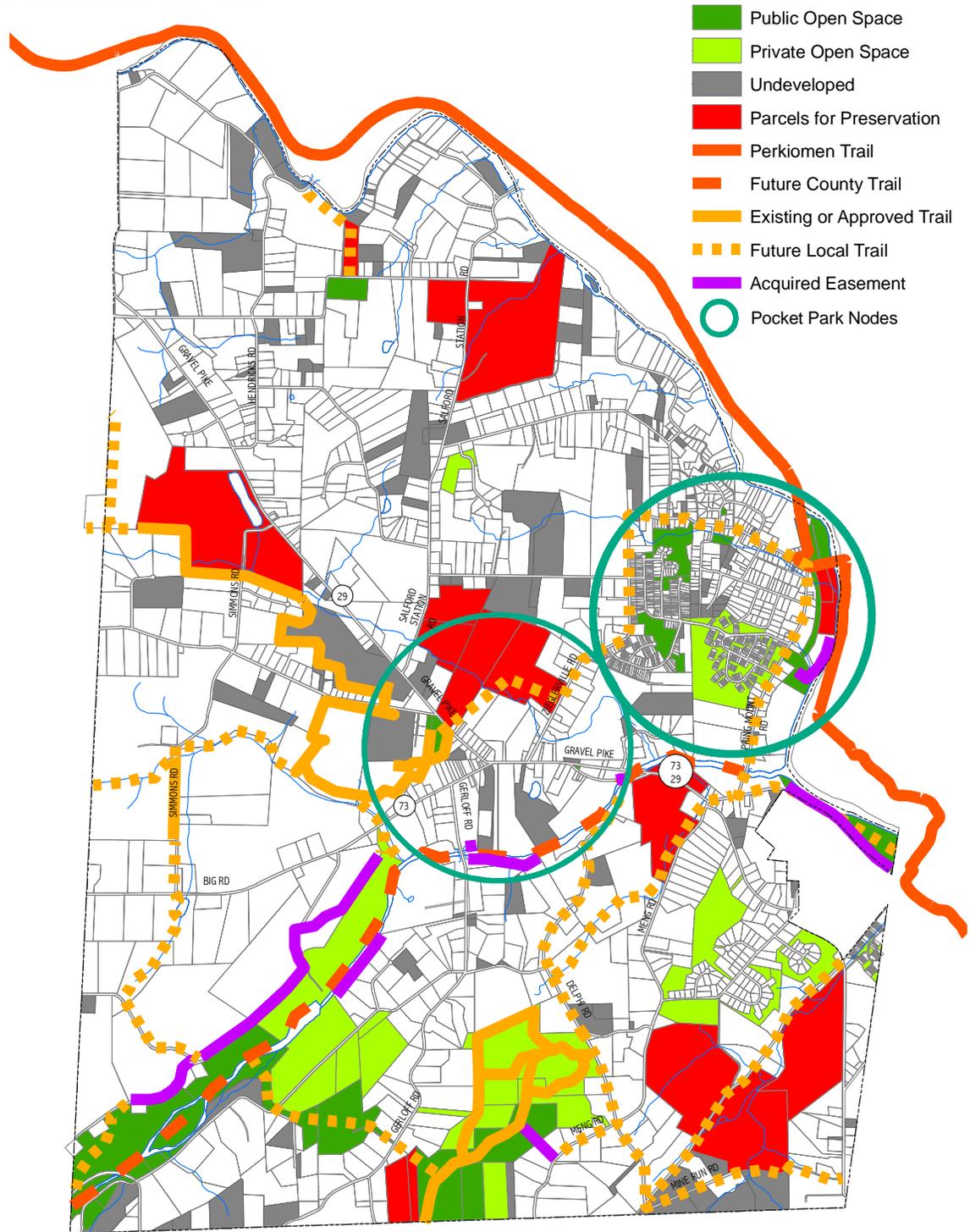


Figure 41
Recommendations at a Glance



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0 1,200 2,400 4,800 Feet
 Base map prepared March 2002

Examples of natural resource areas suitable for protection are pictured below from top to bottom: Simmons Road at the Scioto Creek; Agricultural land on Little Road; and, the Perkiomen Creek at Foy Park



woodlands or limit the amount or locations of development. Often, the granting of a conservation easement can result in federal income tax and local property tax advantages to the property owner.

TRAIL EASEMENTS

A conservation easement can also be combined with a pedestrian easement to give the public the right to walk or hike along a specific area, provided users carefully follow a set of rules. These easements can be particularly useful in connecting two or more greenway segments.

SUBDIVISION AND LAND DEVELOPMENT PROCESS

The dedication of open space through the subdivision and land development process can be used to acquire land for permanent open space protection. The Township permits cluster zoning in its Subdivision and Land Development Ordinance (in the R-1 and R-2 zoning districts) in order to preserve the maximum amount of open space around residential developments.

PURCHASE OF AND LEASE-BACK OR RESALE

In certain cases, it is appropriate for a municipality to purchase land in fee simple, place restrictions on the deed prohibiting certain uses (e.g. residential development) and lease it back to interested parties. One advantage of this method is that the municipality can purchase land for future use (before the price increases, perhaps prohibitively so) and through leasing, recoup some or the

entire purchase price. In this way, land is maintained as open space and can be developed as a park when future demand warrants. Resale of some or all of the land (after placement of deed restrictions) would maintain open space while also relieving the municipality of maintenance obligations and returning the land to the tax rolls.

EMINENT DOMAIN

Acquisition can occur by exercising the right of eminent domain: where public purpose is well defined, where fee simple acquisition is desired but not possible at a fair price and where the owner is reluctant to sell. It is prudent to view condemnation as a last resort when acquiring land for parks or open space preservation.

NON-ACQUISITION METHODS

Acquisition provides the most control over land use, but can also come at a high financial cost. An important part of open space planning involves understanding and using preservation techniques that are not dependent upon land acquisition. Such preservation might add to the public open space system or may largely be privately held land. The techniques below are possible ordinances and amendments intended to enhance open space planning and natural resource protection.

NATURAL RESOURCE PROTECTION ORDINANCES

The ordinances discussed below protect specific natural features to help maintain

soil structure, water quality and quantity, reduce losses due to flooding and aesthetic values. Lower Frederick can adopt new ordinances or improve existing ordinances that protect natural resources in the Township.

STEEP SLOPES

Land uses and development are restricted on slopes of 15 percent or more under current Lower Frederick Township regulations. Better protection of steep slopes could be achieved by revising the lists of permitted and conditional uses to be more restrictive, allowing only the least intrusive uses and development. Other uses, such as active recreation could be added to the list of prohibited uses. In addition, the standards could be amended to prohibit all uses and development on slopes of 25 percent or more.

FLOODPLAINS

Floodplain ordinances restrict or prohibit development within floodplains, especially within the 100-year floodplain. Although the Township’s current floodplain zoning regulations are generally consistent with state and federal requirements, they could be improved by revising the lists of permitted and conditional uses to be more restrictive. The Township could also consider prohibiting the grading of lands within the floodplain district, except for stream bank restoration projects.

STREAM CORRIDORS

Stream corridor protection ordinances go beyond floodplain ordinances to protect the water quality of the stream in addition to plant and animal habitats. These ordinances have a minimum setback requirement from the stream bank where no development can occur. A minimum setback of 75 feet from each stream bank, for example, will help stabilize the stream bank, control sediment, remove nutrients that would pollute the stream, moderate stream temperature, and preserve wildlife habitat. The area within the setback should be left in its natural state.

Amending the steep slope and floodplain standards could be the first step toward improved stream corridor protection. In coordination with the steep slope and floodplain standards, protection and enhancement of stream corridor vegetation would help stabilize stream banks, remove and absorb nutrients that would otherwise pollute the streams, moderate the streams' water temperatures, and preserve wildlife habitat. Riparian corridor protection standards should be adopted to ensure stream corridor protection for subdivisions and land developments. In addition, an educational program to encourage stewardship on existing privately owned lands would gradually improve stream corridor protection as citizen awareness grows and property owners voluntarily follow riparian standards.

WETLANDS

In addition to federal and state governments, municipalities can regulate development that occurs near wetlands.

Municipalities should prohibit development on wetlands and require wetlands be shown on development plans. While developers can locate homes right next to wetlands (after receiving all the federal and state permits needed), such location might lead to future problems. Homeowners might decide to fill in the wet areas behind their home to have a more usable back yard. To prevent this, local municipalities can require a minimum building setback from wetlands. While federal and state regulations address only the filling of wetland and not the destruction of vegetation within the wetlands, municipalities can take the extra step and require the replacement of destroyed wetlands vegetation.

In addition to federal and state regulations that prohibit or limit intrusion to wetlands, the Township can apply standards to further protect wetlands and maintain their natural functioning. Currently, the Township requires wetlands to be identified and shown on subdivision and land development plans. Wetland protection can be increased by requiring setbacks from the edge of wetlands for disturbance by construction, grading, and removal of existing vegetation. Also, standards could be enacted to maintain wetlands vegetation and available surface and groundwater that created the wetlands.

GROUNDWATER AND STORMWATER MANAGEMENT

There are multiple ways to protect groundwater quality. The first involves stormwater ordinances which include provisions for groundwater recharge and the removal of pollutants from

stormwater runoff. Comprehensive stormwater ordinances also require the identification of “hotspots,” which are land uses that involve the use of certain hazardous materials. The stormwater ordinance imposes more stringent runoff containment measures that help prevent the release of hazardous material into waterways or groundwater via stormwater. Best management practices such as naturalized basins, vegetated swales, rain gardens, bioretention areas or bioswales, and others may be incorporated into the Township’s natural protection ordinances to restore infiltration rates, purify runoff, and manage the volume of stormwater.

A second method of groundwater protection involves the identification of wellhead protection areas. Wellhead protection areas consist of the surface area around a well that directly contributes to recharging the well. Wellhead protection ordinances regulate the contribution area by restricting the uses permitted, limiting the intensity of development, and by regulating land management techniques. A municipality can also impose design standards that would not allow, for example, hazardous material containment structures or large impervious areas, such as parking, to limit potential groundwater pollution.

CANOPY TREES & WOODLANDS

The Township’s Subdivision and Land Development Ordinance requires development proposals to minimize the loss of mature trees, significant or rare species, tree masses, and woodlands. It

also allows some preserved vegetation to be counted in lieu of required new plantings. These standards could be strengthened by more restrictive provisions or by greater incentives to preserve existing trees. Some communities require replacement of trees removed for development, using a ratio to determine how many new trees must be planted to compensate for those removed. For the average citizen, an educational program could encourage stewardship on existing privately owned lands that are not proposed for subdivision or land development.

Protection of existing trees and woodlands can be accomplished with woodland preservation ordinances. Some ordinances provide minimum standards that must be followed during construction for trees that will remain. Other ordinances allow developers to plant fewer street trees, buffers, or individual lot trees when existing trees are preserved. Tree replacement is another requirement of some ordinances.

TRANSFER OF DEVELOPMENT RIGHTS

This method of preserving rural land transfers development rights from rural areas to growth areas. With a transfer of development rights (TDR) program, rural landowners can sell their development rights to developers in growth areas instead of developing their rural land. Lower Frederick does not have the capacity to sustain this type of preservation program individually; however, on a regional scale it may be viable.

HISTORIC PRESERVATION ORDINANCES

While not directly related to open space preservation, historic preservation ordinances help save historic properties that add to the character of an area and are considered cultural assets. There are a number of techniques that communities can use for historic preservation.

Communities can amend their building codes to require a review before demolition permits are issued. This method delays demolition and allows for community input. Communities can also amend their zoning ordinance to encourage historic preservation by creating a village ordinance that gives development bonuses for preserving buildings or restricts the uses within the district. Incompatible uses with historic areas, such as gas stations, are not permitted in these districts. Lower Frederick recently adopted the Village Mixed-Use District in Zieglerville to encourage historic preservation by allowing historic buildings to have more uses than normally permitted in a particular district. For example, apartments, bed and breakfast establishments, or offices might be permitted in historic homes located in a single-family detached residential district.

A third possibility is that communities can create historic districts with approval of the Pennsylvania Museum Commission. This approach is more restrictive than the previous approaches discussed. Once a historic district is created, municipalities have stringent control over design and preservation of facades. A township or borough architectural review board is required to be created to review all proposed changes to historic buildings.

CONCLUSION

Included in this chapter were several recommendations for open space preservation, natural resource protection, and park, trail, and recreation development. Lower Frederick Township has identified sites for preservation and highlighted both acquisition and non-acquisition methods to meet the five open space goals stated in Chapter Two. To implement the recommendations outlined in this chapter, Lower Frederick Township has comprised an implementation strategy, including possible funding sources, which is outlined in the following chapter.

CHAPTER 11

IMPLEMENTATION

BACKGROUND

Implementation is perhaps the most important part of any plan as it establishes a timeframe to guide Lower Frederick Township in achieving its open space goals. This chapter is Lower Frederick's implementation plan for the near term and longer term. It is anticipated that these actions will occur between 2006 and 2015, with the most immediate actions involving opportunities for funding under Montgomery County's Open Space Program. The first part of this chapter identifies and discusses possible funding options other than through the County Open Space Program. The second part of the chapter outlines the Township's implementation strategy, in an Implementation Matrix (Figure 42).

FUNDING SOURCES

In addition to the funds allocated through Montgomery County's Open Space Program, Lower Frederick is eligible for funds from a variety of sources including various grants and donations.

GREEN FIELD/GREEN TOWN OPEN SPACE GRANTS

In 2003, a ballot referendum was passed in Montgomery County to fund open space and green infrastructure projects. Funding has been allocated for municipalities, private non-profit conservation organizations and the county to preserve more open space and enhance the livability of existing communities throughout the County.

Lower Frederick is eligible to receive a total of \$769,315 for open space planning and implementation. This grant requires matching funds equal to twenty percent of project costs from the township. The County grants come with several conditions. The most important condition is that any land purchased with grant money must be permanently preserved as open space or for active recreation. Another condition is the completion and adoption of a municipal Open Space Plan. The Lower Frederick Township Open Space Plan must be approved by the County’s Open Space Board before grant money can be disbursed.

MONTGOMERY COUNTY FARMLAND PRESERVATION PROGRAM (MCFP)

The Farmland Preservation Program purchases agricultural easements from productive farms in Montgomery County. When the rights are sold, the owner keeps the land, but no longer has the right to build non-agricultural buildings. It must remain farmed in perpetuity. The farmer may sell the land, but the new owner must continue to grow productive crops or pasture on it.

PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES (DCNR)

DCNR manages a variety of grant and technical assistance programs in support of open space issues. DCNR annually awards about \$30 million in planning, acquisition, and development grants for parks, recreation, rivers conservation, trails, greenways, and protection of open space and critical natural areas. Most DCNR grants require a 50/50 match. DCNR also provides pre-application workshops to assist applicants in the preparation of their application forms.

A priority goal of these programs is to develop and sustain partnerships with communities, non-profits, and other organizations for recreation and conservation projects and purposes. With this in mind, the Community Conservation Partnerships Program (C2P2) was established. It is a combination of several funding sources and grant programs, including the Commonwealth’s Keystone Recreation, Park and Conservation Fund (KEY 93, described below), the Environmental Stewardship and Watershed Protection Act (Growing Greener, also described below), Act 68 Snowmobile and ATV Trails Fund, the Land and Water Conservation Fund (LWCF) and the Recreational Trails component of the Transportation Equity Act for the Twenty-First Century (TEA-21).

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP)

The Growing Greener program has funded efforts to clean up Pennsylvania’s rivers and streams, reclaim abandoned mines and toxic waste sites, invest in new

alternative energy sources, preserve farmland and open space, and develop watershed restoration programs. A 10 percent match requirement from the municipality or other eligible organizations is required to receive DEP funding. As the Growing Greener program evolves, it will focus on brown field redevelopment, farmland and open space preservation, water quality improvements, enhanced state and community parks, and an upgraded fish and wildlife infrastructure. Growing Greener II will accomplish these goals while making critical investments in community revitalization and the promotion of clean energy usage.

KEYSTONE RECREATION, PARK AND CONSERVATION FUND

The Keystone Recreation, Park and Conservation Fund Act of 1993 directs a portion of the state’s Real Estate Transfer Tax to the Keystone Fund, establishing a dedicated and permanent funding source for recreation, parks, conservation, and other programming. Grants from this program require a minimum 50% match from the recipient municipality or nonprofit organization. As of 2002, \$144 million had been granted to more than 2,100 projects. The demand on the Keystone Fund already outstrips resources by a 4 to 1 margin.

PENNSYLVANIA DEPARTMENT OF COMMUNITY & ECONOMIC DEVELOPMENT (DCED)

The mission of DCED is “To foster opportunities for businesses and communities to succeed and thrive in a global economy, thereby enabling

Pennsylvanians to achieve a superior quality of life.” DCED provides several assistance and grant programs to Pennsylvania municipalities and community organizations. Some include green infrastructure and open space plans in support of local economic and community revitalization efforts. The DCED programs below can provide funds to implement recommendations described in open space plans.

- **Community Development Block Grant Program (CDBG)** - Provides grant assistance and technical assistance to aid communities in their community and economic development efforts.
- **Community Revitalization Program (CR)** Provides grant funds to support local initiatives that promote the stability of communities.
- **Main Street Program** - Provides assistance for revitalization planning and projects.
- **Elm Street Program** - Provides grant funds for planning, technical assistance and physical improvements to residential and mixed use areas in proximity to central business districts.
- **Industrial Sites Reuse Program** - Grants and low-interest loan financing to perform environmental site assessment and remediation work at former industrial sites.

PENNSYLVANIA HISTORICAL & MUSEUM COMMISSION (PHMC)

Many communities value their historic resources and work to preserve them for future generations. These resources can be integrated into the open space

network and cultural amenities to enhance local community image and aesthetics. The PHMC offers several programs that aid municipalities in these efforts.

- **Certified Local Government Grant Program**- Provides funding for cultural resource surveys, national register nominations, technical and planning assistance, educational and interpretive programs, staffing and training, and pooling CLG grants and third party administration.
- **Keystone Historic Preservation Grant Program** - Provides funding for preservation, restoration, and rehabilitation.
- **Pennsylvania History and Museum Grant Program** - Ten types of grants designated to support a wide variety of museum, history, archives and historic preservation projects, as well as nonprofit organizations and local governments.

**PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT)
TRANSPORTATION ENHANCEMENT PROGRAM (TE)**

The Transportation Enhancement Program is a set-aside of Federal highway and transit funds, mandated by Congress in the Transportation Equity Act for the 21st Century (TEA-21) for the funding of "non-traditional" projects designed to enhance the transportation experience, to mitigate the impacts of transportation facilities on communities and the environment, and to enhance community character through transportation-related improvements. Funding from this program, for a

complete, identifiable, and usable facility or activity, focuses on projects that are often outside the realm of standard highway or transit improvements. TE applications are typically accepted every two years (in odd years) through a process administered by PENNDOT and SPC. Funding is available for design, acquisition, utility relocation, or construction of projects.

SAFE ROUTES TO SCHOOL

This category includes projects for bicyclists and pedestrians that permit safe passage for children to walk or bike to school. This includes activities that enhance the transportation system through the construction of new facilities or the improvement of existing facilities to make them more usable for pedestrians and bicyclists. Some examples of eligible activities include: sidewalk improvements, pedestrian/bicycle crossing improvements, bike lanes, traffic diversion improvements, off-street bicycle and pedestrian facilities. In addition, this program may fund traffic calming measures to slow the speed of cars such as the following: curb extensions, bulb-outs, traffic circles, raised median islands, speed humps, textured or raised crosswalks. Funds cannot be used for bicycle and pedestrian facilities that are solely for recreational use.

HOME TOWN STREETS

This category includes a variety of streetscape improvements that are vital to reestablishing our downtown and commercial centers. These will include activities undertaken within a defined "downtown" area that collectively

enhance that environment and promote positive interactions with people in the area. Projects may include sidewalk improvements, planters, benches, street lighting, pedestrian crossings, transit bus shelters, traffic calming, bicycle amenities, kiosks, community "gateway" plantings signage and other visual elements. The Safe Routes to School and Home Town Streets programs are not grant programs—they are federal cost reimbursement programs. Once a project is authorized to advance and begin incurring costs, the project sponsor receives periodic invoices and submits them to PennDOT for payment. In addition, eligible costs are generally limited to those directly associated with the engineering and construction of approved projects.

DELAWARE VALLEY REGIONAL PLANNING COMMISSION (DVRPC)

CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM (CMAQ)

This program seeks transportation-related projects that can help the region reduce emissions from highway sources and meet National Clean Air Act standards. The program covers the DVRPC region of Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and, Burlington, Camden, Gloucester and Mercer counties in New Jersey. Under the Competitive CMAQ Program, candidate projects will be submitted to DVRPC and reviewed by an oversight committee for initial eligibility and general merits. Projects that withstand this screening process will then be subjected to an air quality emissions analysis. According to federal eligibility

guidelines, individual projects must result in a reduction in emissions using standardized tests to remain eligible. Bicycle and pedestrian projects are eligible.

NATIONAL PARK SERVICE RIVERS, TRAILS, AND CONSERVATION ASSISTANCE PROGRAM

The Rivers and Trails program offers technical assistance only to nonprofit organizations, community groups, and local or state government agencies. Types of assistance for recreation and conservation projects include:

- Building partnerships to achieve goals set by the community
- Assessing resources
- Developing concept plans
- Engaging public participation
- Identifying potential sources of funding
- Creating public outreach
- Organizational development
- Providing conservation and recreation information

PECO ENERGY GREEN REGION OPEN SPACE GRANT PROGRAM

PECO Energy, a subsidiary of Exelon, is currently involved in several environmental partnerships including "TreeVitalize," with DCNR, clean water preservation with The Nature Conservancy, and environmental education initiatives with the Schuylkill Center for Environmental Education and Green Valleys Association. Green Region grants are available to municipalities in amounts up to

\$10,000. The grants can be used with other funding sources to cover a wide variety of planning and direct expenses associated with development and implementing open space programs, including consulting fees, surveys, environmental assessments, habitat improvement, and capital improvements for passive recreation.

DONATIONS

Lower Frederick should encourage donations from individuals and groups to help with parkland acquisition, development, and tree planting. The donations may be cash, materials, or labor. The Township could organize special days during which local citizens and groups could gather to participate in implementing open space projects.

IMPLEMENTATION MATRIX

Figure 42, on pages 101 and 102, lists each recommendation along with its goals and objectives, responsible party, potential funding source, and priority.

RESPONSIBILITY

For each proposed action, primary responsibility is proposed among the following:

- Township Board of Supervisors (BOS)
- Township Planning Commission (TPC)
- Township Open Space Committee (OSC)
- Township Engineer (TE)
- Township Solicitor (TS)
- Perkiomen Valley School District (PVSD)

- Schwenksville Authority (SA)
- Montgomery County Planning Commission (MCPC)

PRIORITY CATEGORIES

High priority actions should be implemented within the next three years (2006-2008). Ongoing actions should continue as needed to achieve the desired results. Long Term actions should be implemented to the greatest degree possible within the next five to ten years (2010-2015) and may need to continue beyond ten years.

CONCLUSION

The quality of life for Lower Frederick Township residents depends to a great extent on the natural resources and recreational opportunities provided by open spaces, agricultural landscapes and parks. The Lower Frederick Township 2005 Open Space Plan strives to retain these characteristics, enhance and protect them for the health, safety and public welfare benefits they bestow on the community.

For more information, please visit the following websites:

Montgomery County Green Fields/
Green Towns Program

<http://www.montcopa.org/plancom/greenfields2.htm>

Lower Frederick Township

<http://www.lowerfredericktownship.org>

Montgomery County Planning
Commission

<http://www.montcopa.org/plancom>

Figure 42
Implementation Matrix

Goal/Objective Category	Recommended Action	Responsible Parties	Potential Funding Sources
HIGH PRIORITY			
Natural Resources Scenic Character	Acquire parcels, listed in Figure 37 on page 83, for open space preservation	TPC BOS	MCOS DCNR LAND TRUSTS CONSERVANCIES
Recreation	Acquire parcels in Spring Mount for use as active recreation sites, perhaps using former railway bed and affiliated lands	TPC BOS	BOS MCOS
Natural Resources Scenic Character	Pursue acquisitions of preserved riparian buffers along all major streams	TPC BOS	BOS MCOS LAND TRUSTS CONSERVANCIES
Natural Resources Mobility	Acquire property that provides a link from Cuddy Park to a portion of the Perkiomen Creek	TPC BOS	BOS MCOS LAND TRUSTS CONSERVANCIES
Mobility Trails	Restore the portion of the County trail that connects Delphi with Schwenksville through Memorial Park.	MCPC TPC BOS	BOS MCOS
Mobility Trails	Re-open a trail along Delphi Road from Meng Road to Mine Hill Road, in order to create a linkage between the Stone Hill Greenway and Zieglerville	TPC BOS	BOS PRIVATE
Mobility Recreation	Pursue the right to use the Schwenksville Water Authority property as ball fields and for other recreation purposes	TPC TE BOS SA	BOS PRIVATE
Mobility Recreation	Enhance and expand existing park facilities, including extensions and connections to the existing recreation facilities in Coble Park	TPC TE BOS	BOS PRIVATE
Mobility Trails	Restore the Old Gravel Pike Bridge for pedestrian trail use	TPC BOS	BOS PRIVATE PENNDOT
Recreation	Pursue opportunities for small scale pocket parks in Spring Mount and Zieglerville	TPC BOS	BOS DCNR PRIVATE
ONGOING PRIORITY			
Natural Resources Scenic Character	Explore acquisition and easement opportunities for parcels adjacent to waterways	TPC BOS MCPC	MCOS DCNR LAND TRUSTS CONSERVANCIES
Natural Resources Recreation	Closely monitor and enforce current requirements set forth in the subdivision and land development ordinance for dedicated open space in new residential projects	TPC BOS TE MCPC	BOS PRIVATE

Figure 42
Implementation Matrix (continued)

Goal/Objective Category	Recommended Action	Responsible Parties	Potential Funding Sources
ONGOING PRIORITY			
Natural Resources Growth Management	Implement the recommendations of the Regional Comprehensive Plan	TPC BOS	BOS PRIVATE
Agricultural Heritage	Encourage current farmland owners to apply for permanent protection under various State and County programs	TPC BOS MCPC	MCFP DCNR CONSERVANCIES
Natural Resources Agricultural Heritage	Provide educational materials to landowners regarding the benefits of natural resource protection and stewardship guidelines	TPC BOS	BOS PRIVATE CONSERVANCIES
Recreation	Explore ways to optimize residents' use of the new Middle School recreational facilities	TPC BOS PVSD	BOS PRIVATE
LONG TERM PRIORITY			
Mobility Recreation	Develop guidelines for road widening and use of road shoulders as components of a pedestrian and bicycle trail system	TPC TE BOS MCPC	BOS PRIVATE PENNDOT
Mobility Recreation	Establish criteria to evaluate the needs for sidewalks in designated growth areas and identify areas presently in need of sidewalks	TPC TE BOS MCPC	BOS PRIVATE PENNDOT
Mobility	Develop a looped trail on the west side of the Perkiomen Trail	TPC BOS OSC	BOS MCOS DCNR
Agricultural Heritage	Promote venues at which farmers might sell their harvest	TPC BOS	BOS PRIVATE
Agricultural Heritage Growth Management Rural Character	Identify notable areas of farmland and significant agricultural character and explore innovative strategies for protection and preservation	TPC BOS	BOS MCFP PRIVATE
Growth Management Rural Character	Direct future development to targeted growth areas	TPC BOS	BOS PRIVATE
Natural Resources Scenic Character	Revise municipal ordinances to optimize protection and conservation of floodplains, steep slopes, woodlands, wetlands, and riparian corridors	TPC TE BOS	BOS PRIVATE

APPENDIX A

SOUTHEAST PENNSYLVANIA LAND CONSERVATION ORGANIZATIONS

Brandywine Conservancy *PALTA Member*

PO Box 141

Chadds Ford, PA 19317

Counties where acquisitions completed: **Bucks, Chester, Delaware, Lancaster, Montgomery, Philadelphia**

Mission: The mission of the Brandywine Conservancy's Environmental Management Center is to conserve the natural and cultural resources of the Brandywine River watershed and other selected areas with a primary emphasis on conservation of water quantity and quality.

Founded: 1967

Phone: (610) 388-2700

Email: emc@brandywine.org

www.brandywineconservancy.org

Conservancy of Montgomery County *PALTA Member*

PO Box 28

Ambler, PA 19002-0028

Counties where acquisitions completed: **Montgomery**

Mission: The business and purpose of this organization shall be to advocate the preservation of historic and natural resources in Montgomery County to ensure their protection for future generations. The main functions of the organization shall be to identify and protect historic structures, open space and natural resources; sponsor educational preservation programs; conduct survey and planning studies; promote, assist with and accept conservation easements; and provide an information network and clearinghouse for preservation information for county residents, businesses, schools, municipalities and organizations.

Founded: 1990

Phone: (215) 283-0383

Email: cmcpreserve@hotmail.com

Heritage Conservancy *PALTA Member*

85 Old Dublin Pike
Doylestown, PA 18901

Counties where acquisitions completed: **Bucks, Montgomery, Susquehanna, York**

Counties where acquisitions anticipated: **Northampton**

Mission: Heritage Conservancy is a nonprofit organization dedicated to preserving our natural and historic heritage. Founded in 1958, it was concern for the rapid loss of open space in Bucks County which led to the formation of the Bucks County Park Foundation, known today as Heritage Conservancy.

Founded: 1958

Phone: (215) 345-7020

Email: hconserv@heritageconservancy.org
www.heritageconservancy.org

Lower Merion Conservancy *PALTA Member*

1301 Rose Glen Rd.
Gladwyne, PA 19035

Counties where acquisitions completed: **Delaware, Montgomery**

Mission: The Lower Merion Conservancy acts to protect our area's natural and historic resources, open space, and watersheds for area residents and future generations. Through education, advocacy, and research, the Conservancy promotes collective responsibility for these resources.

Founded: 1991

Phone: (610) 645-9030

Email: admin@dragonfly.org
www.lmconservancy.org

Montgomery County Lands Trust *PALTA Member*

PO Box 300
Lederach, PA 19450

Counties where acquisitions completed: **Montgomery**

Mission: " It is the mission of Montgomery County Lands Trust to permanently preserve land and to foster the wise stewardship of open space of our county by: Acquiring easements and encouraging donation of land to appropriate stewards. Helping to facilitate the creation of open space and natural amenities in existing communities. Promoting environmentally sensitive, sustainable development which preserves open space, significant natural resources and our unique sense of place. Providing educational programs that strategically advance its mission.

Founded: 1993

Phone: (215) 513-0100

Email: dflaharty@mclt.org
www.mclt.org

Natural Lands Trust *PALTA Member*

1031 Palmers Mill Rd.
Media, PA 19063

Counties where acquisitions completed: **Bucks, Chester, Delaware, Montgomery, Philadelphia**

Mission: Natural Lands Trust is a non-profit, regional land conservation organization working to protect the most critical remaining open lands in the greater Philadelphia region.

Founded: 1961

Phone: (610) 353-5587

Email: apitz@natlands.org
www.natlands.org

North American Land Trust *PALTA Member*

PO Box 1578
Chadds Ford, PA 19317

Counties where acquisitions completed: **Chester, Delaware, Lancaster, Montgomery**

Founded: 1992

Phone: (610) 388-3670

Email: info@nalt.org info@nalt.org
www.nalt.org

Pennypack Ecological Restoration Trust *PALTA Member*

2955 Edge Hill Rd.
Huntington Valley, PA 19006

Counties where acquisitions completed: **Montgomery**

Mission: The mission of the Trust and its membership is to protect, restore and preserve the lands of the central Pennypack Creek valley so that they * remain an enhancement to the quality of visitors' lives, * remain a vibrant and diverse natural landscape supporting native plant and animal life, and * become the standard of excellence for innovative restoration and stewardship practices to be shared with other individuals and organizations joined in common commitment to the environment.

Founded: 1970

Phone: (215) 657-0830

Email: djrpennypack@cs.com

www.libertynet.org/pert

Perkiomen Watershed Conservancy *PALTA Member*

1 Skippack Pike
Schwenksville, PA 19473

Counties where acquisitions completed: **Montgomery**

Mission: The Perkiomen Watershed Conservancy is a nonprofit organization founded in 1964 by local citizens to combat pollution in the Perkiomen Creek and its tributaries. We provide an integrated approach to environmental issues of the Perkiomen Watershed area through environmental education, Watershed stewardship and conservation programs.

Founded: 1964

Phone: (610) 287-9383

Email: pwc@perkiomenwatershed.org

www.perkiomenwatershed.org

Wissahickon Valley Watershed Association *PALTA Member*

12 Morris Rd.
Ambler, PA 19002

Counties where acquisitions completed: **Montgomery**

Mission: Since 1957, the Wissahickon Valley Watershed Association has been the leader in protecting the open space of the Wissahickon Valley, in enhancing its water quality, and in educating people of all ages about environmental concerns.

Founded: 1957

Phone: (215) 646-8866

Email: wvwa@aol.com

www.wvwa.org

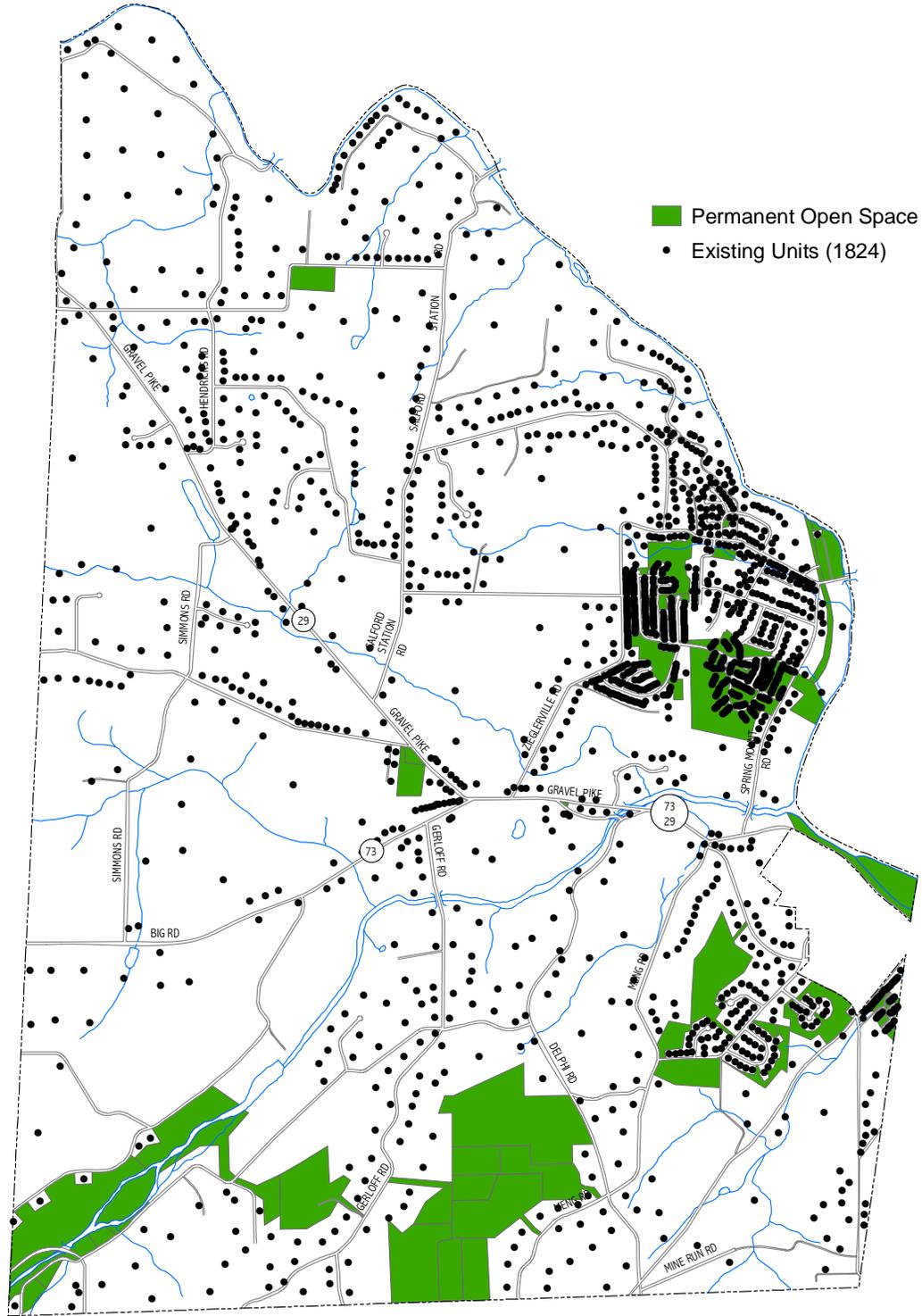
APPENDIX B

POTENTIAL BUILD OUT SCENARIO

In developing the guidelines for the current open space program, the Montgomery County Open Space Task Force felt that it was particularly important for municipalities to carefully examine the impact of current zoning on future development. As such, a requirement was placed in the plan guidelines for municipalities to perform a build out analysis which would project potential residential development under current zoning. By doing this, township residents are better able to understand the implications of current growth policies so that future efforts are better targeted to protect the resources that mean most to the community.

Figure 43 displays Lower Frederick Township's existing permanent open space and existing residential dwelling units. Figure 44 also displays the existing residences as well as the potential new dwelling units that could be built based on current zoning. This map offers a scenario in that every developable parcel within the township is built out to its fullest extent. This development pattern is not imminent. Although this is a possible scenario, it is unlikely as property owners or site conditions will not allow for full build

Figure 43
Lower Frederick Township Existing Dwelling Units



MCPC Montgomery County Planning Commission
Montgomery County Courthouse - Planning Commission
PO Box 311 • Norristown PA 19404-0311
(p) 610.278.3722 • (f) 610.278.3941
www.montcopa.org/plancom

0 1,200 2,400 4,800 Feet
Base map prepared March 2002

This map is based on 2000 ortho photography and official sources. Property lines were compiled from individual block maps from the Montgomery County Board of Assessment Appeals, with no verification from the deed. This map is not meant to be used as a legal definition of properties or for engineering purposes.

out of each parcel. Figure 44 serves as a representation of what current zoning could ultimately yield, but not for any specific parcel or for a designated time period.

Instead, Figure 44 only presents an approximated estimate of the number of potential new units across the township, generalized by zoning district. However, even as this scenario is unlikely, the zoning ordinance should be evaluated taking this possible growth into account. Further, this depiction of build out underscores the need to preserve and protect land through various open space acquisition techniques. However, based on the average number of new homes built per year from 2000 to 2004, this scenario would take over 70 years to occur.

Figure 44, on the next page, was created through the following process.

1. Identified existing developed land.
2. Symbolized existing residences.
3. Calculated acreage undeveloped or underdeveloped land.
4. Subtracted natural features that constrain development (steep slopes, wetlands, floodplains) from undeveloped acreage.

5. Multiplied remaining developable acreage by a coefficient to allow for irregular lot configurations, the development of roads and infrastructure, or other constraining features. A factor of 0.8 was used in areas of the township where public sewer and water allow for the highest available amount of development based on the zoning district. For those areas where central sewer and water are not available and performance zoning standards are applied, a factor of .65 was used to reflect more significant natural resource constraints.
6. For each zoning district that allows residential types of land use, developable acreage in that district was divided by allowable minimum lot size to determine number of potential new units per district.
7. Points representing dwelling units were randomly placed within the developable acreage to symbolize potential future build out across a zoning district.

The result of this process was an increase of 1,005 dwelling units within the township at a built out state. This is in addition to the 1,824* units depicted by existing development.

* 1,824 existing dwelling units is a larger number than the 1,805 existing dwelling units identified in the 2000 U.S. Census in Chapter One of this plan. The current total is reflects the notion that since the 2000 U.S. Census, the Township has seen an additional 19 units developed.

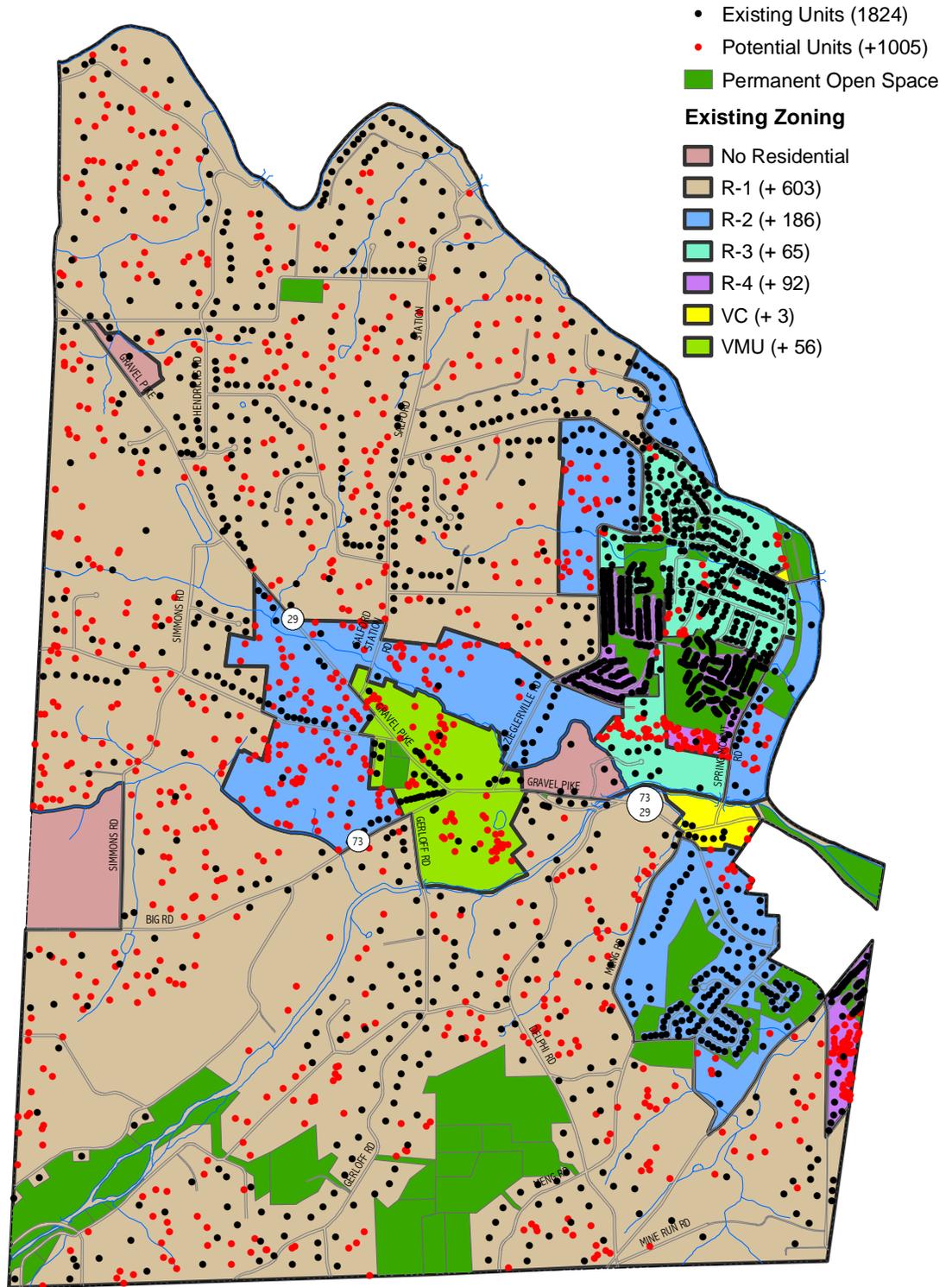


Figure 44
Lower Frederick Township Potential Build Out

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 Base map prepared March 2002

