

Open Space Plan

**Williams Township
Northampton County, Pennsylvania**

**Urban Research and Development Corporation
Bethlehem, Pennsylvania**

Williams Township

Northampton County, Pennsylvania

OPEN SPACE PLAN

Open Space Task Force Members

Karen Doerr
Duane Wagner
Margaret Moser

Douglas Seipt
Fred Mebus

**Urban Research & Development Corporation
Bethlehem, Pennsylvania**

**Adopted by the Williams Township Board of Supervisors
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PREFACE

WHY OPEN SPACE PRESERVATION MATTERS

New homes in Williams Township reflect this community's attractiveness as a place to live. Selling land for development also provides revenue for people—often older people, whose main financial asset for retirement is their real estate. However, new development could change the character of Williams by gradually, but steadily, displacing the open space for which the Township is noted.

The flat topography and well-drained soils of productive farmland happen to also be well-suited to development. The monetary value of local farmland for new homes and the difficult economics of family farming have combined to nearly wipe out agriculture in Williams Township. While small farms may face a challenging future, carrying out this Open Space Plan would be a step towards preserving at least part of the Township's rural heritage.

People commonly misperceive that residential development pays for itself by expanding the tax base. In reality, all but the most expensive homes typically create a demand for schools and other public services that exceeds the tax revenues these new homes generate. Public school expenses are the main cause of this negative fiscal impact. Because they create positive fiscal impacts, farmland and open space help offset the budget shortfall that new homes create. In the words of the American Farmland Trust, open space saves money because “cows don't go to school”.

In 1997, a Pennsylvania University analysis found that residential development in Bedminster Township, Bucks County costs an average of \$1.12 in services annually for every \$1.00 it produces in municipal and school tax revenues. The same study found new homes in Buckingham Township, Bucks County cost \$1.04 for every tax dollar returned. A similar negative impact occurred in all eight municipalities across the State that this study examined.

In 2001, the American Farmland Trust reported results from 83 separate studies in 18 different states. In all 83 cases, including 11 from Pennsylvania, residential development cost more than the taxes it generated—an average of \$1.15 in costs per \$1.00 of local and school tax revenues. Conversely, open space paid back more than it required in expenditures—an average of \$0.36 in service costs was needed for each \$1.00 in tax revenues generated. Locally, this trend is evident in the Wilson Area School District where higher school costs have followed new growth. The school tax rate for Wilson Borough and Williams Township residents has more than doubled in ten years—from 16.4 mills in 1991-92 to 33.8 mills in 2001-2002.

Williams will continue to add population and new businesses. Most residents recognize that some development is inevitable and is a sign of a prosperous area. In conjunction with zoning and comprehensive planning, implementing this Open Space Plan would give the Township a chance to direct the pace and direction of local growth. As a result, some valuable farmlands, woodlands, hillsides and creek valleys could be saved while still leaving enough land for new individuals and families who desire to become part of the Williams Township community.

INTRODUCTION

INTRODUCTION

PLAN PURPOSE

Williams Township's comprehensive plan and its land regulatory ordinances feature open space conservation as important objectives. The Township recognizes that its undeveloped lands and sensitive natural features are community assets. Planning ahead to ensure an appropriate balance between growth and the natural environment is the motivation behind this Open Space Plan.

RELATIONSHIP TO OTHER TOWNSHIP PLANS AND ORDINANCES

This Open Space Plan is part of an ongoing effort to keep policies and regulations related to growth and conservation up to date. Williams Township adopted its Comprehensive Plan in 1989 and prepared a Comprehensive Plan Supplement in 2000. The Board of Supervisors enacted the Williams Township Zoning Ordinance in 1990 and amended it to include revisions adopted through 1997. The Township's Subdivision and Land Development Ordinance was adopted in 1992 and revised to include revisions through 1997. Williams completed a Parks, Recreation and Open Space Plan in conjunction with Glendon Borough in 1997. There are two Act 537 Wastewater Facilities Plans that apply to parts of Williams: one prepared in 1995 for the area of the Township near I-78 and one completed in 1997 for the Raubsville vicinity.

PLAN CONTENT

The Williams Township Open Space Plan includes this Introduction and the following six major parts:

- (1) *Community Background* - an overview of how the Township's regional context and demographic trends continue to shape growth and conservation in Williams.
- (2) *Developed and Preserved Land* - an inventory of existing land use, including developed areas, sites proposed for new development, and land already preserved.
- (3) *Existing Natural Features* - an overview of the Township's environmental characteristics, such as woodlands, steep slopes, floodprone lands and prime agricultural soils, along with an overview of how these resources are protected under existing federal, state and municipal regulations.
- (4) *Goals and Recommendations* - a description of the goals and specific actions proposed to help preserve more open space and better protect vulnerable natural features.

INTRODUCTION

- (5) *Implementation* - a strategy for carrying out the Plan's recommendations according to specific phases, plus a description of most applicable open preservation techniques, including potential funding options.
- (6) *The Next Steps* - a list of the immediate policy questions that need to be answered about how to establish and fund a potential Open Space Preservation Program in Williams Township.

The following important background information is collected and mapped to support the policies and recommendations in this Plan. While some of this background data is new, relevant information has also been imported from existing sources, such as the Williams Township's Comprehensive Plan and the Williams Township Park Master Plan.

- The location of current development, soon to be developed areas and remaining developable areas.
- Information on existing preserved open space and unique natural features including steep slopes, flood-prone areas and woodlands, among others.
- A description of key population and housing trends in Williams Township.
- An inventory of existing preserved lands.
- An analysis of natural features protection under the Williams Township Zoning Ordinance, and the Williams Township Subdivision and Land Development Ordinance.

PUBLIC INPUT

This Open Space Plan was prepared under the direction of a Task Force appointed by the Williams Township Board of Supervisors. The Task Force included municipal officials, a local farmer, a real estate developer and other Township residents. To obtain initial public input, the Task Force held a public meeting that over 150 people attended. In addition to extensive discussion, this meeting featured written comment sheets that were completed and submitted by several audience members. The discussion that occurred at the meeting and the written comment sheets both indicated substantial local interest in the future of Williams Township and support for preserving open space.

To ensure participation from a broad cross section of local residents and business persons, the consultant retained to assist in preparing this Open Space Plan conducted a series of key person interviews. Business persons, conservationists, elected officials, farmers and other local land-owners were among the people interviewed to determine community attitudes towards growth trends, zoning, agricultural preservation, resource protection, parks and open space and related topics. The majority of the interviewees supported additional efforts to preserve open space provided that the Township carefully consider issues such as cost, equity and private property rights in any publicly-funded open space preservation initiative.

COMMUNITY BACKGROUND

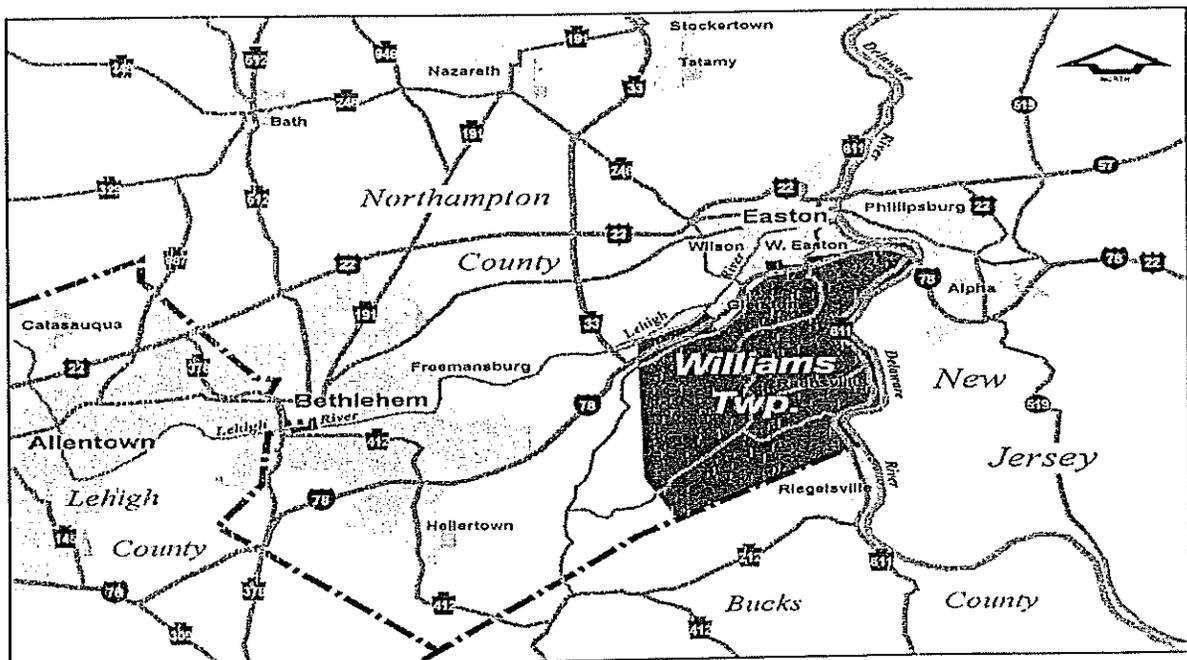
COMMUNITY BACKGROUND

REGIONAL INFLUENCES

Williams Township comprises 18.85 square miles in the southeastern part of Northampton County between the cities of Bethlehem and Easton. The Delaware River and Delaware Canal extend along the length of the Township's eastern boundary. On the north, Williams is bordered by the Lehigh River, Glendon Borough, West Easton Borough and the City of Easton. Low density areas of Lower Saucon Township and Durham Townships surround most of Williams to the west and south. The historic Bucks County river town of Reigelsville Borough is situated along Route 611 just south of Williams Township.

Williams is still a semi-rural community with economic and cultural ties to the Lehigh Valley. However, the I-78 interchange at Morgan Hill Road has made the Township much more accessible from the New Jersey-New York region. The Township is about one hour driving time from New York City via I-78.

Williams is heavily wooded, contains many rocky hillsides and has a low-capacity internal road system. While the Township's population is increasing due to new residential subdivisions, growth is moderate compared to the more suburbanized townships of Northampton County, such as Palmer, Bethlehem, Forks, Hanover and others. From a regional perspective, Williams is not a designated growth area, according to the *Comprehensive Plan for Lehigh and Northampton Counties*. Nonetheless, Township policies on zoning, open space preservation and infrastructure extensions must be carefully planned to conserve the municipality's unique natural and man-made character.



POPULATION, HOUSING AND EMPLOYMENT

Population, housing and employment trends illustrate how an area changes over time. The following tables compare the growth and composition of the Township's population with similar characteristics for Northampton County. Although the Township is still largely rural, Williams is now adding residents at a slightly higher percentage rate than the County overall.

Total Population

Williams Township's population was 4,470, according to the 2000 Census. This was an increase of 488 residents (12.3%) since 1990. Williams had grown by only 3.6% during the 1980's. Population growth in the Township during both the 1970's and 1960's was closer to the 1990-2000 rate. While the absolute numbers were small, Williams Township's percentage growth of 12.3 % during the 1990's exceeded Northampton County's growth rate of 8.1% for the same ten-year period.

Table 1
TOTAL POPULATION, 1960-2000

YEAR	WILLIAMS TOWNSHIP			NORTHAMPTON COUNTY		
	PERSONS	NUMBER CHANGE	PERCENT CHANGE	PERSONS	NUMBER CHANGE	PERCENT CHANGE
1960	2,823	-	-	201,412	-	-
1970	3,282	459	16.3	214,545	13,133	6.5
1980	3,843	561	17.1	225,418	10,873	5.1
1990	3,982	139	3.6	247,105	21,687	9.6
2000	4,470	488	12.3	267,066	19,961	8.1

Source: U. S. Census

Total Housing Units

Housing growth in Williams Township and Northampton County during the 1990's mirrored population growth. The Township added 234 housing units (15.6%) between 1990 and 2000. County-wide, housing units increased by 11.9% during this same ten-year period. The percentage growth in new homes generally exceeds the percentage growth in total population. Throughout the nation, later marriages, more divorces, fewer children and more elderly households are increasing number of one and two-person households. More homes are needed to accommodate the same number of people as a result.

COMMUNITY BACKGROUND

Table 2
HOUSING UNITS, 1990-2000

AREA	TOTAL HOUSING UNITS		CHANGE, 1990-2000	
	1990	2000	NUMBER	PERCENT
Williams Township	1,504	1,738	234	15.6
Northampton County	95,345	106,710	11,365	11.9

Source: U.S. Census

Population Projections

The Lehigh Valley Planning Commission projects that Williams will reach 5,499 persons by 2010, an increase of 1,029 residents (23.0%) over the Township's 2000 total. Based on building permits recorded between 1990 and 1999, the *Williams Township Comprehensive Plan* projects that the Township will grow to 5,060 persons by 2010 (the 1990 Williams Township population of 4,470 plus 59 new residents per year). These two projections were each made before the release of the 2000 Census.

The 2000 Census shows Williams added an average of 48.8 new residents per year between 1990 and 2000. At this same rate of growth, the Township's population will be 4,958 in 2010 (the 1990 population of 4,470 plus 488 new residents). However, the next chapter of this Open Space Plan contains an analysis of the number of new residents likely to result from the new residential development now approved by the Township but not yet constructed. These calculations indicate population growth in the foreseeable future may be higher than that suggested by directly extrapolating recent trends.

Table 3
WILLIAMS TOWNSHIP POPULATION PROJECTIONS, 2010

SOURCE OF PROJECTION	2010 POPULATION	CHANGE, 2000-2010	
		NUMBER	PERCENT
Lehigh Valley Planning Commission	5,499	1,029	23.0
Comprehensive Plan	5,060	590	13.2
1990 - 2000 Actual Growth	4,958	488	10.0

Source: Lehigh Valley Planning Commission, U.S. Census and URDC

COMMUNITY BACKGROUND

Age

According to the 2000 Census, the median age of Williams Township residents (40.7 years) is higher than the Northampton County median (38.5 years). The Census also shows that the median in both Northampton County and Williams Township increased between 1990 and 2000. Both the County and the Township showed a slight increase during the 1990's in percentage of total population 65 years and older. Between 1990 and 2000, persons 19 years and under as a proportion of all residents decreased in both Northampton County and Williams Township.

**Table 4
AGE, 1990-2000**

AREA	MEDIAN AGE		PERSONS				PERCENT			
			24 & UNDER		65 & OLDER		24 & UNDER		65 & OLDER	
	1990	2000	1990	2000	1990	2000	1990	2000	1990	2000
Williams Township	36.2	40.7	1,311	1,343	477	583	32.9	30.0	12.0	13.1
Northampton County	34.9	38.5	84,750	86,932	37,019	42,030	34.3	32.6	15.0	15.8

Source: U.S. Census

Gender

The distribution of males vs. females was virtually unchanged between 1990 and 2000 in both Williams Township and Northampton County. There are no factors that exist in either the Township or the County to alter the traditional 50/50 split.

**Table 5
GENDER, 1990-2000**

AREA	TOTAL POPULATION		PERCENT OF TOTAL POPULATION			
			MALE		FEMALE	
	1990	2000	1990	2000	1990	2000
Williams Township	3,982	4,470	49.8	49.8	50.2	50.2
Northampton County	247,105	267,066	48.7	48.7	51.3	51.3

Source: U.S. Census

COMMUNITY BACKGROUND

Education

Educational attainment in Williams Township is very similar to Northampton County. The proportion of all residents that graduated from college is slightly higher in Northampton County (16.7 %) than in Williams Township (14.7%). Conversely, Northampton County has a higher percentage of residents who never graduated from high school than Williams Township. This is information from the 1990 Census. The relevant data from the 2000 Census has not been released to date.

**Table 6
HIGHEST EDUCATION LEVEL ACHIEVED, 1990**

AREA	LESS THAN HIGH SCHOOL DIPLOMA		HIGH SCHOOL GRADUATES		COLLEGE GRADUATES	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Williams Township	663	24.8	1,617	60.5	391	14.7
Northampton County	43,618	26.9	91,600	56.4	27,179	16.7

Source: U.S. Census

Income

Income data for the 2000 Census is not yet released. But as of 1990, median household income was higher in Williams Township (\$36,646) than in Northampton County (\$32,890). Williams Township also had a lower percentage of its families within incomes below the poverty line.

**Table 7
INCOME, 1989***

AREA	MEDIAN HOUSEHOLD INCOME	PERCENT OF FAMILIES BELOW POVERTY LEVEL
Williams Township	\$ 36,646	4.0
Northampton County	\$ 32,890	7.3

Source: U.S. Census

DEVELOPED AND PRESERVED LAND

DEVELOPED AND PRESERVED LAND

EXISTING LAND USE

The use of land is the primary focus of comprehensive planning, zoning and open space planning. Land use in Williams is a product of the Township's location, history, roadway access, economic development and natural features, among other factors. Both planned and unplanned growth have influenced the growth of Williams Township.

The accompanying Existing Land Use map is reproduced from the *2000 Supplement to the Williams Township Comprehensive Plan*. It illustrates land use as of September, 2000. The following Existing Land Use table is based on 1999 analysis completed by the Lehigh Valley Planning Commission. While there are small differences between these two data sources, together they provide a revealing overview of how land is currently used in Williams Township.

Agriculture and Other Undeveloped Land

Farmland and other undeveloped property is the largest land use category in Williams, comprising 56.8% of the Township's land area according to the Lehigh Valley Planning Commission. Land in this category is distributed throughout the Township and includes actively farmed land, wooded areas and other types of undeveloped property (excluding parkland). William's agricultural heritage is still much in evidence despite recent growth and on-going development pressure.

Residential Land

Residential uses account for most developed land in Williams and 28.7% of the Township's land area overall. All but a small minority of these residences are single-family detached homes. The pattern of single-family development in the Township takes two basic forms. Older homes and farmhouses that front on long-established country roads are found throughout Williams. This strip development pattern has been complemented in recent decades by the unified, suburban style, subdivisions that account for most new development.

Non-Residential Land

As shown on the following table, Transportation, Communications and Utilities account for 8.1% of the Township's land area. Roads and the Columbia Gas property are the primary elements of this category. Parks and Recreation land comprises 3.9% of the Township. As will be described in more detail later in this plan, this category includes both private and public parkland. Commercial land, Industrial land, Wholesale & Warehousing, and the Public & Quasi-Public categories together comprise 2.5% of all land use in Williams, according to the Lehigh Valley Planning Commission.

A concentration of businesses that includes both industrial and commercial uses exists near the I-78 interchange at Morgan Hill Road. In acreage terms, the Chrin Landfill is the largest of these uses. A small cluster of retail and services businesses are located in the Township's Local Commercial District on Morgan Hill Road between Jeanette and Grandview. Other commercial uses are scattered in various locations, including the Route 611 corridor between the village of Raubsville and the City of Easton.

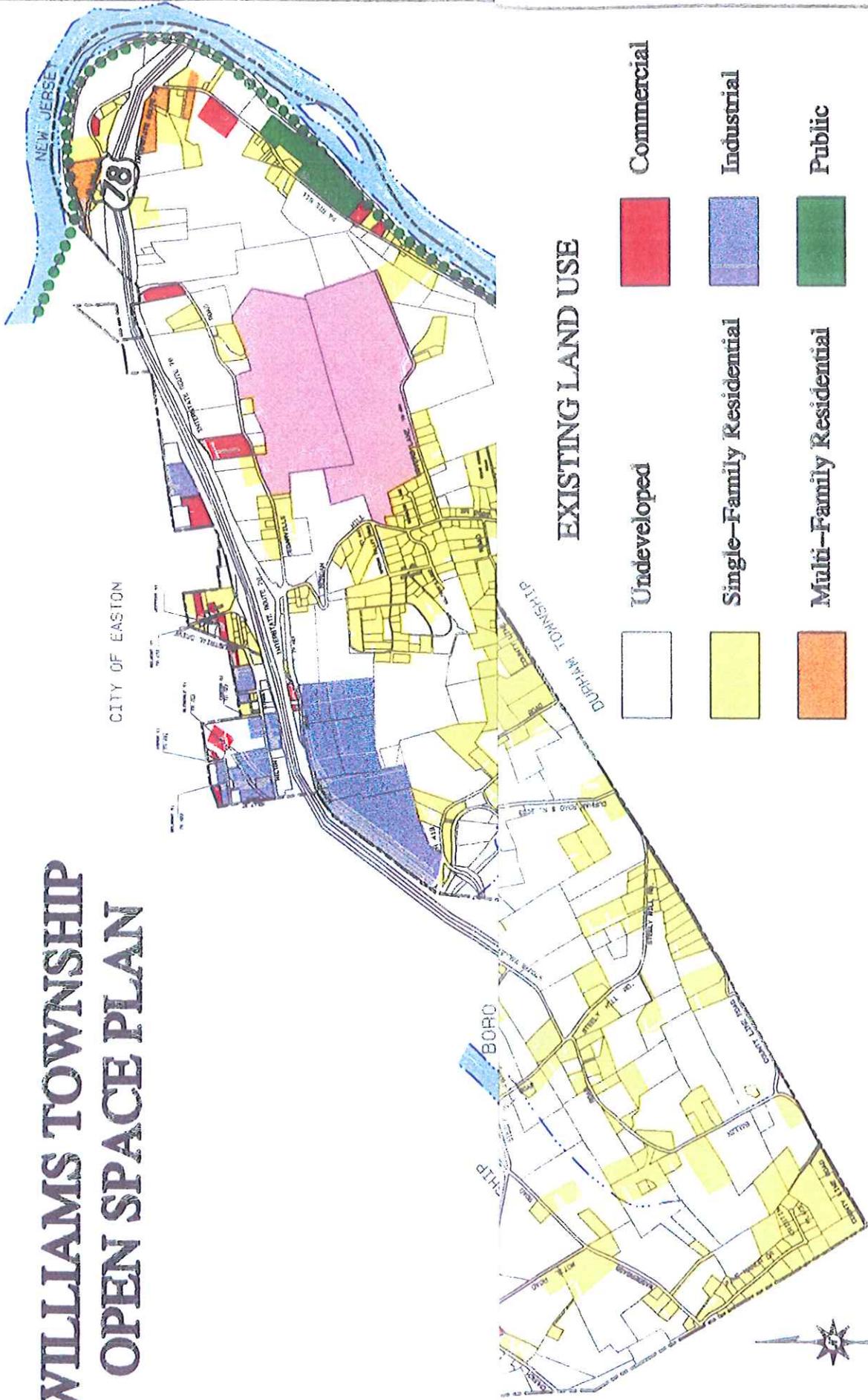
**Table 8
EXISTING LAND USE, 2000**

LAND USE CATEGORY	PERCENT OF TOTAL LAND
Farmland and Other Undeveloped	56.8
Residential	28.7
Transportation, Communications and Utilities	8.1
Parks and Recreation	3.9
Commercial, Industrial, Public and Quasi-Public	2.5
	100%

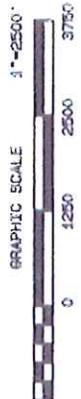
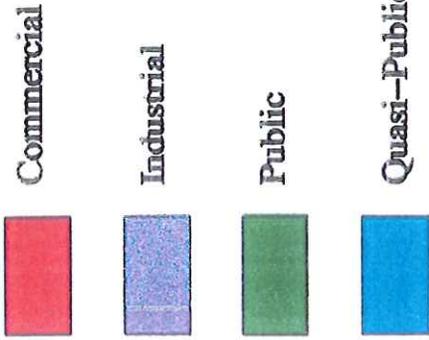
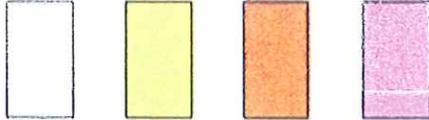
Source: Lehigh Valley Planning Commission

WILLIAMS TOWNSHIP OPEN SPACE PLAN

CITY OF EASTON



EXISTING LAND USE



PROPOSED RESIDENTIAL DEVELOPMENT

Since the Township's latest population count (the 2000 Census), the Williams Township Board of Supervisors has approved thirteen residential subdivisions. A total of 543 housing units, including 193 single-family detached homes and 350 townhouses have been approved for construction as of January 2002. These new housing units are projected to add 1,292 new residents to Williams Township when completed (see Table 9). Most of these proposed subdivisions are located on the eastern edge or the south central portion of the Township. The Morgan Hill/Stanton subdivision of 350 townhomes and a golf course is located in the northeastern part of the Township.

PRESERVED LAND

Preserved land refers to properties that are established as open space in perpetuity. In Williams, State parkland, Northampton County parkland, municipal parkland, and lands under conservation easements are classified as preserved. For the purposes of this Open Space Plan, school district property is also considered preserved because it is very unlikely to be developed in another use in the foreseeable future.

Publicly-owned preserved lands in Williams Township include three municipally-owned park properties, two county-owned parks, a state park, and a public elementary school. Privately-owned preserved lands include a farm whose development rights have been acquired by the Northampton County Farm Board, two properties under conservation easements held by Wildlands Conservancy, and an environmental education center/wildlife sanctuary.

Municipally-Owned Property

Williams Township Municipal Park

The 28-acre site located at the corner of Gaffney Hill and Cider Press Roads, has approximately 9 acres that are devoted to active recreation. This site also houses the Williams Township Municipal Building and the associated parking area. Approximately half of the site contains steep slopes that are unsuitable for any sort of development. The park provides such active recreation as an asphalt walking trail, one baseball field, one softball field, two tennis courts, one basketball court, one combination soccer/football field and a playground. Also included at this location is a pavilion, refreshment stand with restroom facilities and undeveloped area.

DEVELOPED AND PRESERVED LAND

Table 9
NEW HOUSING UNITS APPROVED SINCE THE 2000 CENSUS
January, 2002

SUBDIVISION NAME	DATE OF SUPERVISORS APPROVAL	TYPE OF UNITS	# OF UNITS TO BE CONSTRUCTED	AVERAGE HOUSEHOLD SIZE*	# OF NEW RESIDENTS PROJECTED
Morgan Hill/Stanton	11/8/01	Townhouses	350	2.2	770
Best-Minor Subdivision Plan	12/13/01	Single Family Detached	3	2.7	8
Angels Landing 2	10/11/01	Single Family Detached	6	2.7	16
Island Park Estates	11/9/00	Single Family Detached	12	2.7	32
Glenn Bachman	12/13/01	Single Family Detached	3	2.7	8
Country View	10/12/00	Single Family Detached	22	2.7	59
Butter Hill Estates	4/96	Single Family Detached	19	2.7	51
Frya Run	7/9/98	Single Family Detached	5	2.7	14
Fox Creek	5/10/01	Single Family Detached	28	2.7	76
Royal Manor Ridge	11/12/98	Single Family Detached	29	2.7	79
Hunters Hollow I	1/4/00	Single Family Detached	38	2.7	103
Hunters Hollow II	10/12/00	Single Family Detached	14	2.7	38
Woodland Crossing/Mansfield	5/9/96	Single Family Detached	14	2.7	38
TOTAL			543		1,292

Source: Williams Township and URDC

* Average household size in Williams Township was 2.7 according to the 2000 Census. Smaller households are assumed for townhouses.

Raubsville Municipal Park

The Raubsville Municipal Park which is located at the corner of Young and Kiefer Streets in Raubsville, is approximately 3 acres and offers one little league baseball field, a pavilion, a tennis court, a basketball court, a playground, parking lot and storage building.

Williams Township Recreation Area

Formerly referred to as the Melchor Tract, the Williams Township Recreation Area is centrally located to several major residential areas in the Township including Raubsville. This 27.85-acre site is landlocked but has access to Raubsville and Kressman Roads. The officially adopted master plan for the park proposes two little league baseball fields, a full size baseball field, a football field, full size and midget soccer fields, two basketball courts, two tennis courts, a playground and a pathway system for jogging, bike riding and walking. The master plan also calls for two parking lots, restroom facilities and two concession stands/storage areas.

School District-Owned Property

Williams Township Elementary School

The Williams Township Elementary School site, part of the Wilson Area School District, includes two little league baseball fields, a refreshment stand and a small all-purpose field. Due to planned expansion of the school, these outdoor recreation facilities may or may not be available for public use in the future.

County-Owned Property

Wy-Hit-Tuk-Park

This 23-acre park is located off of Route 611 just south of Easton along the Delaware River and the Delaware Canal State Park & National Heritage Corridor. The park provides a multi-use open field, fishing access to the Delaware River, a picnic area, boating, a playground and a pavilion.

Fry's Run Park

The 5.8-acre Fry's Run Park is located between Coffeetown and Royal Manor Roads, and is near the point where Fry's Run Creek flows into the Delaware River. This small park offers picnicking and fishing.

State-Owned Property

Delaware Canal State Park

This state park, designated as a National Historic Landmark, follows the banks of the Delaware River for 60 miles from Easton to Bristol. This state park's primary recreational opportunity is hiking along its trail system. It meanders along the entire eastern border of the Township. It also offers access points to the Delaware River. One of these access points is at the former Roosevelt State Park, now part of the Delaware Canal State Park.

Privately-Owned Property

Mariton Environmental & Education Center & Mariton Wildlife Sanctuary

This center and its adjoining tracts of land provide over 198 acres of mostly forested space very close to the Delaware River in the southeast corner of the Township. Visitors have access to environmental and educational programs, as well as hiking and wildlife observation opportunities.

Agricultural Easements

At the present time, there is only one property in Williams Township with a conservation easement purchased under the Northampton County Farmland Preservation Program. This 92.4-acre tract is located to the south of Raubsville Road and to the east of Kressman Road in the central portion of the Township.

Wildlands Conservancy Easements

The Wildlands Conservancy holds two conservation easements in Williams Township: a 30-acre easement on Hexenkoph Road that includes Hexenkoph Rock and another 32.5-acre easement a short distance away on the opposite side of Hexenkoph Road. These easements maintain permanent open space, protect natural features and conserve wildlife habitat on the affected properties.

WILLIAMS TOWNSHIP OPEN SPACE PLAN

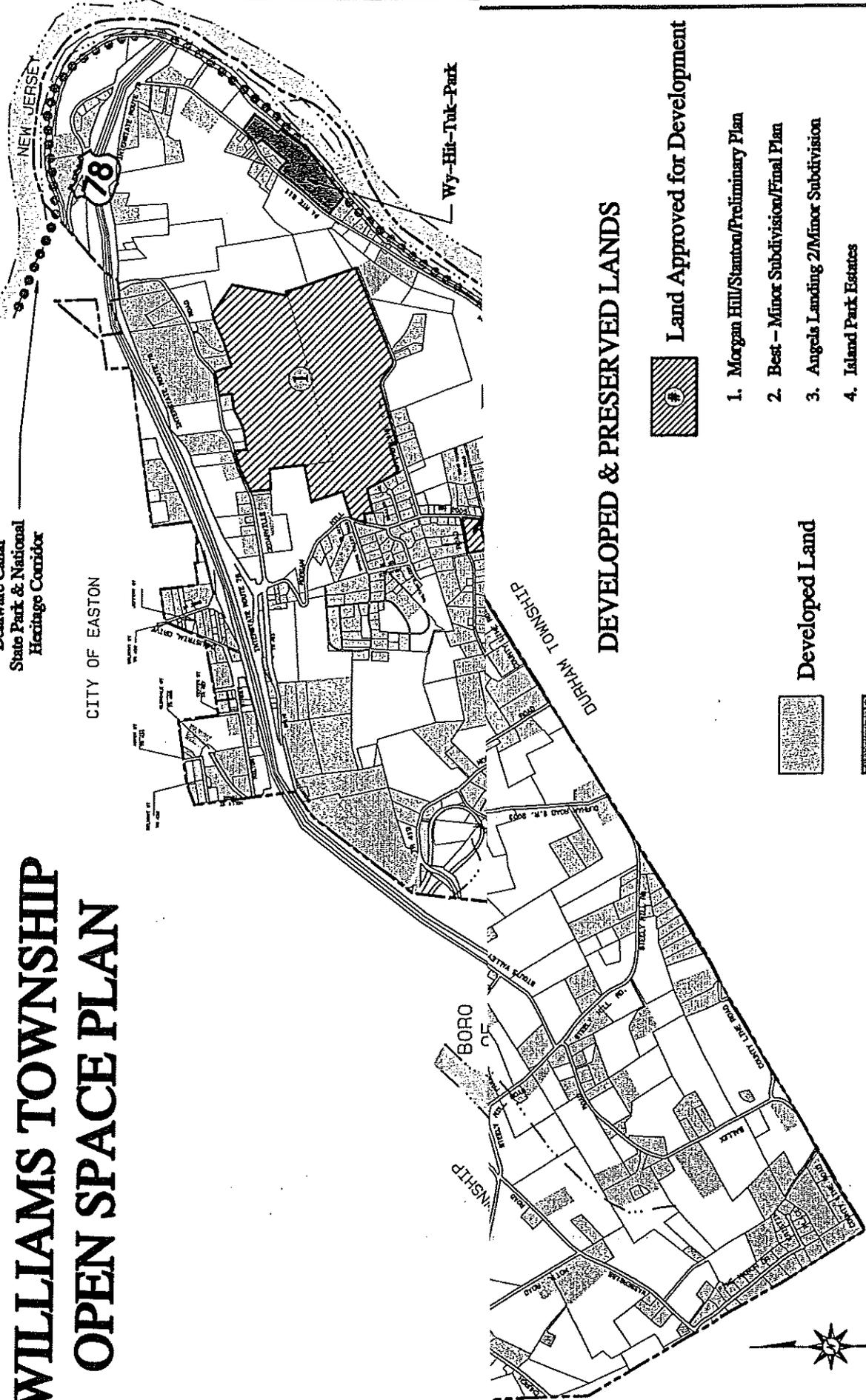
Delaware Canal
State Park & National
Heritage Corridor

CITY OF EASTON

BORO

DURHAM TOWNSHIP

Wy-Hit-Tuk-Park



DEVELOPED & PRESERVED LANDS

-  Developed Land
-  Preserved Land

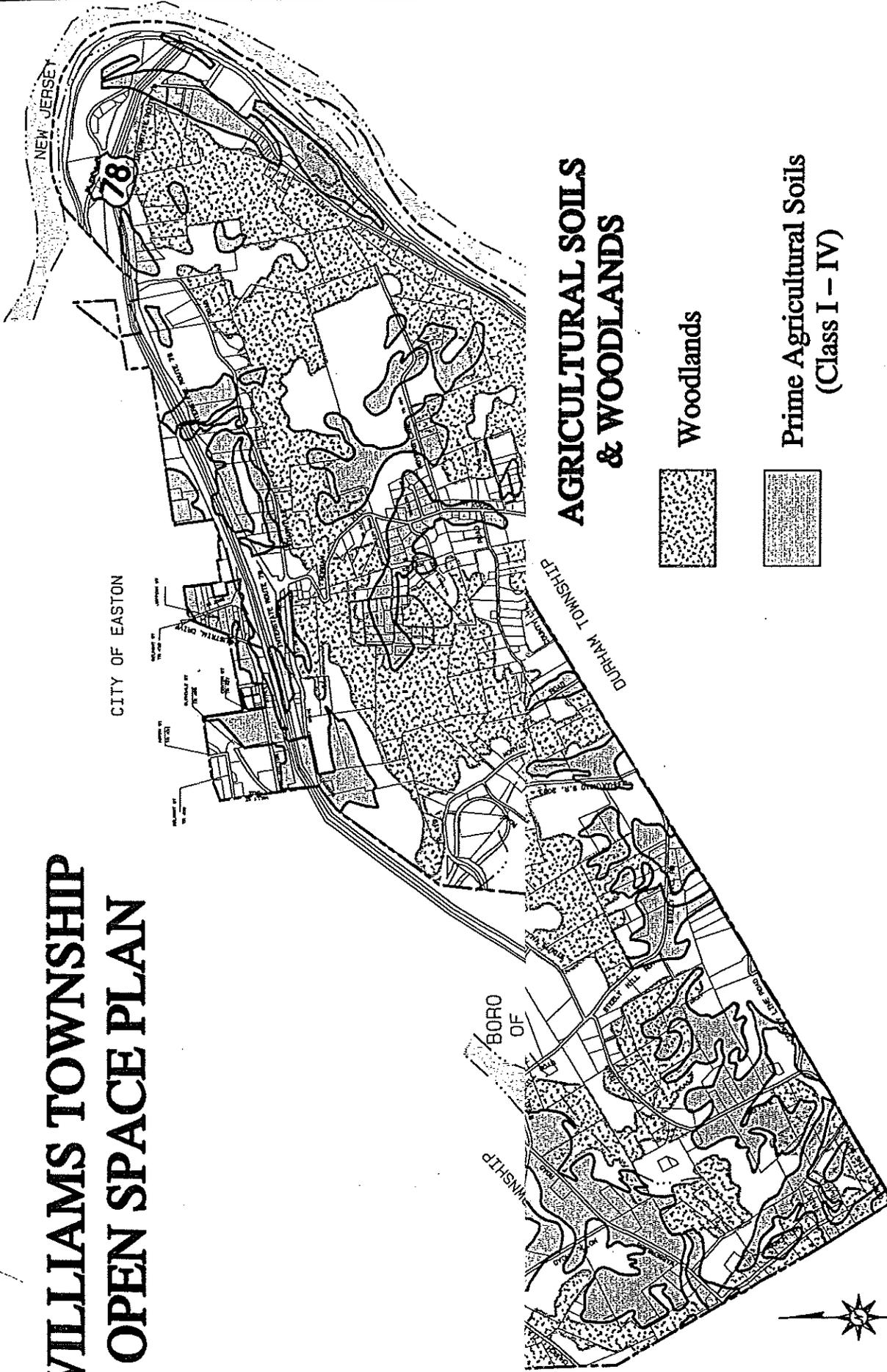
-  Land Approved for Development

1. Morgan Hill/Stantco/Preliminary Plan
2. Best - Minor Subdivisions/Final Plan
3. Angels Landing 2/Minor Subdivision
4. Island Park Estates
5. 3 Lots/Glenn Bachman/Minor Subdivision



Urban Research & Development Corporation
28 West Broad Street Bethlehem, Pennsylvania 18018

WILLIAMS TOWNSHIP OPEN SPACE PLAN



AGRICULTURAL SOILS & WOODLANDS



Woodlands



Prime Agricultural Soils
(Class I - IV)



URDC
 Urban Research & Development Corporation
 28 West Broad Street Berksheim, Pennsylvania 18018

WATERWAYS

Water features provide scenic relief, habitat and opportunities for both active and passive recreation. Williams Township is bordered by two of the major rivers in eastern Pennsylvania. The northwest region of the Township is bordered by the Lehigh River, while the entire eastern edge is bordered by the Delaware River. Frya Run, which flows to the Delaware River through Stouts Valley, is the major stream within the Township. There are also many ponds and small streams throughout Williams Township.

The Pennsylvania Department of Environmental Protection (DEP) Water Quality Standards designate protection categories for streams and rivers. Special water quality criteria for each stream category is used to limit the discharge of effluent into streams. In Williams Township, Frya Run is the only waterway designated as a High Quality Cold Water Fishery. The Lehigh River is a Cold Water Fishery, and the Delaware River is considered a Warm Water Fishery.

The Township's Zoning Ordinance regulates setbacks from waterways. The Zoning Ordinance states that no new structure, impervious surface, off-street parking or commercial or industrial storage area shall be located within 75 feet of the top edge of each closest bank of a major surface water, which is defined as the Delaware River and the Lehigh River. The applicable setback from all other streams is 25 feet from "the edge of the water". The intent of this section is to protect surface water quality, to minimize erosion and sedimentation, and to preserve the natural storm water drainage system of the area.

WETLANDS

Wetlands are areas that have vegetation and soils characteristics of a permanently or a frequently saturated environment, including swamps, marshes, bogs, high water table soils, and similar areas. Wetlands are important groundwater recharge areas that support wildlife, fish, and other aquatic life. Wetlands also reduce flooding by detaining stormwater discharge and thereby help filter impurities that contribute to surface water and groundwater pollution. Williams Township does not have that many wetlands identified in its borders. Most of the wetlands in Williams Township are small and they are scattered throughout the Township. Frya Run has the area with the most identified number of wetlands in the area.

U.S. Fish and Wildlife Service National Wetland Inventory maps identify the approximate location of prominent wetlands based on an analysis of aerial photographs. However, the National Wetlands Inventory does not show all the wetlands that exist within Williams Township. A professionally prepared, site-specific wetlands delineation map is the most accurate way to determine the presence of wetlands.

EXISTING NATURAL FEATURES

The Township's Zoning Ordinance states, that if there is reasonable doubt in the determination of the Zoning Officer or Township Engineer or Sewage Enforcement Officer whether a portion of a site would meet one or more state or federal definitions of a "wetland", then the applicant should have a study prepared by a professional to determine if a wetland exists.

FLOODPLAINS

100-year floodplains are areas that, on average, have a one in one hundred chance of flooding in a given year, according to the Federal Emergency Management Agency (FEMA). Besides providing natural habitat, floodplains carry floodwaters and help moderate flood heights. Interfering with these natural functions can increase the severity of flooding and result in costly property damage and loss of life. Most of the floodplain area in Williams Township lies along the Delaware River. Frya Run in Stouts Valley is the only prominent area in the central portion of the Township that has designated floodplains.

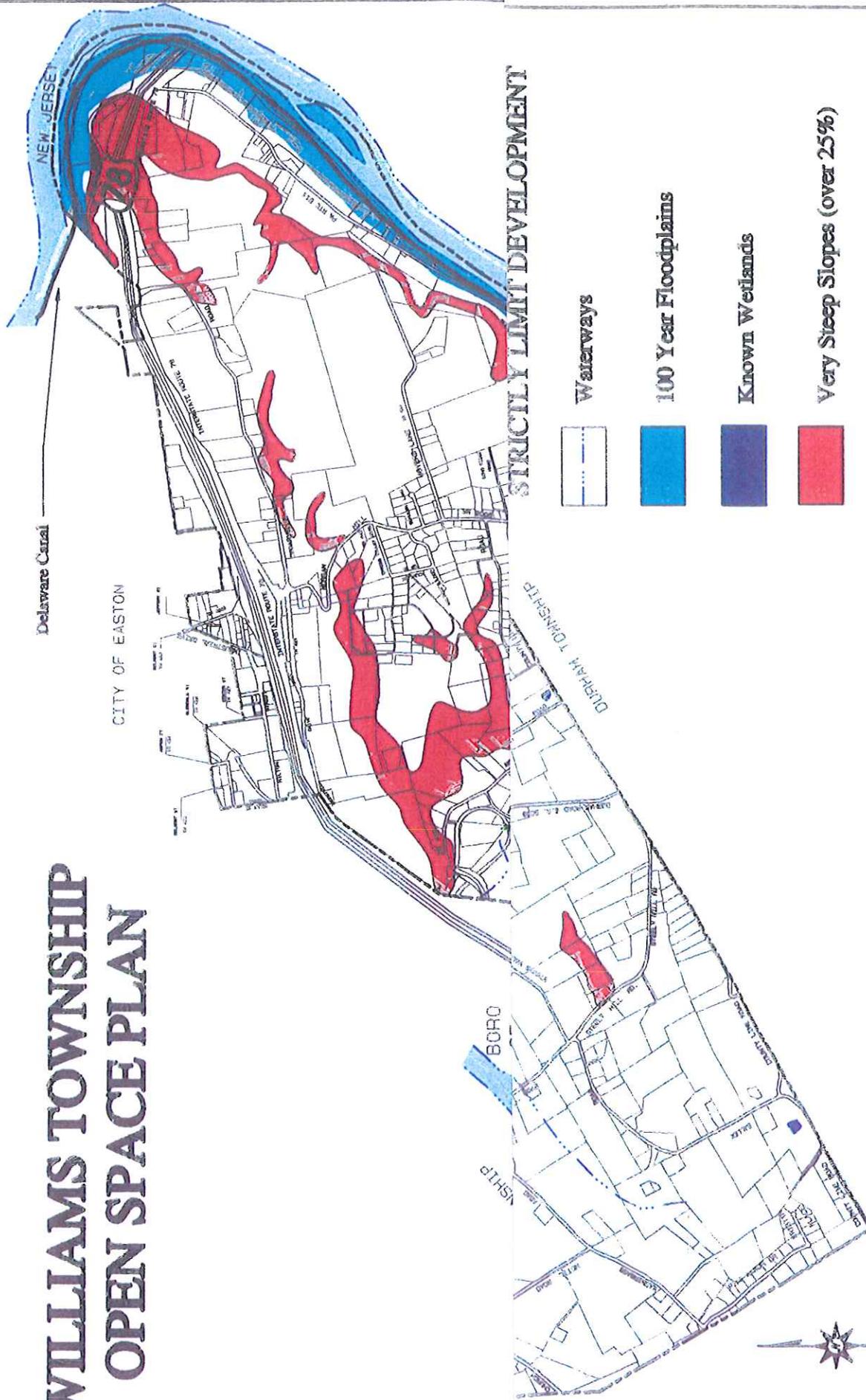
The Zoning Ordinance of Williams Township contains floodplain area regulations. The purpose of this section is to prevent loss of property and life. The provisions in this section apply to all lands within the jurisdiction of the Township that are shown to be located within the boundaries of a 100-year flood plain. These lands are delineated in the Flood Insurance Study for Williams Township that was prepared by the Federal Insurance Administration.

The floodplain protection article in the Subdivision and Land Development Ordinance for Williams Township states its purpose is to regulate the development of land within any designated floodplain district. Other purposes of this article are to protect individuals from buying lands that are unsuitable for use, and to require each subdivision lot in a flood prone area to be provided with a safe building site.

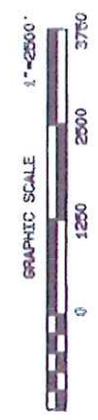
STEEP SLOPES

The slope of the land, expressed as a percentage, is determined by measuring the vertical change in feet over a 100-foot distance. For example, a 5-foot rise in elevation over a 100-foot distance is expressed as a 5% slope. The Natural Features That Strictly Limit Development map shows two categories of slopes within Williams Township: land with 15 to 25% (steep slopes) and lands with slopes over 25% (very steep slopes). It is important to know where steep grades are located because they are very susceptible to erosion when their soil and vegetation are disturbed. Steep slopes can add significantly to the cost of construction and maintaining roads and buildings. Steep slopes can also limit where people can safely place on-site sewage systems.

WILLIAMS TOWNSHIP OPEN SPACE PLAN



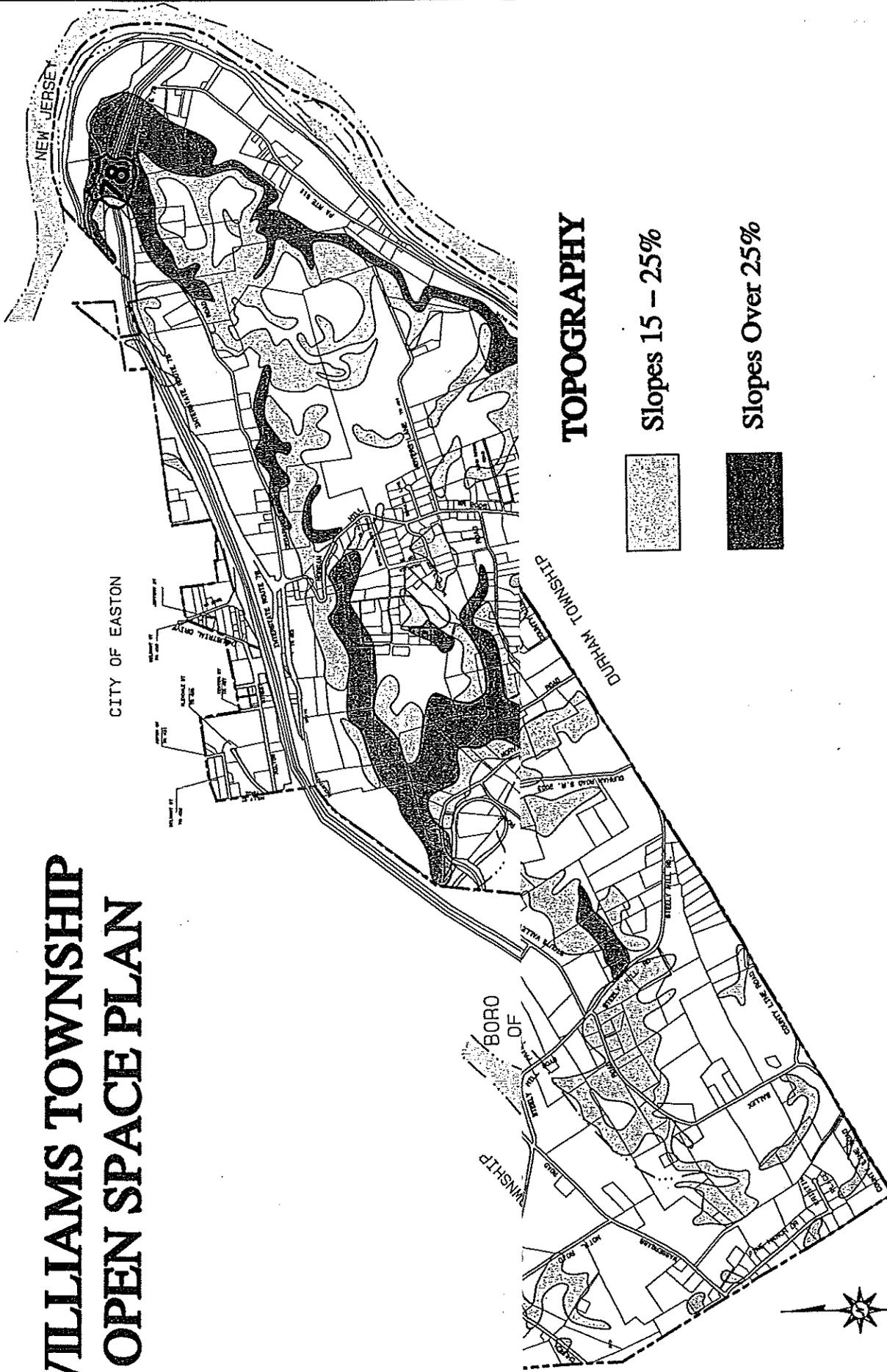
-  Strictly Limit Development
-  100 Year Floodplains
-  Known Wetlands
-  Very Steep Slopes (over 25%)



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WILLIAMS TOWNSHIP OPEN SPACE PLAN



TOPOGRAPHY

 Slopes 15 - 25%

 Slopes Over 25%



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EXISTING NATURAL FEATURES

Williams has a complex pattern of hills and valleys in the northern and east central part of the Township. These areas are where the greatest concentration of very steep slopes occur (over 25%). The central portion of the Township contains a majority of the steep slopes (15-25%). Correspondingly, this is the least developed part of the Township.

The Williams Township Zoning Ordinance defines a steep slope as land with a grade 15% or greater. The minimum residential lot size is 3 acres for a tract of land with a slope between 15% and 25%; this increases to a minimum lot size of 5 acres if the slopes are 25% or greater.

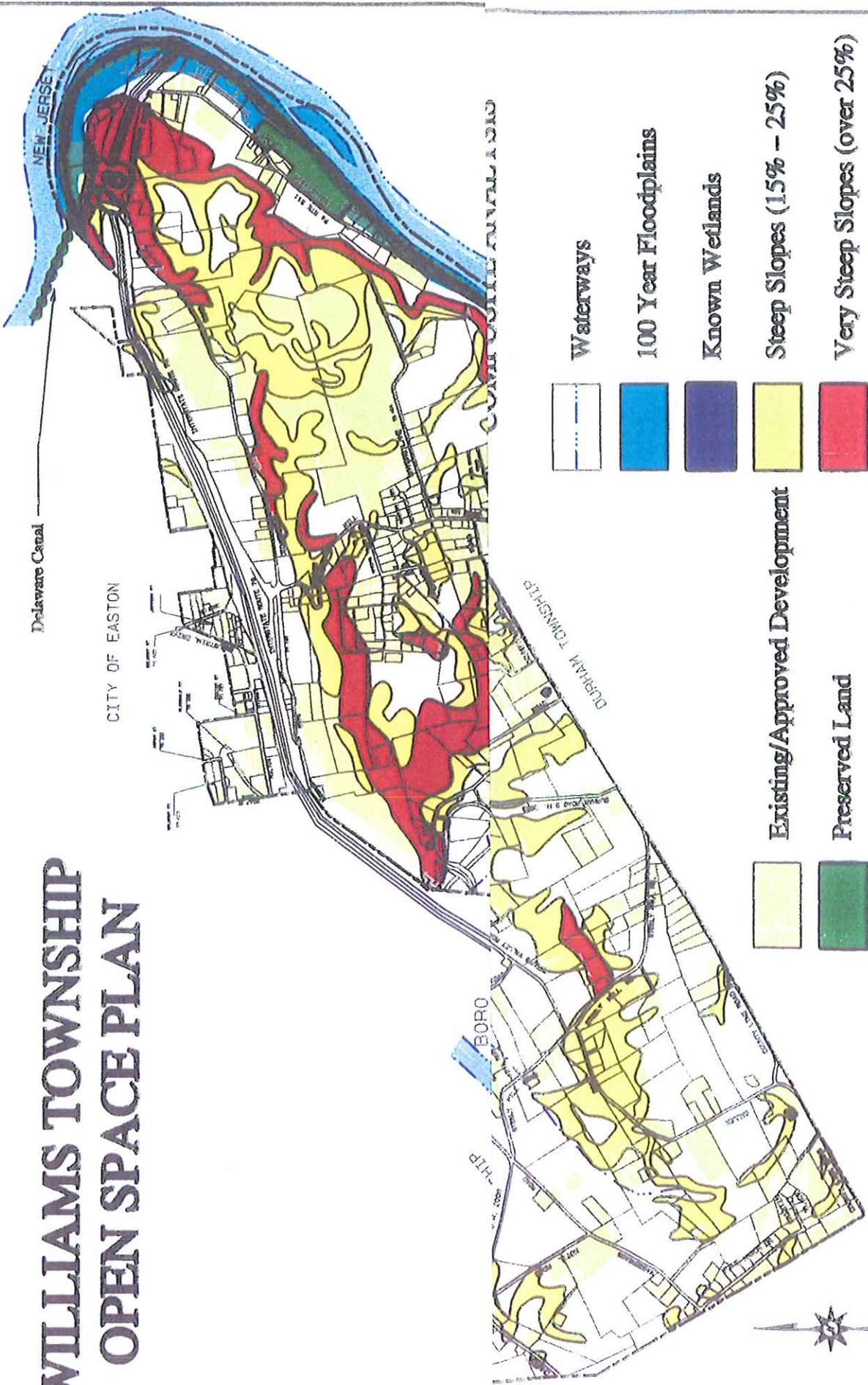
COMPOSITE ANALYSIS

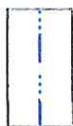
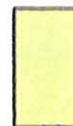
The accompanying Composite Analysis map shows those parts of Williams Township that are already developed or already preserved. These lands are “givens” and will not be the object of any future preservation efforts because their future is already determined. The Composite Analysis map also shows waterways, 100-year floodplains, wetlands and very steeply sloped areas. These areas of Williams Township are not likely to be extensively developed because existing federal, state or municipal regulations strictly limit soil disturbance in these locations.

With regard to steep slopes, homes can be built in Williams on lots of 3 acres or greater where slopes of between 15% and 25% are present. This minimum lot size increases to 5 acres in areas where slopes greater than 25% exist.

There are areas not designated on the accompanying Composite Analysis map as either: a) developed lands; b) preserved lands; or c) lands containing natural features that strictly limit future development. These “undesigned” areas (approximately 4,700 acres) are the parts of Williams Township upon which any future preservation efforts should focus. The next section of this Open Space Plan (Goals and Recommendations) outlines a strategy for how Williams Township could go about identifying which of these “undesigned” areas are most worthy of pro-active preservation strategies.

WILLIAMS TOWNSHIP OPEN SPACE PLAN



-  Waterways
-  100 Year Floodplains
-  Known Wetlands
-  Steep Slopes (15% - 25%)
-  Very Steep Slopes (over 25%)
-  Existing/Approved Development
-  Preserved Land


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GOALS AND RECOMMENDATIONS

GOALS AND RECOMMENDATIONS

GOALS

The goals of this plan, as listed below, describe the Township's ambitions for:

- Preserving open space.
- Improving protection of natural features, including the quality of groundwater and wildlife habitat as shown in Table 10.
- Exploring the possibilities of requiring conservation-oriented design in the Williams Township Subdivision and Land Development Ordinance.

The goals result from:

- Williams Township Open Space Task Force workshop meetings;
- Goals and recommendations in the Williams Township Comprehensive Plan;
- Results of the public survey the Township conducted in 1999;
- Interviews with municipal officials, business persons, farmers and other Township residents;
- The mapping and analysis of existing conditions summarized in the previous chapters;
- Fieldwork conducted in the Township; and
- Research on how other counties and municipalities have approached open space preservation.

Goal for Preserving Open Space

Add to the amount of land in Williams Township now preserved by:

- a) Implementing a land preservation program wherein municipal funds are prudently spent within clear guidelines.*
- b) Maximizing the use of available federal, state, county and private funds.
- c) Encouraging voluntary land preservation through local and national land conservancies and/or land conservation programs..

* The primary method used would be purchase of development rights but would not exclude direct purchase of the land (i.e. fee simple acquisition) if the situation warrants it. Please see page 38 for a full description.

GOALS AND RECOMMENDATIONS

Goal for Improving the Protection of Natural Features

Conserve more unique and sensitive environmental resources by:

- a) Strengthening applicable zoning regulations, and subdivision and land development regulations where needed.
- b) Working with local conservancies to enhance environmental education and raise public awareness about the need for conservation.

Goal for Implementing Conservation-Oriented Subdivision Design

Facilitate open space preservation in areas being developed by considering zoning ordinance and subdivision and land development ordinance amendments that would mandate the use of conservation-oriented subdivision design techniques (i.e. mandatory open space dedication, cluster zoning, dedication of land for trails, etc.).

RECOMMENDATIONS

The recommendations described in this chapter are the heart of this Open Space Plan. They are the actions proposed to address the needs and fulfill the goals identified above. Like the goals, the recommendations are grouped into the following categories:

- Preserving more open space
- Improving protection of natural features
- Implementing conservation-oriented subdivision design

The main ideas and assumptions behind the recommendations are as follows:

- To help maintain its unique character and rural heritage, Williams Township should be proactive in identifying and acting upon preservation opportunities.
- Public parks and open spaces must be augmented with permanently preserved private land if the Township hopes to protect farmland, waterways, woodlands and other environmental amenities, in any significant way.
- Conservation easements, mandatory dedication, donations and other means of preserving land should be emphasized over fee simple acquisition.
- Federal, state, county and private funds to supplement municipal funding will be essential to fully implement this plan.

GOALS AND RECOMMENDATIONS

- Municipal regulations and strict development criteria will be needed to conserve natural features on properties slated for development.
- The Township must determine its preservation priorities based on fair and objective criteria.
- The Township's preservation criteria should place primary emphasis on lands most susceptible to development and should include both farmlands and woodlands.
- Condemnation will not be used or implied; acquisitions and easements will only result from negotiations with willing sellers.
- Appraisals should be used to establish fair market value before any funds are expended for preservation.
- A standardized systematic approach is required to administer and implement an open space preservation program equitably and effectively.

Recommendations for Preserving More Open Space

The following recommendations suggest how Williams Township could set up and administer an open space preservation program. A numerical ranking system is proposed for evaluating potential applications under the program. Target areas are identified showing where initial preservation efforts could be focused.

1. *Establish and administer a Williams Township Open Space Preservation Program in accordance with the following procedures.*

Relying on Conservation Easements

Williams Township should remain open to receiving donated land or perhaps buying land in fee simple if appropriate opportunities arise. However, the Township should expect to rely mainly on buying conservation easements to preserve land under this program. Conservation easements are legally enforceable contracts, under which landowners give up the right to develop their land. Conservation easements can be donated, but more often the landowner granting the easement expects to be compensated financially. A conservation easement "runs with the land" and must be observed by any new owner of the affected property.

Setting Up the Program

The Williams Township Supervisors would establish a Williams Township Land Preservation Board that consists of residents knowledgeable in one or more of the following areas: farming, real estate, municipal government, law, and open space planning. The Township would then announce, advertise and otherwise publicize that the Land Preservation Board is accepting applications for the program from people who own land in the Township.

Accepting and Evaluating Applications

Interested landowners would submit an application for the program that includes the following information:

- name and phone number of the land owner
- address of subject property
- total acreage of property and total acreage of proposed easement
- deed reference (book and page)
- County/Township tax parcel numbers
- name of any lien or mortgage holder, and amount of lien or mortgage
- a United States Geological Survey (USGS) topographic map showing the location of the property
- a tax map showing the location of the property
- a list of structures on the property
- information on any applicable agreements to sell and/or applications to subdivide the property

GOALS AND RECOMMENDATIONS

The Land Preservation Board would then schedule a visit to view the property and subsequently evaluate the property according to the 100-point numerical ranking system presented below. Numerical scores for specific properties would be determined by consensus of the members at Land Preservation Board meetings. All results would be reported to the Williams Township Board of Supervisors.

Determining Value

Based on the total funds the Township has available for this program, the Land Preservation Board would order appraisals on a certain number of properties. The order of the appraisals would follow the order of numeric rankings given to the various applications. The highest scoring property gets appraised first, and so on.

Appraisals would be conducted by a State Certified General Real Estate Appraiser, who would be selected and paid by the Township. The appraisal report would estimate the market value of the property both with and without the proposed easement. The value of the easement would be the difference between these two estimated values. All results would be reported to the Williams Township Board of Supervisors.

Making Offers

Upon authorization from the Williams Township Board of Supervisors, the Land Preservation Board, on behalf of the Township, could elect to make offers to purchase conservation easements from one or more landowners who applied for the program. The order of offers would follow the order of the numeric rankings. The total number of offers made would be based on the amount of available funding. The offer price for a specific easement could be less than the appraised value of the easement but could not exceed the appraised value.

Accepting Offers

Within a prescribed period, landowners who receive an offer must either: a) accept the offer; b) reject the offer (and drop out of the program); or c) announce they intend to submit an independent appraisal they pay for themselves. As authorized by the Board of Supervisors, the Land Preservation Board would have the option to revise its offer based on the independent appraisal. If an offer is accepted, a legal agreement would be executed between Williams Township and the landowner.

Settlement

At a real estate settlement, the landowner would sign an easement that is legally recordable and Williams Township would pay the agreed purchase price to the landowner. The agreed purchase price could be paid as a lump sum or by installments, whichever is mutually acceptable to the Township and the landowner.

GOALS AND RECOMMENDATIONS

Enforcing the Easement

The Township could convey the easement to a land trust, a conservancy or a related entity. Otherwise, the Township would retain the easement itself and be responsible for enforcing the terms of the easement. At least once per year, the Land Preservation Board would determine if the landowner is complying with the terms of the easement. If the Land Preservation Board determines the landowner is not complying, the Board of Supervisors would be notified. At that point, the Township would take appropriate action in consultation with the Township Solicitor.

The terms of the easement should not prohibit the following activities provided these activities comply with Township zoning regulations, and Township subdivision and land development regulations:

- Sale of agricultural products produced on the property.
- Construction of ancillary structures limited in coverage to a certain percentage of the property.
- Use of the property for allowable home occupations.
- Subdivision of less than two acres (or the minimum acreage required by the Township's zoning or subdivision regulations) for the construction and use of the landowner's principal residence or a family member's principal residence (one time only).

Cooperating with the Northampton County Farmland Preservation Program and the Area's Non-Profit Conservancies

Under this program, Williams Township could also consider using municipal funds to assist Northampton County purchase conservation easements on farmland in Williams Township. The Township should work with Northampton County and the non-profit conservancies to preserve lands that none of these entities would be able to preserve alone.

Legal interest in an easement can be shared by two or more entities. However, subject to advice from the Township solicitor, it may be simplest for the Township to convey the easement (and enforcement responsibilities) to the Northampton County Agricultural Preservation Board if a farmland easement is ever jointly purchased in this manner. The same procedures and provisos could also apply to an easement the Township may consider purchasing jointly with a land trust, conservancy or related entity.

2. *Use a numerical ranking system similar to the following to evaluate the suitability of properties for potential preservation.*

To ensure any open space preservation program is administered fairly, the Township could use a numerical ranking system similar to the following example.

GOALS AND RECOMMENDATIONS

<u>CRITERIA</u>	<u>POINTS</u>
FARMLAND VALUE - (Maximum of 12 points)	
At least 75% of the property is now used for harvested crop land or animal husbandry	12
At least 50% of the property is now used for harvested crop land or animal husbandry	10
IMMINENT DEVELOPMENT - (Maximum of 10 points)	
Property is part of a subdivision or land development proposal with preliminary or final approval	10
Property is part of a subdivision or land development proposal submitted within the past five years	8
SIZE - (Maximum of 10 points)	
Property is at least 25 acres in area	10
Property is at least 15 acres in area	8
ZONING - (Maximum of 10 points)	
Property is in the A -Agricultural Zoning District	10
Property is in the LDR-Low Density Residential Zoning District	8
Property is in the MDR-Medium Density Residential District	5
WOODLAND VALUE - (Maximum of 10 points)	
At least 65% of the property is wooded	10
At least 50% of the property is wooded	8
OPEN SPACE CONNECTION POTENTIAL - (Maximum of 10 points)	
Property is adjacent to another existing or proposed preserved property	10
Property is within 1/4 mile of another existing or proposed preserved property	8
FARMLAND CONNECTION POTENTIAL - (Maximum of 10 points)	
Property is adjacent to two more properties that are at least 50% used for crop land or animal husbandry	10
Property is adjacent to one property that is at least 50% used for crop land or animal husbandry	8
DEVELOPMENT POTENTIAL - STEEP SLOPES - (Maximum of 10 points)	
At least 65% of the property is free of slopes 15% or greater	10
At least 50% of the property is free of slopes 15% or greater	8
DEVELOPMENT POTENTIAL - WETLANDS OR FLOODPLAINS - (Maximum of 10 points)	
At least 70% of the property is free of hydric soils or 100-year floodplains	10
At least 55% of the property is free of hydric soils or 100-year floodplains	8
SCENIC VALUE - (Maximum of 5 points)	
Property provides a view of a broad scenic vista	5
Property provides a view of a particular scenic location	3
HISTORIC VALUE - (Maximum of 3 points)	
Property is listed on the National Register of Historic Places or a local historic survey	3
Property contains a pre-1940 house or barn	2
TOTAL POSSIBLE POINTS	100

GOALS AND RECOMMENDATIONS

3. *Use public information to increase future participation in the Williams Township Open Space Preservation Program.*

People will only consider participating in a land preservation program if they understand their options and what these options mean to them. Municipal officials and other residents can make informed judgements about whether to spend municipal revenues on open space preservation only if they are clear about what it is likely to mean for both landowners and the municipality. The Township should use the following information to help ensure residents understand the basic facts about open space preservation and conservation easements.

- Property rights are often compared to a bundle of sticks with each stick representing a different right, such as the right to develop your land. Selling or donating development rights means giving up one of these sticks. The landowner retains all the other sticks and still owns the land after giving up development rights.
- Landowners transfer their development rights to someone else by granting a legally enforceable conservation easement. The easement can pertain to all, or to just a portion, of a person's property. These easements typically stipulate that the affected land shall remain undeveloped forever. The easement is attached to the property deed and its restrictions are transferred to the new owner if a property that is under a conservation easement is ever sold.
- The IRS Code allows people who donate conservation easements to deduct the value of the easement in calculating their federal income tax, subject to certain limits. The value of the easement is the difference between the appraised values of the property before the easement and after the easement.
- Whether the landowner donates a conservation easement or sells it for a fee, the reduced value of a property for which development rights were given up can be used to justify a reduced property assessment. The landowner can thereby save each year on real estate taxes.
- The entity that receives the donated or sold conservation easement is said to "hold" the easement. That entity is responsible for enforcing it. Enforcement of a conservation easement is usually done by periodic monitoring of the affected property.
- Subject to any special terms that may be part of the easement, the landowner is allowed to continue all regular activities on the eased property (such as farming, mowing, etc) even though a conservation easement is now in place. The only prohibited activity would be the activity specifically prohibited in the easement (usually development). The clear cutting of trees might also be prohibited. There is no restriction on selling land with a conservation easement on it to someone else.

GOALS AND RECOMMENDATIONS

Recommendations to Improve Protection of Natural Features

An open space preservation program should be augmented with effective development regulations. The following recommendations identify how Williams Township can further protect natural features on properties being developed. There are development practices that can provide landowners with needed income while still conserving unique natural areas, sensitive environment resources and the Township's overall low-density character.

1. Make greater use of zoning and subdivision regulations to enhance environmental protection.

Land varies greatly in the amount of development it can physically support. Floodprone areas and very steep slopes should remain in open space. Other lands are suited for moderate or intense development. Williams Township regulates development of steep slopes, woodlands and other natural features as described earlier. Still, the Township will benefit from using the following guidelines in reviewing development proposals.

**Table 10
GUIDELINES FOR PROTECTING IMPORTANT NATURAL FEATURES**

NATURAL FEATURES (Type & Description)	POTENTIAL PROBLEMS IF NOT PROTECTED	STRATEGIES FOR PROTECTION
<p>Steep Slopes - Steep slopes of 15% have 15 feet of vertical change for every 100 feet of horizontal distance. Very steep slopes of 25% rise vertically 25 feet for every 100 feet. Steep slopes are sometimes wooded and found along creeks.</p>	<ul style="list-style-type: none"> • Difficulty of maintaining and snow-plowing steep roads. • Higher costs of buildings. • High rate of septic system failures. • Increased erosion and runoff. • Winter driving hazards from steep roads and driveways. • Disturbance of scenic areas. • Increased costs to extend public water and sewer lines. 	<ul style="list-style-type: none"> • Site houses on the most suitable land, while keeping steep slopes in open space. • Keep natural vegetation intact. • Enforce all municipal regulations that protect steep slopes.
<p>Groundwater - Groundwater is stored underground after entering through the soil or seeping from creeks. Maintaining the quality of this water is important because both private wells and public water systems depend on groundwater.</p>	<ul style="list-style-type: none"> • Polluted groundwater. • Dry wells. 	<ul style="list-style-type: none"> • Continue to control the percentage of lots covered by buildings and paving. • Ensure septic systems are designed and operated properly. • Monitor underground storage tanks for leaks. • Avoid polluted storm water runoff. • Avoid high volume withdrawals of groundwater. • Explore the feasibility of having a groundwater/hydrological study completed.
<p>Floodplains - Areas that are prone to flooding include both legally designated floodplains and land along drainage channels.</p>	<ul style="list-style-type: none"> • Increased flooding in other areas. • Loss of potential public recreation area. • Threats to important wildlife and bird habitats. 	<ul style="list-style-type: none"> • Prohibit construction of new structures within the 100-year floodway (which is the actual main flood channel) and along the adjacent 100-year flood-fringe. Prohibit construction within 100 feet of the centerline of a stream (depending on stream size). • Seek to preserve buffers of natural vegetation immediately adjacent to creeks and drainageways. • Seek to preserve more land along local streams and drainageways.

GOALS AND RECOMMENDATIONS

NATURAL FEATURES (Type & Description)	POTENTIAL PROBLEMS IF NOT PROTECTED	STRATEGIES FOR PROTECTION
<p>Wooded Areas - Concentrated areas of mature tree growth are found throughout the region's steeply sloped lands and in other scattered locations.</p>	<ul style="list-style-type: none"> • Increased surface temperatures. • Loss of important bird and wildlife habitats. • Loss of hunting areas. • Loss of air purification. • Increased erosion and runoff. • Loss of scenic resources. • Noise and incompatible development may become more noticeable. 	<ul style="list-style-type: none"> • Restrict cutting of trees during building to the building envelope and immediately adjacent areas. • Seek to preserve tree stands in public or private open space. • Seek replanting of trees that must be cut down.
<p>Shallow Depth to Bedrock - Areas with shallow soils and bedrock close to the surface are frequently found in steeply sloped locations.</p>	<ul style="list-style-type: none"> • Higher construction costs. 	<ul style="list-style-type: none"> • Minimize building in these areas.
<p>Waterways - Protecting waterways from pollutants involves controlling direct discharges and maintaining vegetative stream buffers.</p>	<ul style="list-style-type: none"> • Loss of potential public recreation areas. • Threats to important bird, fish and wildlife habitats. • Increased erosion and flooding. 	<ul style="list-style-type: none"> • Prevent soil erosion to avoid sedimentation of creeks and drainageways. • Work with soil conservation authorities and farmers to keep animals out of streams. • Consider areas along creeks and drainageways for public greenways. • Minimize runoff of pesticides, grease and industrial wastes. • Minimize direct runoff from parking lots. • Require buildings and paving to be setback from creek banks and significant drainageways by at least 50 feet. In Williams, the stream setback is 25 feet except for the Delaware River and Lehigh River. • Control the peak rates of storm water runoff from development to avoid increased flooding.
<p>Natural Drainage Channels - Smaller natural channels that carry storm water to local creeks during heavy storms exist throughout the region.</p>	<ul style="list-style-type: none"> • Increased flooding. • Erosion of soil. 	<ul style="list-style-type: none"> • Preserve adequate width along channels in open space. • Prevent erosion.
<p>Hydric Soils - Hydric soils, often located in wetland areas, have a shallow depth to the seasonally high water table.</p>	<ul style="list-style-type: none"> • Flooded basements. • Disturbance of natural drainage and groundwater recharge. • Poor foundation stability. • Failed on-lot septic systems. 	<ul style="list-style-type: none"> • Continue to enforce local, state and federal wetland regulations. • Place on-lot septic systems and buildings outside hydric soil areas. • Retain a professional to prepare site-specific wetlands maps.

Source: URDC

NOTE: In addition to the protection strategies noted above, Williams Township should consult the Northampton County Natural Areas Inventory to be aware of locations in the Township identified as unique natural habitat. This document is available from the Lehigh Valley Planning Commission in Allentown, PA.

2. *Enhance wellhead protection efforts through regulation and other techniques.*

Water available for wells is trapped in underground rock or soil layers called aquifers. The surface areas from which water seeps into aquifers are known as recharge areas. The *quantity* of water that seeps into aquifers depends on what soils and what impervious surfaces exist in the recharge areas. The *quality* of the water depends on the presence or absence of contamination above the aquifers. In eastern Pennsylvania, the primary sources of groundwater pollution (wellhead contamination) are:

- Underground or aboveground storage tanks
- Industrial waste sites and other landfills
- Agricultural fertilizers and pesticides
- On-lot sewage systems

It can be difficult to determine the path that groundwater takes between the surface and the aquifer. A professional geologist is best qualified to define the extent of the surface area from which a specific public water supply is recharged.

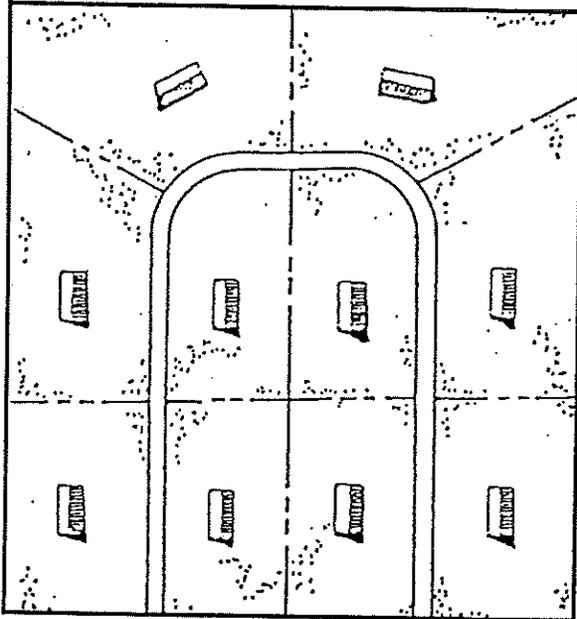
Once the groundwater protection (wellhead protection) area is defined, protective strategies can be put in place. Since the quality of groundwater depends on nearby uses of land, groundwater can be protected by regulating development through zoning and subdivision ordinances. Regulations that govern impervious surfaces, industrial uses and on-site septic systems are particularly important. Zoning techniques that reduce density and maintain open space are also beneficial, including agricultural zoning, open space subdivisions (clustering) and transfer of development rights.

Wellhead protection districts are specially created overlay districts around wells or well fields that afford extra protection for groundwater sources. Within wellhead protection districts, certain land uses may be prohibited entirely. Other uses may be permitted under special conditions, and only with the approval of the zoning hearing board or governing body. The extent of a wellhead protection district can be determined from hydrogeologic analysis, or be based on a specific, predetermined radius around the applicable well(s). Wellhead protection districts are now being considered in many municipalities.

In addition to regulation, ways to protect groundwater resources include public education about farming practices, recycling, regular septic system maintenance and the proper disposal of toxic or hazardous household waste.

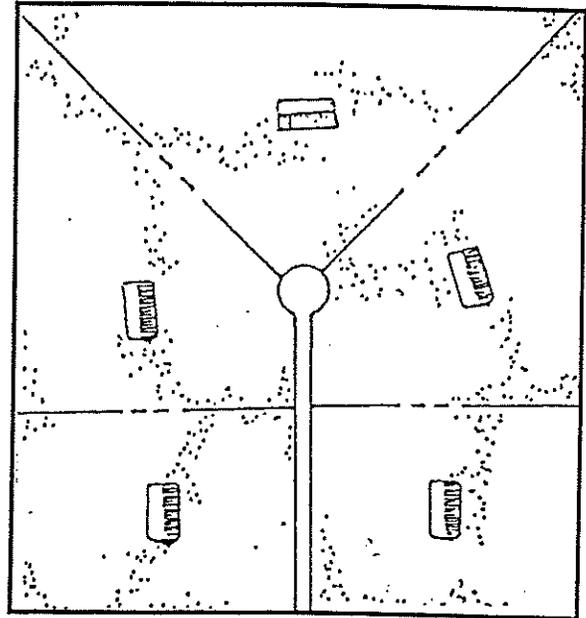
Open Space vs. Conventional Subdivision Design

20 Acre Tract



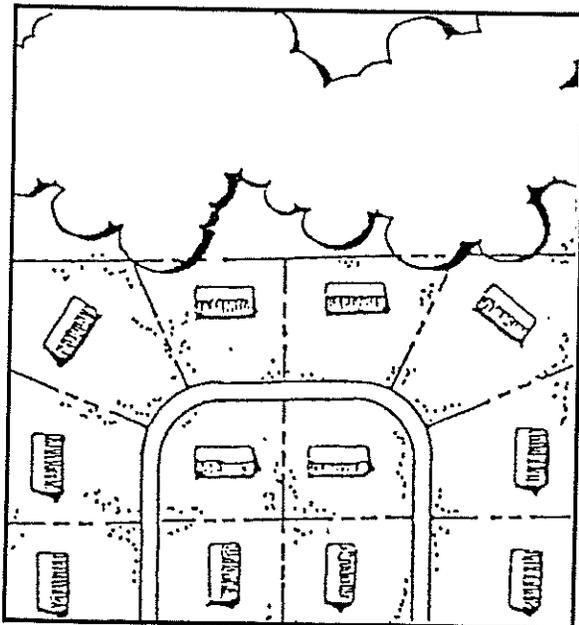
CONVENTIONAL

Total Lots: 10
Lot Size: 2 Acres



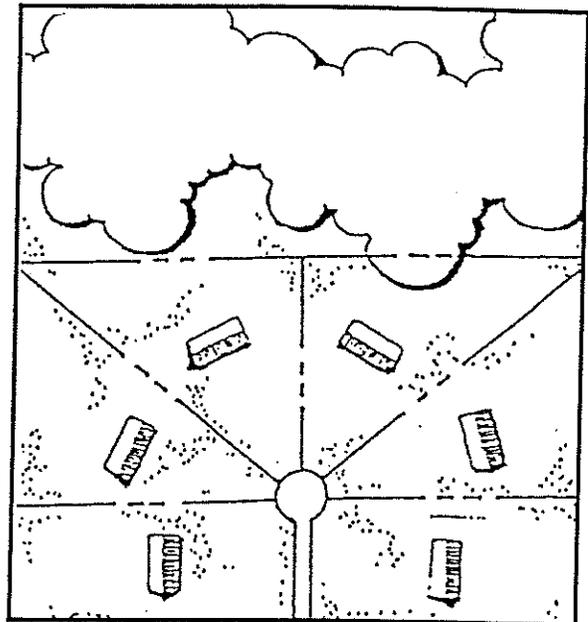
CONVENTIONAL

Total Lots: 5
Lot Size: 4 Acres



OPEN SPACE

Total Lots: 12
Lot Size: 1 Acre
40% Open Space



OPEN SPACE

Total Lots: 6
Lot Size: 2 Acres
40% Open Space

Recommendations to Implement Conservation-Oriented Subdivision Design

The following recommendations address ways to ensure that approved residential subdivisions are designed and built with respect for the natural environment and rural heritage of Williams Township.

1. *Consider amending the A - Agricultural and LDR - Low Density Residential Zoning to require developers to use more open space oriented subdivision design.*

“Clustering”, “Open Space Subdivisions”, “Lot Averaging” and “Conservation Zoning” are various names for related design techniques that conserve open space within residential subdivisions. Many Pennsylvania municipalities have adopted variations of these subdivision regulations to help conserve common open space and protect sensitive natural features like steep slopes, woodlands, wetlands and stream corridors. In comparison, conventional subdivision design usually results in little or no preserved open space because the entire tract is subdivided into building lots and roads. Often most of the building lots in a conventional subdivision are virtually the same size and shape—hence the nickname “Cookie Cutter Subdivisions”.

The goal of open space subdivisions design is to place homes on the most suitable portions of a tract, with the important natural areas being preserved, such as lands along creeks. This option allows developers flexibility in site layout. For example, developers can make better use of site topography and avoid soils that are not suitable for septic systems. Open space-related subdivision design also permits the developer to group building lots together, thereby reducing road lengths, grading and utility extensions—each of which saves on construction costs. Sometimes, developers are allowed to build a few additional homes in exchange for preserving land in its natural state.

Several alternatives exist concerning the long term maintenance of the preserved open space, including ownership by a homeowners association, the Township, the State or a land conservancy. Alternatively, the open space can be distributed among private lots so that the open space portion of each of these lots is deed restricted for permanent conservation.

2. *Encourage developers to use voluntary design guidelines in addition to any conservation-oriented design techniques mandated in new zoning and/or subdivision ordinance amendments.*

Williams Township could encourage developers to use the following guidelines on how best to design and locate residential structures, adjacent open space and complementary landscaping. The guidelines are divided into four topics: site planning, architecture, landscape architecture and signage. All four sections should be used as a guide for planning commission members and other Township officials when reviewing new development proposals.

GOALS AND RECOMMENDATIONS

Site Planning

- Orient uses to minimize objectionable views, such as service areas and the backs of buildings, from roadways and from scenic overlooks,
- Match scale and character of buildings and other uses to the scale and character of the site and the surrounding environs,
- Maximize joint use driveways,
- Minimize impervious cover,
- Provide scenic overlooks whenever possible,
- Provide landscaping along the perimeter of parking areas,
- Place utilities underground,
- Minimize the grading by the use of retaining walls, building orientation and running with contours,
- Avoid placing buildings on cleared ridgelines to protect views, and
- Use curved driveways when developing in wooded areas to obscure the view of the house from the road.

Architecture

- Minimize the height of the proposed structure, especially on ridgelines and in very visible locations,
- Reduce the building mass by breaking up the building into smaller components,
- Use indigenous building materials, such as stone,
- Use compatible, earth tone colors that blend with the existing environment,
- Design structures to fit the topography rather than excessively grading the site, and
- Use pitched roof design features.

Landscape Architecture

- Minimize removal of existing trees, especially on ridgelines,
- Establish vegetative buffers adjacent to roadways,
- Screen objectionable views,
- Maximize parking lot landscaping, and
- Use indigenous plant materials.

Signage

- Use materials that are compatible with the proposed or existing buildings and landscape elements,
- Locate signs on the building in consistent sign bands,
- Group signs on one sign structure,
- Avoid bright colors and internally illuminated signs,
- Minimize temporary signs, and
- Use consistent typography on signs.

3. *Consider requiring developers to identify conservation areas before delineating development areas.*

Although steep slopes, floodplains and wetlands are usually noted on the site plans, little consideration is sometimes given to other elements like a grand oak tree, a wildflower meadow or an old apple orchard; features that can be preserved to help maintain rural character. By conducting a more intensive analysis of the site, developers should be able to achieve adequate densities without sacrificing these environmental amenities. The following four steps are a sequential approach towards more conservation-oriented design based on the recommendations of noted conservationist Mr. Randall Arendt, formerly of The Natural Lands Trust.

- a) *Identify Primary and Secondary Conservation Areas* - First, identify primary conservation areas such as sensitive natural areas: steep slopes over 25%, 100-year floodplains, streams and their buffers, and habitats of rare, threatened and endangered species.

GOALS AND RECOMMENDATIONS

Other conservation areas may include scenic views, locally important vegetation, unique geologic features and wet soils, among other areas.

- b) *Identify Locations for Development* - Next, locate potential development areas which include the remaining land left over after the primary and secondary conservation areas are identified. Carefully consider siting new homes with views of the open space areas. Reduce the lot sizes to accommodate for the number of homes that would have been originally provided under conventional development.
 - c) *Layout Roads and Trails* - Show a road alignment that would most efficiently access all new homes. Also consider developing trails that could link residents with each other and with the open space areas.
 - d) *Delineate Lot Lines* - The final step involves delineating the boundaries of each lot, a step often done first in traditional design.
4. *Investigate the feasibility of using transfer of development rights in Williams Township*

Transfer of development rights (TDR) shifts development away from sensitive environmental lands to areas more suitable for higher density. Under a TDR program, property owners in the areas where conservation is to be encouraged (sending areas) sell their development rights to landowners who use them in areas where development is to be concentrated (receiving areas). In this way, a municipality conserves natural areas or other open space in exchange for allowing higher density than otherwise permitted on a tract already zoned for development.

The buyer and seller of the development rights negotiate a mutually agreeable price on their own. Under one popular variation, the applicant then submits a "yield plan" to the municipality to show how many homes would be possible under conventional zoning on the tract to be preserved. The number of homes possible under the "yield plan" is the number of extra homes the municipality permits the developer to construct in the receiving area.

IMPLEMENTATION

IMPLEMENTATION

SUMMARY OF RECOMMENDATIONS

The following table summarizes each recommendation described in detail elsewhere in this plan. Suggested phasing and who should be primarily responsible for overseeing the implementation of each recommendation are suggested. Potential partners and funding sources are listed as appropriate.

**Table 11
SUMMARY OF RECOMMENDATIONS**

SUMMARY OF RECOMMENDATIONS	SHORT RANGE (1 st through 2 nd Year)	LONGER RANGE (3 rd Year & Beyond)	ON- GOING	PRIMARY RESPONSIBILITY	POTENTIAL PARTNERS
Summary of Recommendations on Preserving Open Space					
1. Establish and administer a Williams Township Open Space Program.	X		X	Township Supervisors and proposed Land Preservation Board	Northampton County area land conservancies
2. Use a numerical ranking system to evaluate potential preservation properties.	X		X	Township Supervisors and proposed Land Preservation Board	----
3. Use public information to increase future participation in the Williams Township Open Space Program.	X			Township Supervisors and proposed Land Preservation Board	Northampton County area land conservancies
Summary of Recommendations on Improving Protection of Natural Features					
1. Make greater use of zoning and subdivision regulations to enhance environmental protection.	X			Township Supervisors and Planning Commission	Lehigh Valley Planning Commission
2. Enhance wellhead protection efforts through regulation and other techniques.		X		Township Supervisors and Planning Commission	Lehigh Valley Planning Commission
Summary of Recommendations on Implementing Conservation-Oriented Subdivision Design					
1. Consider amending the A-Agricultural and LDR-Low Density Residential Zoning to require developers to use more open space-oriented subdivision design.	X			Township Supervisors and Planning Commission	Lehigh Valley Planning Commission

IMPLEMENTATION

SUMMARY OF RECOMMENDATIONS	SHORT RANGE (1 st through 2 nd Year)	LONGER RANGE (3 rd Year & Beyond)	ON- GOING	PRIMARY RESPONSIBILITY	POTENTIAL PARTNERS
3. Consider requiring developers to identify conservation areas before delineating development areas.			X	Township Super- visors and Planning Commission	Lehigh Valley Planning Commission

IMPLEMENTATION TECHNIQUES

There are a variety of effective techniques for preserving open space. These suggestions can be grouped into three main categories, as follows:

- Ways to Preserve Open Space
- Local Funding Sources
- Northampton County and PA State Grants

Ways to Preserve Open Space

1. *Fee Simple Acquisition* - The most direct means of obtaining 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. In many situations, fee simple acquisition is the most appropriate manner by which to preserve land. However, the expense of fee simple purchase can sometimes exceed available funding sources.
2. *Condemnation* - Condemnation is not endorsed by the Williams Township Board of Supervisors for the preservation of open space.
3. *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. The easement involves the property owner voluntarily agreeing to donate or sell the right to develop his or her land. The property owner agrees to place a restriction in the deed of the property, which then becomes binding on all future owners of the land. Most conservation easements prohibit the construction of new buildings and cutting down woods. Often, the granting of a conservation easement can provide property owners with several tax benefits.
4. *Purchase 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

woods. Often, the granting of a conservation easement can provide property owners with several tax benefits.

4. *Purchase 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 all of the purchase price. In this way, land is maintained in 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.
5. *Pedestrian Easements* - A conservation easement can also be combined with a "pedestrian easement" to allow the public the right to walk, hike and ride bicycles along a specific area, provided users follow pre-established rules. These easements can be particularly useful in connecting two or more greenway segments.
6. *Mandatory Dedication* - The Pennsylvania Municipalities Planning Code (Act 247, as amended) enables municipalities to require that residential developers dedicate land, or fees in lieu of land, for public recreation. Municipalities must have an adopted recreation plan and an adopted ordinance relating to mandatory dedication before land or fees can be accepted. The amount of land required must be related to the demand for recreation land typically created by new development. The required fee should reflect the fair market value of the amount of land for which the fee is being substituted. Williams Township has mandatory dedication regulations, under which land or fees can be dedicated based on a mutual determination by the developer and the Township. Between 1,200 square feet and 2,000 square feet are required per dwelling unit depending on the character of the land being dedicated. The fee in lieu of dedicating land is \$600 per dwelling unit.
7. *Donations* - Land frequently is acquired through donations from private owners, organizations and corporations. Local governments should encourage land donations by pointing out benefits of such actions, such as public relations values and federal income and estate tax benefits. Prior to accepting a donation, a municipality should consider two things: first, it should analyze the location of the parcel and the anticipated development and maintenance costs. If the location is poor and/or projected costs will be excessive, the municipality should strongly consider accepting a fee rather than the land. Second, if the land is found to be suitable, the municipality should encourage the donor to provide an endowment fund along with the land to assist with development and/or maintenance costs. In addition to land, corporations and other private parties can also be solicited for cash donations.

Local Funding Sources

1. *General Revenue Funds* - Williams Township could use general revenue funds for open space purposes. Specific portions of each year's overall tax revenue could be earmarked for open space and preservation.
2. *Bond Issues* - Bond funds are monies borrowed to fund a specific purpose project. Bonds can either be general obligation bonds, which are paid back from a municipality's general revenues, or they can be revenue bonds, which are retired from revenues generated by specific improvements. A bond issue can be appropriate to fund projects with a long life expectancy. Payments are spread over the many years during which project benefits will be enjoyed. The total cost of a project funded through a bond is higher, however, because of interest charges and bond placement costs. The key is to time a bond issue when interest rates are lowest.
3. *Bank Loans* - Bank loans are like bond funding except they are typically used where smaller amounts of money and quicker repayment schedules are involved. As with bond funding, the key is to time the loan when rates are lowest. The other difference is that bank loans are simpler because they are paid off directly by the municipality. In the case of municipal bonds, the debt is resold to private investors (via underwriters) as tax-free securities.
4. *Installment Purchase* - Many communities have found that they can significantly extend their acquisition dollars through a unique approach that involves installment payment programs. In this approach, communities acquire the land or easement now in exchange for a contract which pays the seller tax-free, annual interest payments with a balloon payment at the end of 10, 20 or 30 years. At the same time, the community purchases zero-coupon bonds, often for 15 or 20 cents on the dollar, that provide the balloon payment at the end of the contract. The seller thereby receives an annual, tax-free income stream, defers capital gains taxes and owns a contract that can be resold on the bond market if they ever need to 'cash-out' sooner. The community gains by stretching its dollars farther, protecting significantly more acreage than it otherwise could and offering landowners a financially attractive alternative to the "all-cash at closing" approach.
5. *Overview of Funding Programs for Open Space in Nearby Counties and Municipalities* - The following is a survey of public funding techniques being used to preserve open space in Monroe County and the Delaware Valley as of November 2001. Local governments in these regions are relying on bond funds and dedicated tax increases to fund their open space preservation programs. Earned income taxes, real estate taxes and, in one case, realty transfer taxes are each being used as revenue sources.

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Monroe County:

A \$25 million bond for open space acquisition was approved by the voters in 1998. In 1999, the County adopted the following distribution for spending the funds:

Municipal grants	\$10.6 million
County initiatives	\$ 9.8 million
Agricultural easements	\$ 3.9 million
Planning and education	\$ 0.8 million

Bucks County:

A \$3.5 million bond was issued in 1994. Subsequently, a \$59 million bond was authorized in 1997 for open space initiatives over 10 years as follows:

Agricultural preservation	\$13.5 million
County parkland	\$16.5 million
Municipal grants	\$20.0 million
Natural areas	\$ 9.0 million

Bucks County municipalities:

Plumstead	\$ 6.0 million bond
Upper Makefield	\$15.0 million bond
Hilltown	1/4% increase in earned income tax
Springfield	1/4% increase in earned income tax
New Britain	1/4% increase in earned income tax
West Rockhill	1/4% increase in earned income tax
Solebury	\$10.0 million bond
Buckingham	\$ 9.5 million bond
East Rockhill	1/8% increase in earned income tax
Lower Makefield	\$ 7.5 million bond
Milford	2 mills of real estate tax revenues
Bedminster	\$ 2.5 million bond

Chester County:

A \$50 million bond was issued in 1989. Then a \$75 million bond program started in 1999 for municipal grants, agricultural preservation, county parks and planning.

Chester County municipalities:

East Bradford	1/4% increase in earned income tax
London Britain	2 mills of real estate tax revenue
Willistown	1/8% of real estate tax revenue

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East Marlborough
Tredyffrin

2 mills of real estate tax revenue
\$10.0 million bond

Montgomery County:

\$100 million bond issues for open space in 1993 over 10 years. In the future, funding will be from designated real estate tax revenues.

Montgomery County municipalities:

Franconia
Skeppack
Whitpain

1/4% earned income tax increase
1/4% earned income tax increase
\$10.0 million bond

Delaware County municipalities:

Radnor Township

1/4% increase in realty transfer tax

6. *Landfill Host Fee* - As a landfill host municipality, the possibility of allocating a percentage of future landfill-related revenue specifically for preservation of farmland and open space presentation in Williams Township is recommended.
7. *Rollback Taxes* - The allocation of a percentage of rollback taxes obtained via the sale of lands enrolled in Acts 319 and 515 for the purpose of open space and farmland preservation in Williams Township is recommended.
8. *Increase in the Mandatory Dedication Fee* - Section 1007 of the Williams Township Subdivision and Land Development Ordinance requires developers to dedicate land or fees for recreation and open space. The amount of land or fees required is based on the number of dwelling units proposed. Williams should consider raising the \$600 recreation fee to specifically assist in funding land preservation efforts. The Township should then allocate funds from this increase to a separate account.

Northampton County and PA State Grants

1. *Northampton County Farmland Preservation Program* - As of 2002, the Northampton County Farmland Preservation Program is in its eleventh year. Thus far, Northampton County has spent \$1.2 million and attracted \$10.5 million in state funds for the acquisition of agricultural easements. Farmland owners who want to sell their development rights under this program must first be part of an agricultural security area.

County-wide, 235 landowners in 14 municipalities have enrolled 21,692 acres in agricultural security areas. A total of 30 easements have been sold encompassing 4,728 acres. Average easement size has been 58 acres and average easement cost has been \$2,578 per acre. The County reports that it receives approximately 15 new applications for easements

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per year. Each year, approximately 5 applicants on the waiting list withdraw their request due to selling for development, the severe shortage of funding available under this program or the belief that it will take years before their specific property is selected for acquisition of development rights.

In Williams Township's agricultural security area, 9 landowners have enrolled a total of 938 acres. One farmland conservation easement has been acquired in the Township: 96 acres @ \$3,600 per acre.

2. ***Lehigh Valley Green Future Fund*** - An organization known as the Lehigh Valley Green Future Fund has asked Northampton County Council to place a non-binding referendum on the ballot. The referendum would ask voters if they support the County issuing a \$30 million bond to help fund farmland preservation, protection of environmentally sensitive areas, county parks and municipal parks. In May 2002, over 70% of Lehigh County voters approved a similar ballot question. Northampton County Council is now evaluating if the referendum would be legal under the County's home rule charter, and if it is necessary and desirable to place this issue before County voters.
3. ***Pennsylvania DCNR Community Conservation Partnership (Keystone) Grant Program*** - This program is the primary source of State aid for parks, recreation and open space initiatives in Pennsylvania. Applications are accepted each fall for 50/50 matching grants through the Pennsylvania Department of Conservation and Natural Resources (DCNR). It is a highly competitive program where typically the value of total funds requested significantly exceeds grant funding available. Major funding categories are as follows:

Planning and Technical Assistance

Planning Projects

- Comprehensive Recreation, Park and Open Space Plans
- Conservation Plans
- County Natural Area Inventories
- Feasibility Studies
- Greenways and Trails Plans
- Rails-to-Trails Plans
- Master Site Plans
- Rivers Conservation Plans

Technical Assistance Projects

- Education and Training
- Circuit Rider
- Peer-to-Peer

Acquisition Projects

- Park and Recreation Areas
- Greenways, Trails and Rivers Conservation
- Rails-to-Trails
- Natural and Critical Habitat Areas

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Development Projects

- Park and Recreation Areas
- Greenways and Trails
- Rails-to-Trails
- Rivers Conservation

Federally Funded Projects

- Land and Water Conservation Fund (LWCF) Projects
- Pennsylvania Recreational Trails

Grants awarded in Northampton County in 2000 and 2001 include the following:

Bath	\$ 62,000.	Monocacy Creek Park development
Bath	\$ 24,000.	Acquire 1-acre for a greenway/park along Monocacy Creek
Pen Argyl	\$ 30,000.	ADA improvements in Weona Park
Roseto	\$ 40,000.	Roseto Municipal Park development
Chapman	\$ 20,000.	Chapman Borough Park development
Easton	\$ 82,000.	Eddyside Swimming Pool improvements
Lower Saucon	\$ 22,000.	Town Hall Park renovations
Moore	\$102,000.	Acquire 43 acres along Monocacy Creek to enlarge a park
Northampton Co.	\$100,000.	Extend Nor-Bath Trail
Pen Argyl	\$ 19,500.	Park Master Plan
Pen Argyl	\$ 20,000.	Weona Park development
Walnutport	\$ 20,000.	Lehigh Canal Park development
Washington	\$ 50,000.	Acquire 12 acres for a community park

4. *Pennsylvania Department of Transportation Enhancement Projects* - The Federal Inter-Modal Surface Transportation Efficiency Act (ISTEA) allocated approximately \$4.7 million per year for six years to Pennsylvania for use in Enhancement Projects. Enhancement Projects involve transportation-related activities outside of the traditional highway construction and mass transit projects. In 1998, Congress extended this program for another six years and substantially increased the total funding available by enacting the Transportation Equity Act for the 21st Century (TEA-21).

The program is administered by the Pennsylvania Department of Transportation (PADOT) under a cooperative agreement with the Federal Highway Administration. Construction phases are eligible for 100% grant funding. 80% funding is offered for planning, design and acquisition. There are twelve funding categories for projects that "enhance the transportation experience":

- Facilities for pedestrians and bicycles
- Safety and educational activities for pedestrians and bicyclists
- Acquisition of scenic easements of historic sites related to transportation
- Scenic or historic programs, including tourist and welcome center facilities
- Landscaping or other scenic beautification
- Historic preservation
- Rehabilitation or operation of historic transportation buildings, structures or facilities (including historic railroad facilities and canals)

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- Preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian or bicycle trails)
- Control and removal of outdoor advertising
- Archaeological planning and research
- Mitigation of water pollution due to highway runoff or reduction of vehicle-caused wildlife mortality while maintaining habitat connectivity
- Enhancement of transportation museums

The following are proposed Enhancement Grant recipients in the Lehigh Valley for 2002, as recommended by the Lehigh Valley Transportation Study's Technical Committee. These recommendations are subject to State approval in July 2002.

Tatamy	\$212,738.	Tatamy Trail improvements
Northampton	\$405,000.	Heritage Trail Bridge over Hockendauqua Creek
Northampton County	\$209,000.	Hugh Moore Park Canal Lock Restoration
Wilson/West Easton	\$400,000.	Extension of Palmer Trail
Bethlehem	\$250,000.	Southside Streetscape improvements
Lehigh County	\$300,000.	Lehigh County Historical Society Buildings/ Visitor Centers

5. *Pennsylvania Community Revitalization Program* - This program provides wide discretion to many State legislators to award limited amounts of State funds for worthy projects in their home district. However, because the money can be used for such a wide variety of community-oriented uses, it cannot be counted upon as a regular source for park, recreation and open space funds. There are no specific guidelines regarding what types of projects can be funded, who may apply or the maximum amount that can be provided. The application process varies from district to district. State legislators can seek the grants annually. Traditionally, the best time to submit a request has been between January and June when the annual Pennsylvania State budget is being formulated.

6. *Pennsylvania Source Water Assessment and Protection (SWAP) Program* - Under this PA Department of Environmental Protection (DEP) Program, municipalities, groups of municipalities and community water systems are eligible for grants for wellhead protection (up to \$50,000) and watershed protection (up to \$200,000). Qualifying activities include contaminant source inventories, development of protection ordinances, public education, emergency response enhancement planning and related initiatives. Grants are available through the DEP Grants Center. State grant amounts must be matched with a 20% local contribution.

NEXT STEPS

THE NEXT STEPS

THE REMAINING POLICY QUESTIONS TO ANSWER

Williams Township has informally considered whether it should place a referendum on the ballot that asks voters to support or reject the issuance of a municipal bond to pay for preserving open space. This Open Space Plan provides the background rationale for establishing an open space preservation program and describes how it could work in Williams Township. Specific criteria for selecting preservation priorities are also proposed.

Final policy decisions about how Williams Township should proceed from this point forward should be based on the following considerations:

1. *Should Williams Township incur debt to preserve open space now?* - Debt is obviously a long-term commitment. But one rationale for incurring debt is that some of the land most worthy of preserving may not be available to preserve in the future if action is not taken soon. The other rationale is dollars and cents. As described in the Preface of this plan, Pennsylvania State University and American Farmlands Trust studies have shown that farms and open spaces save the public money because they do not require, schools, roads or utilities to the extent that new homes do. In Opportunity Knocks - Open Space as a Community Investment, Michael Frank of the Heritage Conservancy goes even further and argues that, amortized over a small number of years, the cost of purchasing development rights to preserve open land can be actually be less than the annual school cost deficit that would be created by allowing 85 new homes to be built on a hypothetical 100 acre tract in the Central Bucks School District.
2. *How much money should Williams Township consider borrowing?* - Northampton County has paid an average of \$2,600 per acre for farmland preservation easements. More representative of Williams Township's land values was the \$3,600 per acre the County paid in 2001 for the one farmland preservation easement purchased in Williams Township. At \$3,600 per acre, each \$1million of borrowed principal would fund 278 acres of easements. At an average size of 50 acres per easement (slightly below the Northampton County average), this 278 acres would equal between five and six properties preserved. At an average of 25 acres per easement, approximately 11 properties would be preserved. It should be noted that land values are subject to market pressures and other variables listed in the proposed ranking system.
3. *Municipal Bond or a Bank Loan?* - If the Supervisors decide to borrow money to fund open space preservation, several factors will warrant consideration to decide which borrowing method is best for Williams Township. There is a certain dollar amount at which it is usually cheaper to obtain a bank loan than to issue a bond, because a bond has large up-front expenses. These factors include the following:

THE NEXT STEPS

- whether the Township needs a bond for other purposes, which could be combined with open space funding to lower the costs,
 - available interest rates,
 - available loan terms, such as length of the pay back schedule and the annual debt service cost, and
 - the legal and other administrative costs associated with each borrowing method.
4. *Is it necessary to place the question on the ballot?* - Provided a proposed bond or bank loan for preserving open space does not place the Township beyond its legal borrowing capacity, the Township could, if it wishes, borrow the funds needed without voter approval.
5. *What is the best way to retire any debt the Township incurs to preserve open space?* - Based on techniques other municipalities have adopted, the following are different ways Williams Township could pay back any debt incurred to preserve open space:
- With voter approval, the Township could raise its earned income tax by $\frac{1}{4}$ of one percent.
 - With voter approval, the Township could raise its real estate transfer tax. Williams currently keeps $\frac{1}{2}$ of one percent on each transaction. The total current real estate transfer tax rate is two percent.
 - The Township could dedicate a certain portion of its existing real estate tax millage for open space or raise its real estate tax millage a specific amount for this purpose.
 - The Township could enact stronger mandatory dedication requirements to its subdivision and land development ordinance. The Pennsylvania Municipalities Planning Code (MPC) would permit the Township to collect fees from residential developers instead of land if the developer agrees. Under the MPC, the fee is assessed on a per unit basis for each new building lot approved. The fees collected in this way could then be reserved for open space preservation.
 - The Township could, of course, use general fund dollars to pay off any debt incurred for open space. However, without some offsetting revenue increase, this would entail reducing municipal funding now used for other purposes.
6. *Who would be responsible for carrying out an open space preservation program in Williams Township?* - As recommended and described on pages 38 to 40 of this Open Space Plan, the Williams Township Board of Supervisors would appoint a Land Preservation Board (which could be done by reconstituting the existing Open Space Task Force in this capacity). The Land Preservation Board would be responsible for:
- publicizing the open space program;
 - accepting and evaluating applications from landowners interested in selling conservation easements to the Township;
 - overseeing the property appraisal process;

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- making recommendations to the Board of Supervisors about specific properties to preserve; and
- making official offers to interested landowners, upon being authorized to do so by the Williams Township Board of Supervisors.

The Williams Township Board of Supervisors would retain final approval over any legally binding agreements to purchase conservation easements or buy properties outright.

With this Open Space Plan as a starting point, the Williams Township Board of Supervisors should seek professional financial and legal counsel to help answer these and related policy questions.