

**PLAN FOR LAND USE, NATURAL RESOURCE CONSERVATION
AND ENVIRONMENTAL PROTECTION**

Summary of Planning Issues

- Blooming Grove Township, given its location near metropolitan areas, and its rural-recreation character, clean environment, quality of life, and open land, holds potential for more growth and development.
- The potential for growth is tempered by the thousands of acres of state land and the large holdings of the Blooming Grove Hunting and Fishing Club.
- The Township has many residents who are employed in the greater New Jersey and New York metropolitan area and social/economic changes in the metro area will have direct effects on the Township.
- More residential development in the Township and surrounding municipalities will spawn more pressure for retail/service commercial development, and increased demand for municipal facilities and services.
- The challenge is to provide for the essential economic growth and development of the Township while concurrently conserving its scenic, historic and natural environment and forest land.
- Groundwater is the sole source for potable water and groundwater conservation and quality protection are critical to the future of the Township.
- Improperly functioning on-lot sewage systems can cause bacterial and nitrate contamination, and highlight the need for groundwater quality protection.
- Any central sewage disposal plans must be considered carefully in terms of the need for correcting sewage problems, supporting commercial uses, managing future residential density, and conserving open land.
- Forestry enterprises remain an integral part of the rural working landscape and are important sources of income for large landowners.

Rural Character Defined

The term *rural character* or *rural atmosphere* is often used to describe what residents hold important about their communities. But, what is rural character? When this question is posed, a variety of answers is the norm, and most are specific to the respondent. In other words, rural character means different things to different people. One person may define rural character as an idealized, romantic, nostalgic vision of what is or what used to be. To another, it may be the combination of homes, open land, agriculture, small businesses and other economic activities that comprise the rural working landscape. It is simply the way one person, or a group of people, remembers their past, individually or collectively, or sees the present. Rural character is relative. What is rural to newcomers may be seen as rampant development to natives. Rural character is ever-changing but is also most often seen as the better way. Rural character cannot be photographed, recorded, standardized or copied. It is individual and unique, and exists in the mind of the person living within, and longing for, that place that is rural in character. And so, how does a local municipality protect the rural character when the term is not, and cannot, be defined to satisfy everyone? For the purposes of this *Plan*, rural character is interpreted as the ***rural working landscape*** which recognizes agriculture, timbering, quarrying, small businesses and residential development as equally important elements of the community.

(Adapted from the *Susquehanna County Comprehensive Plan Update*, 2003, p. I-5)

- Lakes and streams with excellent water quality are key components of the area's quality lifestyle and recreation economy, and sound land use management is vital to protecting surface water quality.

Future Land Use --

Conserve Rural-Recreational Landscape and Encourage Appropriate Economic Development

Blooming Grove Township's regional location, coupled with the area's thousands of acres of open land, attractive environment, and quality of life, is expected to continue to stimulate residential development, along with increased demand for retail and service establishments generated by the increasing population. In addition, growth may be stimulated to higher rates by increased demand from increasing

**Blooming Grove Township
Basic Land Use Planning Approach**

- conserve and protect vulnerable environmental resource areas
- preserve forestry and the rural-recreational landscape
- protect residential neighborhoods and subdivisions from incompatible development
- provide for well-situated and appropriate development areas to accommodate projected growth
- allow throughout the Township residential development at densities consistent with the rural-recreational landscape
- provide incentives and standards for good design and open space preservation as property is developed
- provide for limited scale businesses and light manufacturing which is consistent with the rural-recreational landscape
- rely on the larger region for major retail and service needs
- carefully control the development and expansion of public water and sewer service areas
- encourage the preservation of historic buildings and sites.

shifts of population from nearby metropolitan areas. However, this growth will be tempered by the thousands of acres of state land and the holdings of the Blooming Grove Hunting and Fishing Club.

This *Comprehensive Plan* calls for the Township to actively protect the community characteristics essential to the quality of life which is attracting new residents while concurrently fostering a compatible local economy. In other words, it is the intent of Township officials to conserve the rural-recreational landscape including timbering, protect the natural environment, and concurrently encourage smaller scale retail and service establishments, while looking to the

region for major shopping and service needs.

Existing Land Use and Environmental Controls

As authorized by the Pennsylvania Municipalities Planning Code, the subdivision and land development ordinance and the zoning ordinance are the principal land use management tools which are available to local municipalities in Pennsylvania. The subdivision and land development ordinance provides standards for dividing land and for residential and non-residential development projects to ensure the provision of adequate community facilities such as roads, water supply and sewage disposal, utilities, proper highway access, and storm water control. The zoning ordinance regulates the use of land by dividing a community into districts to separate land use activities (residential, commercial, industrial, etc.); sets standards for lot size, setbacks and building height; includes specific standards for a broad range of land uses including for example: parking, signs, junkyards, mineral extraction, cell towers, and multi-family dwellings, and other general community development and environmental performance standards.

Blooming Grove Township has adopted a subdivision and land development ordinance and a zoning ordinance, and has amended each as needed over the years. In fact, as part of the current planning process, the Township will be reviewing and updating the subdivision and zoning ordinance to meet current land use management needs.

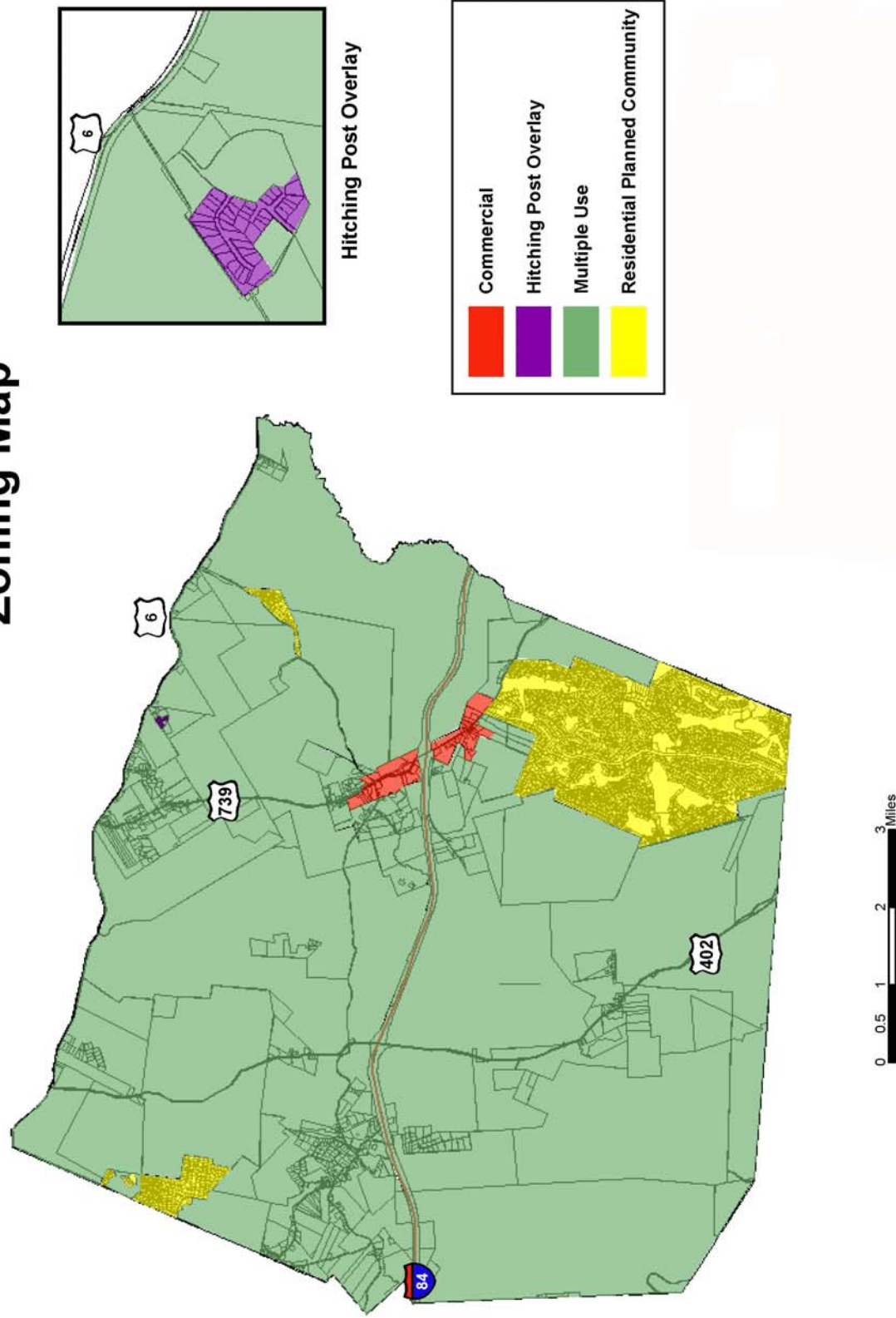
Zoning Districts Affirmed

The future land use plan for Blooming Grove Township is based on the affirmation of the current zoning districts with the caveat that the Township will periodically evaluate the effectiveness of the districts, the range of uses in each district, and the need for additional opportunities for commercial and light manufacturing development. (See the *Zoning Map Figure* on the following page.)

Residential Neighborhoods

Residences are found in a number of planned or historically evolved developments and on individual lots throughout the Township. Township officials recognize that the future land use plan must allow for all types of commercial and manufacturing uses. However, this *Plan* must also afford to existing residences and new residential development protection from incompatible uses and the *externalities*, that is, negative effects, of mismanaged commercial and

Blooming Grove Township Zoning Map



New Resident Cautions

In recent years, most population growth in rural areas has been the result of people moving from urban and suburban areas. These new residents move to the area for its rural lifestyle, but in many cases carry with them a number of expectations born of the conveniences of suburban and urban life. If these expectations become a reality, as is the case in many of the communities in the rapidly developing Pocono Mountains, the very elements of the rural lifestyle which are so attractive will be significantly eroded.

It is important for new residents to remember that their expectations may be different than the long-term goals of this *Comprehensive Plan* which intends to achieve a balance between conservation and protection and the need for managed development to meet the social and economic needs of the community.

Why people move from cities to the country . . .

- the rural lifestyle
- clean air and water
- less crime
- lower taxes
- less traffic
- clear night skies

What they expect when they get there . . .

- paved roads
- street lights
- no farming odors
- unlimited recreation facilities
- corner stores
- no more people, houses or development of any kind

industrial development. This is best accomplished by designating separate residential areas, applying environmental, development and operational performance standards to commercial and industrial uses, and establishing increased lot sizes, setbacks, and buffers where such uses adjoin residential development. New residential subdivisions should be afforded the same protection from *externalities* as existing residential neighborhoods.

Specific Actions for Residential Development

- Provide protection for residential areas by

maintaining separate residential and nonresidential zoning districts, applying environmental, development and operational performance standards to commercial and industrial uses, and establishing increased lot sizes, setbacks, and buffers where such uses adjoin residential development.

- Incorporate into the zoning ordinance and subdivision and land development ordinance provisions to promote conservation design development to conserve open land, conserve sensitive natural areas, preserve historic resources and maintain rural character.
- Provide for a mix of housing types (and sometimes commercial uses) within development projects as a means of more efficient use of land and conserving open space.
- Consider creating a zoning overlay district that would automatically apply residential zoning use standards to new subdivisions.

Businesses and Employment

As residential development occurs, increased demand for retail and service establishments will be generated. The need to provide improved job opportunities in the community is also recognized, as is the importance of maintaining existing businesses. Not only does commercial development provide jobs to residents, it pays a higher relative proportion of taxes to support local facilities and services. The intent of this *Plan* is to direct higher intensity commercial development to areas where highway access is adequate. Less intense commercial development will be encouraged in other areas where zoning performance standards can be used to afford protection to adjoining uses.

Commercial, Manufacturing and Institutional Uses

This *Comprehensive Plan* recognizes that commercial, manufacturing and institutional uses are important to maintaining community economic and social health . While the type, location and intensity of such uses in the Township have changed over its development history, local residents rely on such establishments for employment, for goods and personal services, and for community facilities and services. Large scale commercial and industrial development is not envisioned for Blooming Grove Township.

Specific actions for Commercial, Manufacturing and

Institutional Uses include:

- Direct high intensity commercial and manufacturing uses to Commercial Districts.
- Allow a range of commercial uses managed with development performance standards in the Multiple Use District to enable owners of larger parcels to realize reasonable economic gain and to forestall residential development.
- Include effective performance standards in the zoning ordinance to ensure community and environmental protection and update the standards to meet changing needs.
- Do not make standards so onerous that commercial and manufacturing development is discouraged.
- Require nonresidential development to consider the physical characteristics of the site as part of the design in order to protect environmentally sensitive areas.
- Allow the clearing of vegetation and grading only after a development plan has been approved.
- To the extent that zoning cannot adequately govern design, prepare and promote design guidelines for commercial, industrial, and institutional development to encourage the most efficient use of commercial land and development consistent with the Township’s landscape.
- Allow for a variety of professional and personal services to be conducted as home based businesses in all areas provided nuisance elements are controlled.
- In accord with the Pennsylvania Municipalities Planning Code, allow *no-impact home based businesses* in all dwellings.¹

¹The Pennsylvania Municipalities Planning Code defines a *no-impact home-based business* as a *business or commercial activity administered or conducted as an accessory use which is clearly secondary to the use as a residential dwelling and which involves no customer, client or patient traffic, whether vehicular or pedestrian, pickup, delivery or removal functions to or from the premises, in excess of those normally associated with residential use.*

Commercial Design Standards and Guidelines

Design guidelines, along with development standards and permit approval requirements for specific location and site requirements, can be used to retain rural character. Standards and design guidelines in rural areas should consider historic design trends in the built environment and should specifically address issues surrounding the massing, form, materials, and color of new buildings or structures. Zoning performance standards in Pennsylvania generally cannot be used to govern the specific architectural appearance of buildings. Design guidelines, which can be suggested by the municipality and voluntarily adopted by the developer, can be effective for ensuring building designs are consistent with community character.

Site design zoning standards should include, for example, maximum impervious cover, landscaped setbacks between buildings and the road, modest parking lot size, interior landscaping for larger parking lots, sign requirements, and vegetated buffers along property lines. A critical requirement is the retention of existing vegetation to the greatest extent possible. Development standards for lighting, circulation, parking, landscaping, and noise should be consistent with the rural area.

- Encourage area economic development organizations to include in economic development efforts the retention of existing business, forestry enterprises, improvement of the small business climate, and the promotion of tourism instead of only committing resources to *attracting industry*.

Open Land and Natural Area Conservation

Open land and natural areas are key ingredients of the area’s rural-recreational landscape, and Township officials must encourage the conservation of open land if this character is to be maintained. Conceivably, all areas of privately owned land which are not wetlands or are not extremely steep, or not already protected by easement, could be developed, using central sewage disposal if necessary. Fortunately, as evidenced by this *Comprehensive Plan* and the Township’s land use management ordinances, coupled with the County Scenic Rural Character Preservation Program, private conservation easements, and landowner commitment to conservation, there is a continuing effort aimed at open land conservation.

Fiscal Benefits of Open Land Preservation

The Penn State College of Agricultural Sciences Cooperative Extension, in *Extension Circular 410 - Fiscal Impacts of Different Land Uses, The Pennsylvania Experience*, reports on a study conducted in three rural townships in Adams County, Lebanon County, and Perry County. The study found that:

- *Land uses affect the size of the local government, the types of services it offers, the types of equipment it must purchase, and the taxes it must levy.*
- *Land use also affects the number of students in the local school district, the sizes and number of school buildings, the number of teachers, and the taxes and tax rates the school levies.*
- *The overall fiscal impact of a land use depends on both its (tax) revenue and its (municipal) expenditure impacts.*
- *Residential land, on average contributed less to the local municipality and school district than it required back in expenditures.*
- *Commercial, industrial, and farm- and open land contributed more to the local municipality and school district than they took, thus helping to subsidize the (service) needs of residential land.*
- *If growth must occur, commercial and industrial development has a potentially beneficial impact on the tax base as long as it does not dramatically raise the demand for services.*
- *When farmland is converted for residential purposes . . . the land will be converted from a net contributor to the municipality and school district into a net drain.*
- *Even with preferential assessments, farmland ends up subsidizing the educational costs of residential land and plays a positive economic role in the community.*

The Penn State data reported in the *Cost of Community Services Ratios by Land Use Table* represents a cross section of communities from very rural townships in north central Potter County to highly developed townships in the Philadelphia area. The conclusion in all reported townships was consistent, the cost of

Cost of Community Services Ratios by Land Use				
Township In:	\$ revenue collected : \$ spent on services			
	Resid	Comm	Indus	Open
South Central Townships				
Bethel Lebanon Co.	1 : 1.08	1 : 0.07	1 : 0.27	1 : 0.06
Carroll Perry Co.	1 : 1.03	1 : 0.06	—	1 : 0.02
Maiden Creek Berks Co.	1 : 1.28	1 : 0.11	1 : 0.06	1 : 0.04
Richmond Berks Co.	1 : 1.24	1 : 0.11	1 : 0.06	1 : 0.04
Straban Adams Co.	1 : 1.10	1 : 0.17	1 : 0.05	1 : 0.06
Philadelphia Area Townships				
Bedminster Bucks Co.	1 : 1.12	1 : 0.006	1 : 0.04	1 : 0.04
Buckingham Berks Co.	1 : 1.04	1 : 0.16	1 : 0.12	1 : 0.08
North Central Townships				
Bingham Potter Co.	1 : 1.56	1 : 0.26	1 : 0.15	1 : 0.15
Stewardson Potter Co.	1 : 2.11	1 : 0.37	--	1 : 0.15
Sweden Potter Co.	1 : 1.38	1 : 0.07	--	1 : 0.08
Western Township				
Allegheny Westmoreland Co.	1 : 1.06	1 : 0.15	1 : 0.14	1 : 0.13
Source: <i>Calculating a Cost of Community Services Ratio for Your Pennsylvania Community</i> , The Pennsylvania State University, 1998				

services to residential development exceeds the amount of tax revenue generated. Nevertheless, residential development has always been, and will continue to be, and an integral part of the character of the Township. The important point of the Penn State studies is not that residential development must be discouraged, but that there must be a balance between open land, residential development, and commercial development. Commercial development provides the tax base necessary to support the services required for residential development. (See also the *Cost / Revenue Analysis for Delaware Valley School District Sidebar* on the following page.)

Cost / Revenue Analysis for Delaware Valley School District

(based on 2004-2005 school year data)

Step 1. Calculate the number of homes in the development on a hypothetical 100-acre property using an effective density based on 2-acre zoning.

$$100 \text{ acres} \times .443 \text{ homes/acre} = 44.3 \text{ homes}$$

Step 2. Calculate the number of public school students in the development based on the average number of public school students per home throughout the Delaware Valley School District.

$$44.3 \text{ homes} \times 1.6 \text{ public school students/home} = 70.8 \text{ public school students}$$

Step 3. Calculate the cost to educate public school students per year based on average cost per pupil.

$$\$7,222 \text{ cost per pupil} \times 70 \text{ students} = \$505,540/\text{year}$$

Step 4. Calculate the school tax revenues per year in the development based on average \$190,000 house.

$$\begin{aligned} \$190,000 \text{ house} \times .25(\text{assessment}) &= \$47,500 \text{ assessed valuation} \\ \$47,500 \text{ valuation} \times .094 \text{ mil tax rate} &= \$4,465 \text{ tax revenue/home} \\ \$4,465 \text{ tax revenue/home} \times 44 \text{ homes} &= \$196,460.00 \end{aligned}$$

Step 5. Calculate the annual surplus or shortfall per year to educate 70 students from the development.

$$\$196,460.00 \text{ (revenue/year)} - \$505,540.00 \text{ (cost/year)} = \$309,080.00 \text{ shortfall}$$

Step 6. Calculate the cost to purchase conservation easements on the hypothetical 100 acre property based on the average per acre cost for the purchase conservation easements in Pike County.

$$100 \text{ acre property} \times \$4,000/\text{acre} = \$420,000$$

Step 7. Calculate the *break even period* which is the number of years it would take for the annual shortfall to equal the cost to purchase the conservation easement on the 100 acre farm. After the break even period, the need to cover the annual shortfall from other revenue sources would be avoided.

$$\$420,000 \text{ cost of conservation easement} \div \$309,080 \text{ shortfall per year} = 1.4 \text{ years}$$

(Pike County Office of Community Planning and Milford Experimental Forest in consultation with Michael Frank, Heritage Conservancy, author of *Opportunity Knocks*. Reference data obtained from: Delaware Valley School District Business Office, Pike County Assessment Office, Pike County Treasurer, and Extracted Dynamic Data Systems.)

Agricultural Land Preservation

The Pike County Agricultural Land Preservation Program was initiated in March 2006 by the Board of Commissioners to form agricultural security areas. In addition, \$500,000 from the Scenic Rural Character Preservation Program was allocated to leverage state funds for the purchase of agricultural conservation easements. Given that the County program is in its early stages, no easements have been acquired.

Agricultural security areas (ASA), authorized by the Agricultural Area Security Law, PA Act 1981-43 (Act 43), are another means of preserving agriculture and are initiated by landowners whose combined parcels total at least 250 acres. The parcels must be viable agricultural land and the ASA may be comprised of non-contiguous tracts at least ten acres in size. ASA's provide protection from local ordinances which restrict farming practices and nuisance ordinances unless the local municipality can clearly demonstrate a direct public purpose for the protection of the public health and safety. The ASA also restricts land condemnation procedures by state, county and local governments without approval by the State Agricultural Lands Condemnation Approval Board. The ASA program is voluntary and not permanent, with each ASA reviewed every seven years. Individual landowners are free to sell their property and it can be developed at any time. In other words, the ASA Program affords protection to agriculture, but is no real guarantee that the land will be preserved. Nevertheless, landowner participation in the ASA Program demonstrates an interest in continuing agricultural use of the land, and the Township will promote ASA's. (See the *Agricultural Securities Areas Sidebar*.)

Tax Incentives - Clean and Green

Differential assessment laws enable counties to assess agricultural land and forest land at its agricultural and forest use value instead of its fair market value. The Act 319 *Clean and Green Program (The Farmland and Forest Land Assessment Act of 1974)* is the most widely used in the Commonwealth with hundreds of thousands of acres enrolled statewide. The legislative intent of the Act 319 was to protect open land from development and insulate the landowners from tax increases from rising property values. The amount of tax revenues lost from the land enrolled in the program must be shifted to the other taxpayers in the municipality to place the tax burden on those developed properties which generate the greatest demand for services.

Agricultural Security Areas

Agricultural Security Areas (ASA's) are a tool for strengthening and protecting our quality farmland from the urbanization of rural areas. Key features of the program are

- Voluntary for farmers. Petitions are submitted to township supervisors by the farmers to create the ASA. They are reviewed every seven years; however, new parcels of farmland may be added to an established ASA at any time.
- A minimum of 250 acres from among all the participating farmers is required.
- An ASA may include non-adjacent farmland parcels of at least ten acres or be able to produce \$2000 annually from the sale of agricultural products.
- Participants receive special consideration regarding:
 - Local ordinances affecting farming activities.
 - Nuisance complaints.
 - And review of farmland condemnation by state and local government agencies.
- An ASA qualifies land for consideration under the Easement Purchase Program at the landowner's request, if the ASA has at least 500 acres enrolled.

Source: PA Bureau of Farmland Preservation Website

Clean and Green is most effective and finds more participation in areas which have been recently reassessed. Generally, in counties which have not reassessed for many years, there will likely be little difference in the market value and the agricultural use value, diluting the interest in the program.

The Clean and Green Program has found widespread use in Pike County. In Blooming Grove Township, almost 17,400 acres, some 80 percent of the total private land holdings, are enrolled in the Program.

Act 319 Clean and Green Program

- A ten-acre minimum parcel size or \$2,000 annual agricultural product sales is required.
- Development is precluded without penalty.
- If the landowner develops the property, the tax savings over the prior seven years must be paid in addition to a penalty of six percent.
- Three categories of land are eligible -
 - Agricultural Use - actively used for producing an agricultural commodity.
 - Agricultural Reserve - noncommercial open space land open to the public free of charge for recreational opportunities.
 - Forest Reserve - must contain trees capable of producing timber or wood products.
- Act 156 of 1998 amended Act 319 to allow a base acre, which may include a residence, farm building or other accessory building, to also qualify for the preferential assessment.

Act 319 in Pike County - Once assumed to be cost prohibitive, the value of land in Pike County has risen to where the financial penalty is no longer a deterrent to removing land from the program. Large private holdings, including hunting-fishing clubs and summer camps, represent much of the large contiguous open spaces that maintain the rural quality of the County. These lands, many of which are in Act 319, are susceptible to development pressure. Owning large amounts of land in the County is becoming an increasingly difficult proposition. Decreasing club membership, waning interest in hunting, increasing costs of operating camps, and the overall increasing tax burden, hamper the owner's ability to maintain their land.

Conservation Easements - private and public actions to preserve open land and water quality. . .

A conservation easement is a legal agreement that is voluntarily entered into between a landowner and a land trust or government agency. The easement may be sold or donated by the property owner and places permanent restrictions on the use or development of land in order to protect its conservation values. In addition to government agencies community based non-profit organizations are also acting to preserve land and rural character by accepting donations or acquiring conservation easements. Such organizations range in size from the Nature Conservancy, a nationwide organization, to small organizations with Board members from the local community. One such local organization, the Delaware Highlands Conservancy, based in Hawley, PA, operates in Pike and Wayne Counties in Pennsylvania, and Delaware and Sullivan Counties in New York. The Conservancy holds conservation easements on 8,500 acres, and participated in the conservation of another 1,500 acres.

Advantages Offered by Conservation Easements:

Private Ownership: The property remains in private ownership and continues to contribute to the local tax base. The landowner may choose to live on the land, sell it, or pass it on to heirs.

Owners Satisfaction: Gives the landowner the satisfaction that the land will remain unchanged.

Flexibility: Easements are flexible and can be written to meet a particular land-owner's needs while protecting the property's resources.

Permanency: Most easements are permanent, remaining in force when the land changes hands. The easement holder ensures that the restrictions are maintained.

Tax Reduction: There are significant tax advantages if easements are donated rather than sold.

Charitable Taxes: The donation of a conservation easement to a land trust is treated as a charitable gift of the development rights. The donation creates a charitable tax deduction, equal to the value of the conservation easement, on the landowner's Federal and State income tax returns.

Estate Taxes: Estate taxes are significantly lower, sometimes making the difference between heirs holding onto the family land or selling it to pay inheritance taxes.

Property Taxes: Conservation easements will sometimes lower property taxes, a result of reduced valuation on property subject to the conservation easement.

Minimizes Effect of Development: Minimizes other impacts of residential development such as increased population, traffic, and demand for community facilities and services.

Innovative Zoning Methods for Conservation

As is the case with all newly adopted provisions, the efficacy of land conservation standards, along with any inconsistencies, will be evidenced when a municipality first applies the standards. It is also important to note that there is no one best method to accomplish the objective of conserving open land. The intent of the following discussion is to point out innovative approaches that are used by other municipalities. In the end, the Board of Supervisors of each Township must determine which approach and standards are best suited to the community.

Conservation Subdivision Design

One means of preserving open space is conservation design residential development. This technique allows the same number of units on a parcel as a typical subdivision, but with a reduction in individual minimum lot size. In other words, the density on the development parcel is the same as in a typical subdivision, but the lots which are sold are reduced in size. The balance of land needed to maintain the density established by the zoning ordinance is set aside as permanent open space. In addition to maintaining open land, conservation design reduces development costs (and commitment of resources) given shortened road and water and sewer line length, minimizes long term maintenance costs of such improvements, and limits environmental affects such as soil disturbance and storm water. The same design process can be applied to multi-family and commercial development.

The Natural Lands Trust, a nationally known land conservation organization located in Media, Pennsylvania (Delaware County), suggests that the conservation design concept be taken to a higher level by providing incentives (or disincentives) to encourage the conservation of open land and establishing specific techniques for the design of open space subdivisions. The process is presented in detail in the handbook, *Designing Open Space Subdivisions, A Practical Step-by-Step Approach*, published by the Natural Lands Trust. Incentives could include allowing higher density for open space design; a disincentive would be the reduction in density if a traditional lot layout is used in place of the open space design. In fact, some communities have mandated the use of this technique for all development or in certain zoning districts.

Conservation Design

Conservation design development is practiced most widely in areas where little open space remains, such as southeastern Pennsylvania where residents know

what they have lost to rampant development. Consequently, conservation subdivision design has emerged in that region as an important method to preserve what little open space remains. The design process is also being embraced by many municipalities in Monroe County and Pike County where the influx of new residents from nearby metropolitan areas is driving the demand for new housing and subdivisions. In Wayne County the common perception is that there is plenty of open space.

Therefore, *I want my piece of the pie*, or *I want room to spread out* are common desires voiced among new residents. The problem is that as this pattern continues, the sprawl that the emigrating urbanites left behind, or escaped, is beginning in Pike County and will ultimately change the very character which is so attractive to new residents.

Conservation Design Process

The design process involves the following steps: (See the Figures from *Designing Open Space Subdivisions, A Practical Step-by-Step Approach*.)

1. Yield Plan - the number of units which could be developed on the site using the traditional subdivision approach.
2. Identification of all potential open space areas including primary conservation areas such as . . .

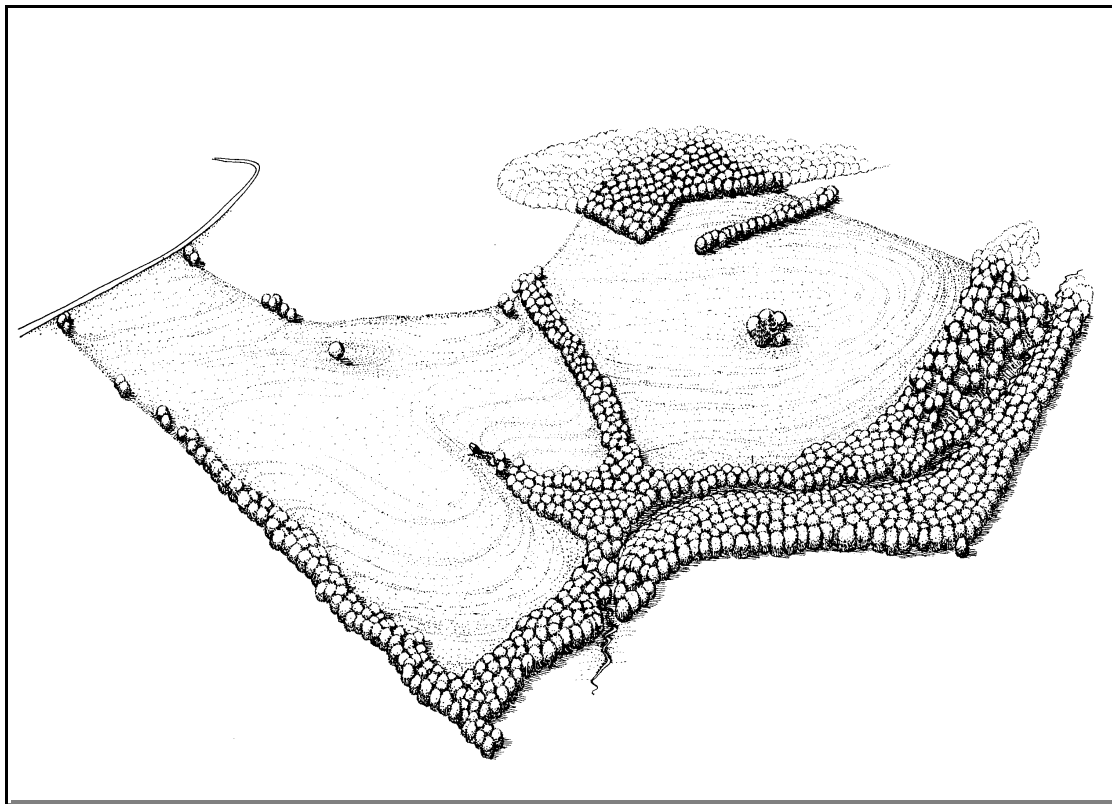
- Soils suitable for on site sewage systems
- Water bodies
- Floodplain
- Wetlands
- Steep slopes

and secondary conservation areas such as . . .

- Mature woodlands
- Prime farmland
- Significant wildlife habitats
- Historic, archeological, and cultural feature
- Views into and out from the site
- Aquifers and recharge areas

3. Identification of potential development areas -- Where should the houses be logically located on the site?

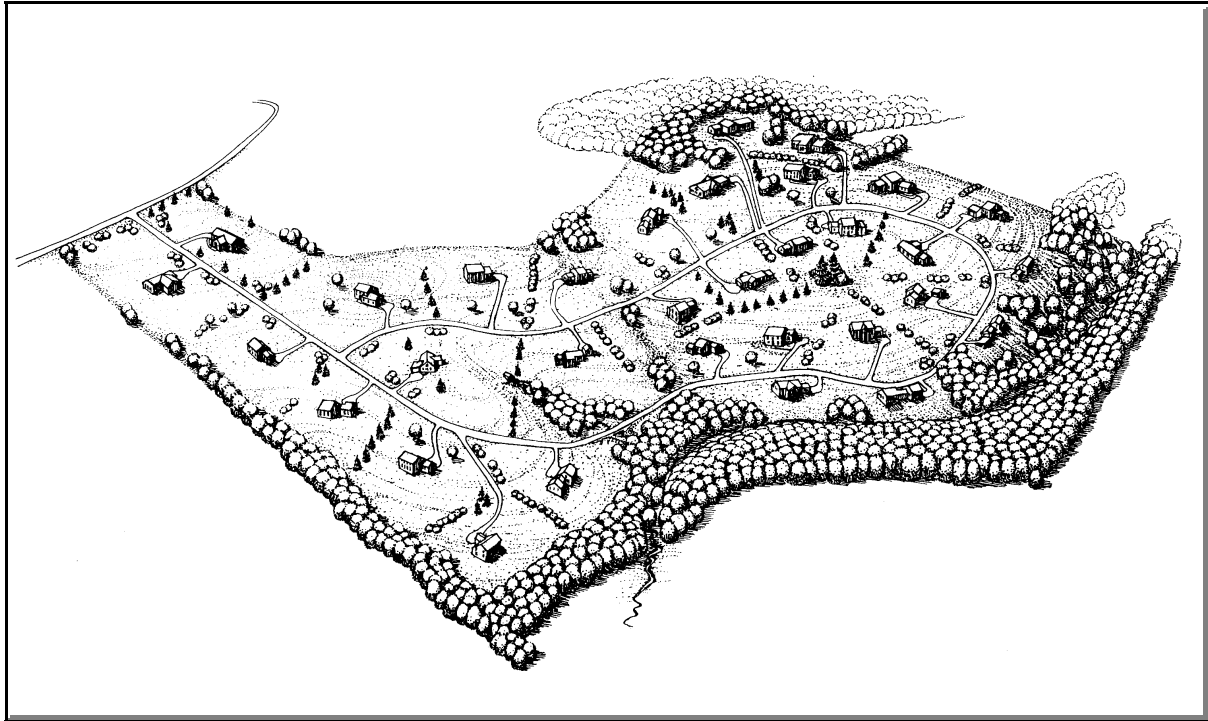
4. Location of potential house sites -- Where should individual units be located within the development area?



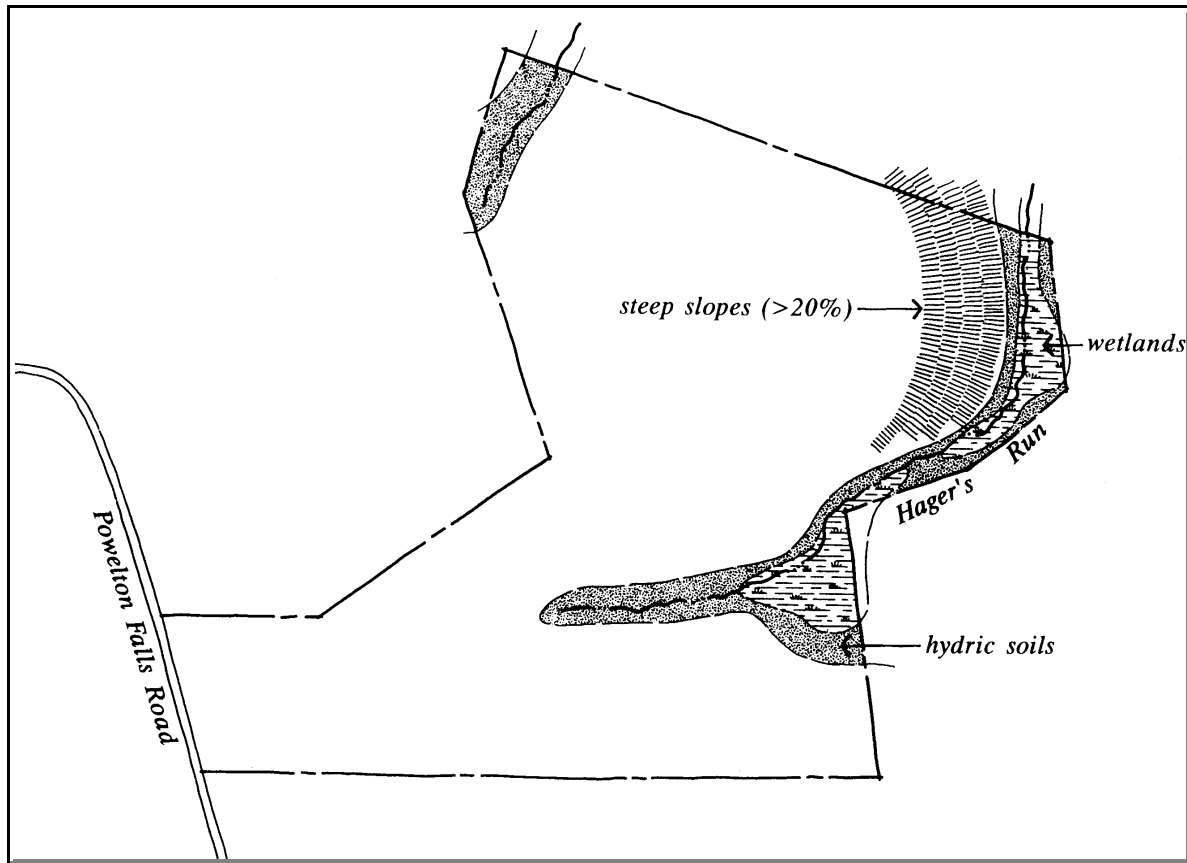
Before Development



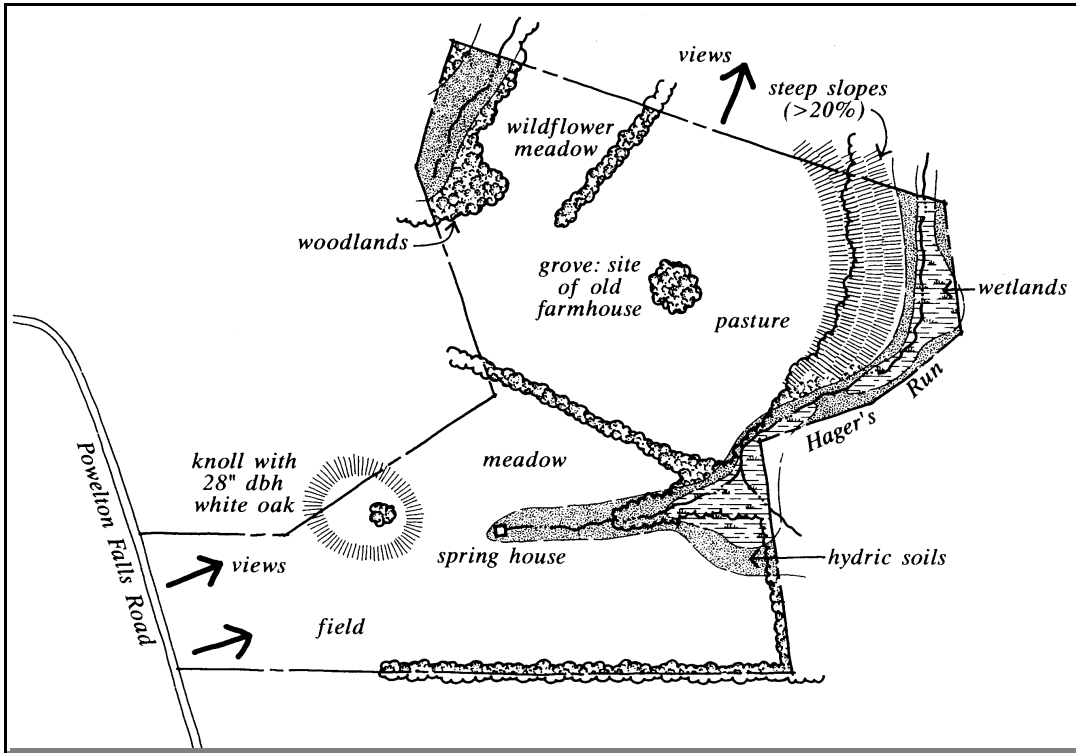
Yield Plan



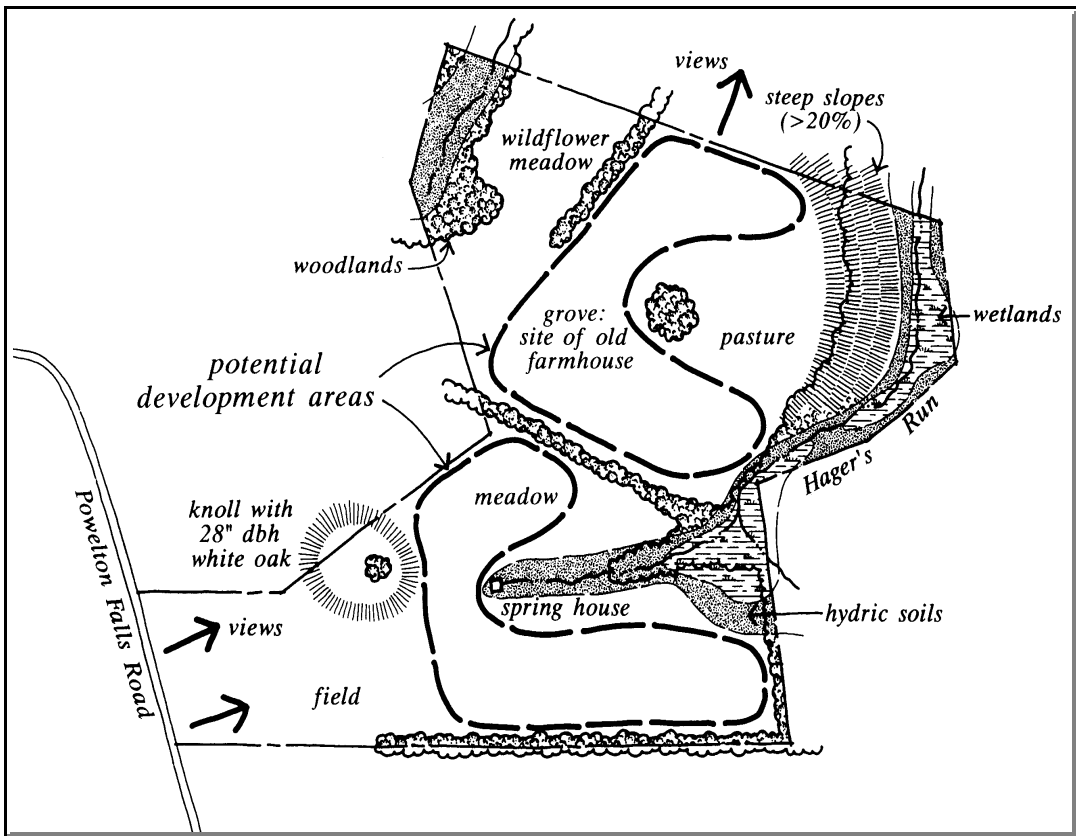
With Conventional Development



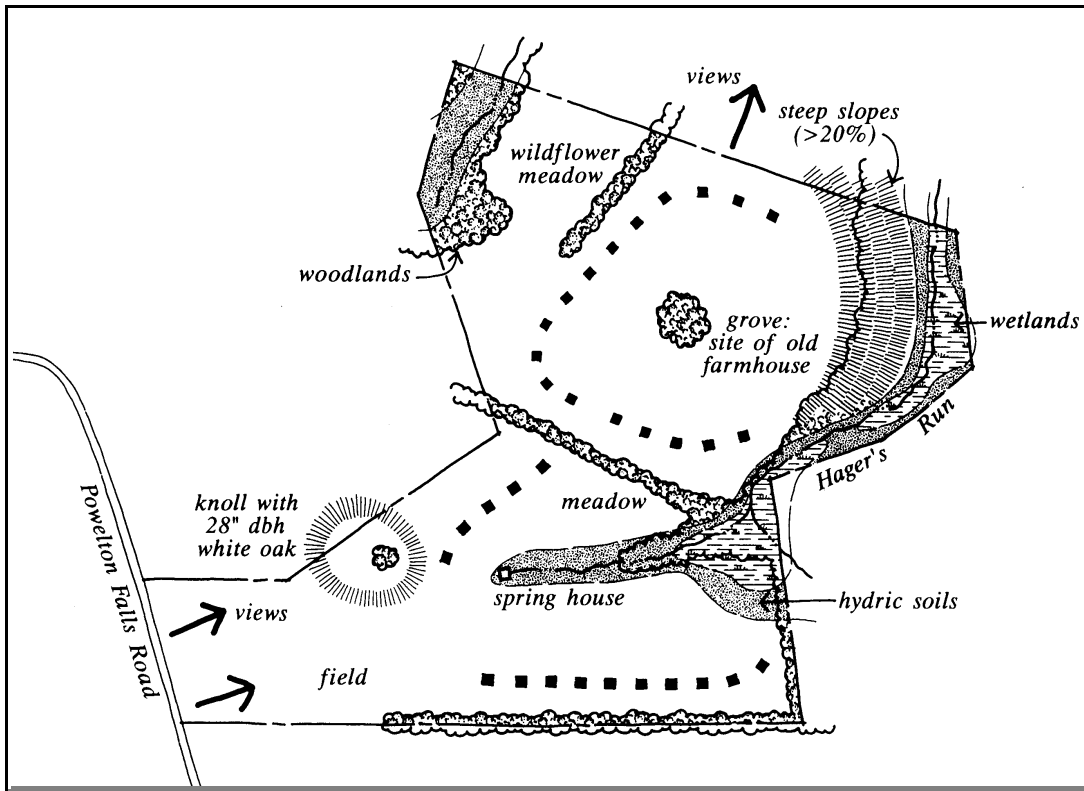
Identifying Primary Conservation Areas



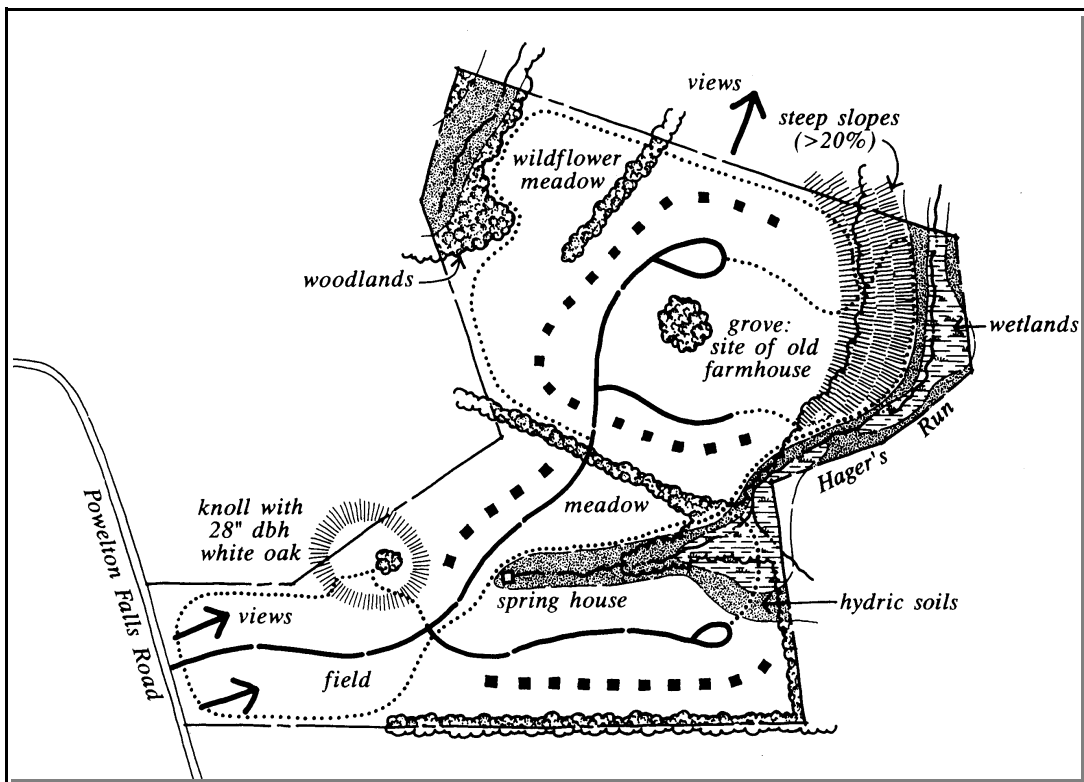
Identifying Secondary Conservation Areas



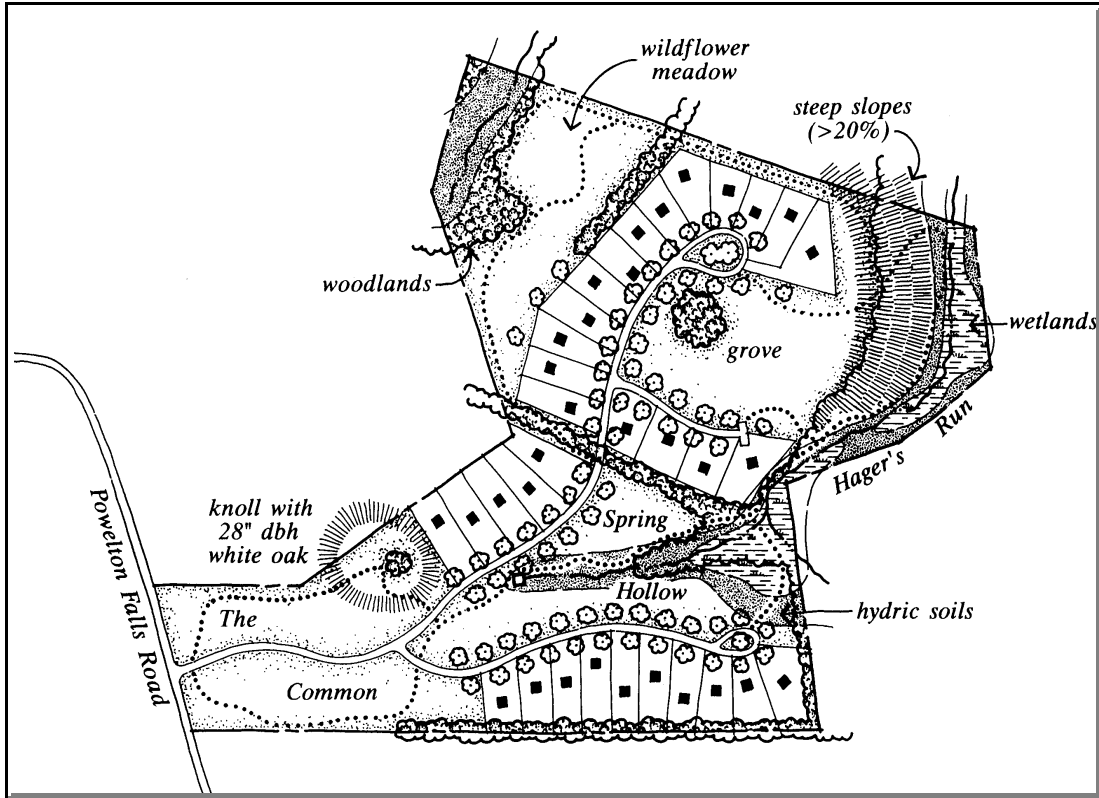
Identifying Potential Development Areas



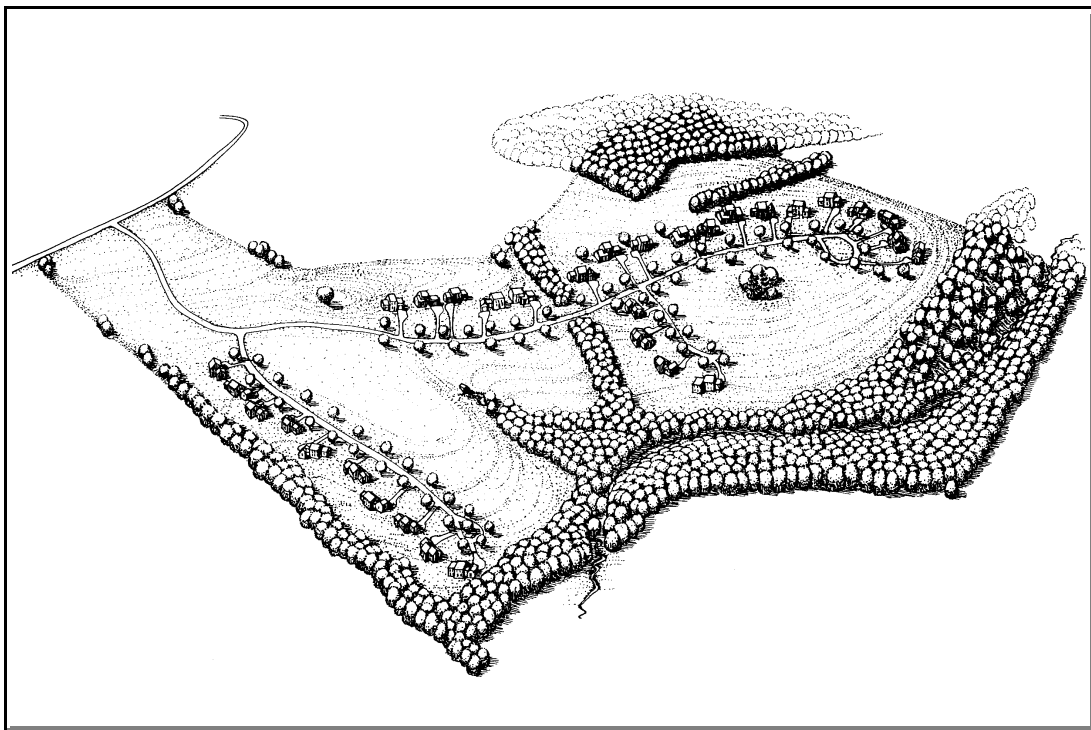
Locating Potential House Sites



Designing Road Alignments and Trail Links



Drawing in the Lot Lines



With Open Space Design

5. Design of road alignments and trails -- How is access best provided with the least impact on conservation areas?
6. Drawing in the lot lines at the reduced lot size results in the conservation of the designated open land.

The open land set aside in the conservation design subdivision would also be coordinated with the *Map of Conservation Opportunities* which is included as part of this *Plan*. This is intended to create an interconnected network of preserved open land in the Township.

Conservation Design in SALDO and Zoning

The preferred approach for applying effective conservation design standards is to include the land use and density requirements in a zoning ordinance, and the development process standards in the SALDO. This allows the use and density standards to be tailored to different zoning districts. If community water and sewage disposal are provided. Many communities set a minimum size of 5,000 square feet. The smaller the individual lot permitted, while maintaining the underlying density, the higher the proportion of open space. The density (i.e., the total number of lots/units

allowed) is already determined based on the amount of constrained land and ordinance standards.

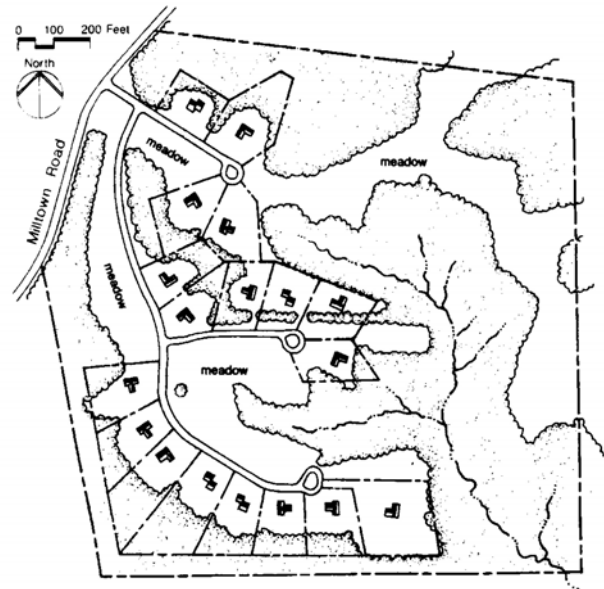
Regulate Density Instead of Lot Size

A key concept associated with conservation design is to focus on residential density instead of minimum lot size. In a standard subdivision the land is simply cut into as many lots as possible while meeting the minimum lot size requirement. Under conservation design, which is based on unit density instead of minimum lot size, the size of individual building lots is reduced, while the total number of lots does not exceed the density which is based on the underlying minimum lot size. In addition, constrained land areas (e.g., wetlands, floodplain and steep slopes) are deducted prior to calculating the number of units permitted. See the *Density Instead of Lot Size Figure*.

The important question is - *Do we really care about minimum lot size provided the number of units does not exceed the established density?* In conservation design, the maximum lot size is the critical element, as it really defines the minimum open space that must be conserved. Individual building lots can be quite small if community water and sewage disposal are provided.



18 2-acre Lots in Conventional Subdivision



18 lots Based on 2-acre Density with Open Space

Density Instead of Lot Size

Purposes for Conservation Design:

- To conserve open land, including those areas containing unique and sensitive natural features such as woodlands, steep slopes, streams, flood plains and wetlands, by setting them aside from development.
- To provide greater design flexibility and efficiency in the siting of services and infrastructure, including the opportunity to reduce length of roads, utility runs, and the amount of paving required for residential development.
- To reduce erosion and sedimentation by the retention of existing vegetation, and the minimization of development on steep slopes.
- To provide for a diversity of lot sizes, building densities, and housing choices to accommodate a variety of age and income groups, and residential preferences, so that the community's population diversity may be maintained.
- To implement adopted municipal policies to conserve a variety of irreplaceable and environmentally sensitive resource lands.
- To implement adopted land use, transportation, and community policies.
- To protect areas with productive agricultural soils for continued or future agricultural use, by conserving blocks of land large enough to allow for efficient farm operations.
- To create neighborhoods with direct visual access to open land, with amenities in the form of neighborhood open space, and with a strong neighborhood identity.
- To provide for the conservation and maintenance of open land to achieve the above-mentioned goals and for active or passive recreational use by residents.
- To provide an option for landowners in order to minimize impacts on environmental resources (sensitive lands such as wetlands, flood plain, and steep slopes) and disturbance of natural or cultural features (such as mature woodlands, hedgerows and tree lines, critical wildlife habitats, historic buildings, and fieldstone walls).
- To provide standards reflecting the varying circumstances and interests of individual landowners, and the individual characteristics of their properties.
- To conserve scenic views and elements of the rural working landscape, and to minimize perceived density, by minimizing views of new development from existing roads.

Transferable Development Rights (TDR)

TDR is a free market tool authorized via zoning for preserving forest land, open space, and natural resources. The traditional approach to preservation has been twofold: 1) public purchase of threatened property, either in fee or by purchase of conservation easements, and 2) placing zoning restrictions on development. TDR programs offer yet a third option by allowing the owner of open land to sell the development rights to another property owner through the private real estate market. TDR is not the same thing as conservation design development. Both TDR

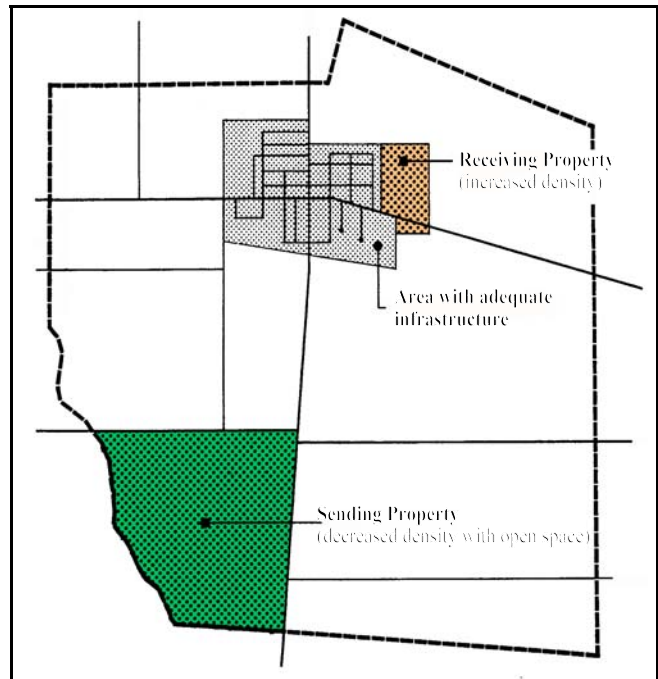
and conservation design involve the shifting of density, but conservation design involves the reorganization of development density on the same property, whereas TDR involves the transfer of development rights from one property to another. (See the following *TDR – Sending Property / Receiving Property Figure*.)

Under TDR, which must be included in a zoning ordinance, the development rights are voluntarily severed from a sending property and are sold on the

TDR offers potential benefits of compelling importance:

- TDR redirects development from areas where development is not appropriate to areas where development makes the most sense.
- TDR preserves open space at little or no public expense.
- TDR ensures that landowners suffer no serious property value reductions that may accompany other zoning approaches (such as down-zoning used to protect open space).
- TDR allows large groups of parcels (e.g., entire agricultural areas, sensitive watersheds, scenic vistas, historic districts) to be conserved in contrast to parcel-by-parcel clustering techniques.

Source: Transfer of Development Rights, Brandywine Conservancy, 2003, p. 5



TDR – Sending Property / Receiving Property
Source: Chester County Planning Commission, 1997

open market to a developer who uses the rights to increase density on a receiving property. The zoning ordinance establishes the parameters for the TDR program. A density bonus can be provided as an incentive and the number of development rights is determined after deducting the area of constrained land akin to the conservation design process. Once the development rights are severed, the sending property is protected from development by a conservation easement. A receiving property must be located in an area with adequate sewage disposal, water supply and other infrastructure required to handle the increased density.

The conservation design approach, combined with the optional transfer of development rights, gives a municipality a very progressive tool to conserve large areas of open land by shifting development to locations with adequate infrastructure and enable conservation-minded landowners to preserve their properties. In fact, an entire sending property could be preserved with the density transferred to the receiving property where individual lot sizes could be reduced and important conservation areas would also be conserved.

Ordinance Development

Brandywine Conservancy’s 2003 publication *Transfer of Development Rights, A Flexible Option for Redirecting Growth in Pennsylvania*, presents the basic principles of TDR and reviews techniques used in successful TDR programs. If TDR is considered, the Brandywine publication would be an invaluable reference.²

TDR in Palmyra Township, Pike County

The Palmyra Township Supervisors recently added TDR and conservation design provisions to their zoning ordinance, which are now being applied to the redevelopment of the former White Beauty View property. A combination of single family lots and townhouses are proposed on the parcel which is served by a central water system and a central sewage disposal system. Forty percent of the White Beauty View tract is proposed to remain as open space, and another 56 acres situated off Route 390 will be preserved as one large block of open space. As an incentive to conserve large blocks of open space, a density bonus is provided for TDR.

²*Transfer of Development Rights, A Flexible Option for Redirecting Growth in Pennsylvania*, Brandywine Conservancy, Chadds Ford, PA, 2003, p. 66.

Traditional Neighborhood Development

In years before interstate highways and urban sprawl, small villages and towns served as the centers for community activities and commerce. Traditional neighborhood development (TND) is another tool authorized by the Pennsylvania Municipalities Planning Code for inclusion in a zoning ordinance. TND enables the development of compact communities with a variety of housing types, community facilities and services, and neighborhood commercial establishments. A key element is pedestrian friendly design that allows residents to walk to centrally located community facilities, parks and stores. The residential density would be based on a maximum density set by the zoning ordinance, yet individual lots could be very small to allow a substantial proportion of the development to be preserved as open space. The open space, accessible to residents, adds to the appeal of the TND and conserves important natural resources. Similar to conservation design and transferable development rights, TND should be considered for inclusion in any zoning ordinance.

Considerations for Conservation Design, Transferable Development Rights and Traditional Neighborhood Development

Based on the *Map of Conservation Opportunities* included in this *Plan* and overall community goals and objectives, the Township will consider the following when evaluating the use and location of any conservation design, transferrable development rights or traditional neighborhood development provisions proposed for inclusion in Township ordinances.

- Availability of, or potential to provide, adequate infrastructure - roads, water supply, sewage disposal.
- Identification of areas of open space critical to preserving community character.
- Landowners interested in preserving open space.
- Need to preserve and/or the effect on environmentally sensitive areas.
- Effect on neighboring properties.
- Including adequate standards to minimize on-site and spillover effects.

Specific Actions for Open Land Conservation

- Consider incorporating conservation design as a preferred option for residential development and providing density incentives as a means of encouraging conservation design.
- Evaluate providing for the use of transferable development rights and traditional neighborhood development in the Township zoning ordinance.
- Support the efforts of local land conservation organizations such as the Delaware Highlands Conservancy.
- Encourage and support private landowner efforts to maintain large tracts as open space.
- Cooperate with landowners and the County Agricultural Land Preservation Program in the creation of agricultural security areas and the acquisition of agricultural easements.

Forestry

This *Comprehensive Plan* recognizes the historical and continuing importance of forestry enterprises to the local economy and quality of life, and encourages forestry activities throughout the Township provided such operations are conducted in accord with sound forest management practices and environmental regulations. Landowners manage their forests for a variety of reasons including income from timber sales, wildlife habitat, recreation, water quality protection, bio-diversity, and timber for long-term investment. Improper harvesting and management practices often raise stream water quality and other environmental concerns with local residents and local officials. It is critical for public acceptance of forestry, environmental quality and the long-term viability of



Forestry-Related Business

the industry and forest resources that logging professionals and individual landowners use best management practices when harvesting and for long-term forest maintenance.

The Pennsylvania Municipalities Planning Code (MPC), at §603(c)(7), states that *zoning ordinances may not unreasonably restrict forestry activities* and goes on to require that in the Commonwealth, *forestry activities . . . shall be a permitted use by right in all zoning districts in every municipality*. The Code defines *forestry as the management of forests and timberlands when practiced in accord with accepted silvicultural principles, through developing, cultivating, harvesting, transporting and selling trees for commercial purposes, which does not involve any land development* (buildings such as sawmills and wood products manufacturing are treated as separate uses). Any zoning ordinances adopted by the townships will be consistent with the MPC by classifying forestry as a principal permitted use in all zoning districts.

Specific actions related to forestry enterprises . . .

- Include in the zoning ordinance reasonable standards for timbering, but not so onerous as to discourage forestry enterprises . . .
 - requirements for logging plans and the use of good forest management practices
 - road and property line setbacks for landings
 - road access and drainage requirements
 - mandating compliance with environmental laws
- Provide ample opportunity for the location and development of *value added* enterprises that use the plentiful forest resources available in the Township.
- Encourage the local economic development organizations to work with the forest industry to promote and grow forestry related enterprises, particularly in the realm of *value added* products.

Mineral Extraction

The primary minerals of commercial importance extant in the Township are sand stone, which is mined as quarry stone and dimensional stone, shale, and sand and gravel. This *Comprehensive Plan* recognizes the

economic value of the minerals industry while understanding the necessity that the industry operate within the bounds of environmental regulations.

The Pennsylvania Municipalities Planning Code (MPC) clearly recognizes mineral extraction as a lawful use. Along with other community effects, such uses can have impacts on water supply sources and are governed by state statutes that specify replacement and restoration of affected water supplies. In addition, the Planning Code now severely limits the range of development and operational standards which can be applied to mineral extraction by local municipalities, with location standards the primary tool available to the Townships. Planning Code §603(I) states that *zoning ordinances shall provide for the reasonable development of minerals in each municipality*. The Code definition of minerals is: *Any aggregate or mass of mineral matter, whether or not coherent. The term includes, but is not limited to, limestone and dolomite, sand and gravel, rock and stone, earth, fill, slag, iron ore, zinc ore, vermiculite and clay, anthracite and bituminous coal, coal refuse, peat and crude oil and natural gas*. The Code, at §603(b) allows zoning ordinances to regulate mineral extraction, but only to the extent that such uses are not regulated by the state Surface Mining Conservation and Reclamation Act, the Noncoal Surface Mining Conservation and Reclamation Act, and the Oil and Gas Act. These acts regulate such things as setbacks, dust, noise, blasting, water supply effects, and reclamation.

Unlike many areas of Northeastern Pennsylvania, natural gas exploration has not surfaced as an issue in Blooming Grove Township. However, the mineral extraction language in the MPC, coupled with recent court decisions, has severely limited local municipal authority to regulate natural gas extraction. In short, the Commonwealth Court has ruled that the Oil and Gas Act regulates the location of gas wells and therefore preempts local regulation. This precludes prohibiting gas extraction from any area of a municipality, including residential zoning districts.

This *Comprehensive Plan* recognizes the need to provide for *the reasonable development of minerals* in the Township, and similar to forestry enterprises, encourages mineral extraction provided such operations are conducted in appropriate locations and in accord with sound mining practices and environmental regulations.

Specific actions related to mineral extraction . . .

- Local municipal officials must confirm that mineral extraction operations comply with state and federal regulations.
- Zoning is the most effective means of managing the effects of mineral extraction on the local community. The zoning ordinances will:
 - Direct quarries to suitable areas where impacts will be minimized.
 - Include provisions to require coordination with the plan information and standards applied by the Pennsylvania Department of Environmental Protection.
- Evaluate the limited options with respect to gas extraction as the issue evolves and make the appropriate changes to the Township zoning ordinance.
- Encourage the local economic development organizations to work with the Bluestone Association to promote and grow the bluestone industry, particularly in the realm of *value added* products.

Ridge Lines and Scenic Vistas

An integral part of the community character of the Township character are the wooded ridge lines and scenic vistas visible from the major highways passing through the area. Preserving these resources requires a balance between private property rights and the public good. Much of the value in a lot may be associated with the view it affords and zoning standards may affect that value.

Simply stated, the most direct means of preserving ridge lines and scenic vistas is via fee-simple public ownership of the land. However, given the cost of land this is really not an option. Conservation easements, which are far less costly, can afford the same protection as public ownership. Working with willing land owners who want to protect their property, Planning Area local officials, concerned citizens and local land trusts should cooperate to protect these properties with conservation easements.

Protecting ridge lines and scenic vistas through zoning is somewhat problematic given that regulating purely

for aesthetics has long been found suspect by Pennsylvania courts unless directly related to the public health, safety and welfare. Zoning in a state-recognized historic district is a good example of aesthetic regulation upheld by the Commonwealth's courts. The Township's reliance on the natural environment and open space for much of its economic well being and maintenance of property values may provide the foundation for some reasonable development standards for preservation of ridge lines and scenic views.

Ridge lines and scenic vistas are often associated with steep slopes. However, a community should not attempt to enact aesthetic criteria that would artificially limit density in the guise of steep slope protection, especially if density is already limited on this basis under other ordinance provisions. Regulations that allow for the same density, but require design that addresses aesthetic issues on a secondary level, are far more likely to be supportable in court.

Ridge line development can be regulated at two levels - when existing lots are developed and when new building lots are created. The first is a matter of zoning and the second is typically addressed in subdivision regulations. Addressing ridge line protection in new subdivisions is a relatively straightforward matter with conservation subdivision design. Areas of concern can be mapped and protected with easements and the lots can then be clustered in other areas. Building and clearing restrictions can also be imposed (e.g., by designating building envelopes) as part of the subdivision approval. All this can be accomplished without necessarily affecting density.

Dealing with existing lots, however, is far more difficult. The lots may have been purchased or platted to maximize views. Any restriction on such views may be perceived as an infringement, not only on property rights, but also on the value of the land. It may not be possible on a given lot to achieve a design that will maximize the value of the views for all parties because it is too small, too steep or otherwise limited. In any case, ridge line and scenic vista protection standards for existing lots must be considered carefully in terms of balancing private property rights with a clearly stated public purpose. In doing so some communities have considered:

- Requiring conditional use approval for development site clearing in designated ridge line and scenic vista protection areas.
- Setting standards for the location of structures to allow for views from the structure but minimize exposure.
- Limiting lighting to minimize visual effects.
- Establishing structure screening standards and tree cutting and pruning limitations.

Environmental Protection

Development and environmental protection, as well as conserving open land and natural resources, need not be mutually exclusive. While a clean environment, abundant open land, and natural resources are key elements of the quality of life in the Township, one must recognize that growth is inevitable and can contribute positively to a healthy community.

The goal is to strike a balance between development and preserving the essential character of the Township. Development practices which recognize the importance of the local environment will ensure the continuation of the quality of life that residents enjoy and which is so attractive to new residents. Concurrently, land owners and developers will be able to provide the home sites and businesses that a growing population demands.

The intent is to ensure *environmentally friendly* development within the context of the existing zoning districts. State and federal regulations address many aspects of resource conservation and environmental protection, and these regulations should be the foundation - the base from which local municipal regulations should be built. Local standards must be consistent with and be coordinated with state and federal requirements. In some cases, the zoning ordinance can simply reference the other applicable standards.

Preservation/Conservation Techniques

Comprehensive Planning - enables counties, boroughs, and townships to create a vision for the future which can focus on open land preservation.

Maximum Lot Size Standards - limits the amount of land devoted to a use as a means to preserve agriculture.

Lot Averaging Standards - overall density is maintained while the individual lot size varies.

Flexible Lot Size - sets lot size based on the availability of public water supply and/or sewage disposal.

Transferable Development Rights - the right to develop is sold from areas to be preserved to areas where development is encouraged; the overall area density development remains the same. Units which would be constructed on the *sending* property are developed on the *receiving* property, and the *sending* property is preserved.

Overlay Zoning - applies special standards in addition to the underlying zoning district for areas of special concern (e.g., floodplains, prime farmland, steep slopes).

Open Space and Natural Area Acquisition -conservation easements or fee simple title acquired by public bodies or conservation organizations. Permanently limits uses of the land in order to protect its conservation value.

Greenways - corridors of public and private lands preserved as open space, often along streams.

Riparian Buffers - areas of vegetation left undisturbed along streams and lakes.

Wellhead and Aquifer Protection - special standards wells and groundwater sources to protect water quality.

Sewage Facilities Planning - conducted in accord with DEP regulations and aimed at assuring adequate sewage disposal and water quality protection.

Floodplain Management - local regulations based on National Flood Insurance Program standards to minimize flood related damages to structures.

Stormwater Management - local regulations based on area wide plans to minimize stormwater runoff.

Erosion and Sedimentation Control - coordination with County Conservation District to minimize soil loss and protect water quality.

Differential Assessment - agricultural and forest land is assessed at its value for agriculture/forestry instead of the fair market value; e.g., Act 319 Clean and Green.

NOTE: Much of the discussion and many of the recommendations in the following sections were taken from the 2006 report prepared by the Pike County Conservation District and the Pike County office of Community planning titled *A Review of Blooming Grove Township's Comprehensive Plan and Land Use Regulations with Recommendations to Enhance Natural Resource Conservation and Open Lands Preservation.*

Local Authority for Regulation

The Pennsylvania Municipalities Planning Code (MPC) authorizes land use planning and management tools for the Commonwealth's municipalities. Compliance with the MPC, along with case law, dictates the legality of local regulations. For this reason, it is very important to remember that all land use management tools must be prepared and administered within the bounds of the MPC and current case law. In addition, the Second Class Township Code provides authorization for special purpose ordinances aimed at protecting public health, safety and welfare. Other state laws, such as the Floodplain Management Act and Stormwater Management Act, mandate local regulation of resources. In all cases, the municipal solicitor should be involved in reviewing any changes to municipal plans and ordinances.

Integrated Approach

Given the range of authorizing state statutes, municipal open land, natural resource and environmental regulations are typically found throughout a number of ordinances. While this may appear problematic at first glance, the integration of such standards in various ordinances is important because a certain ordinance may govern one type of development while another governs a different type. For example, the subdivision and land development ordinance governs how land is divided and improved while the zoning ordinance governs the specific uses on the land. In some cases a special purpose ordinance may be more effective than including standards in the zoning ordinance. The important point is consistency of standards in all ordinances.

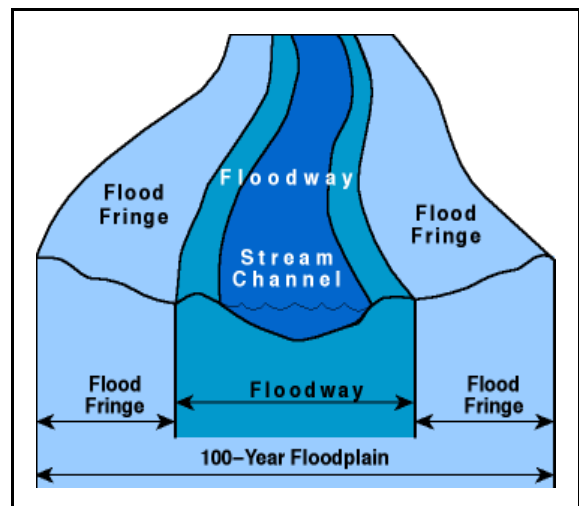
The Blooming Grove Township Zoning Ordinance includes a broad range of environmental standards. The Township will periodically review and update its environmental standards to ensure the most effective protection. The possible range includes:

- Environmental impact analysis requirements for

- large scale and environmentally problematic uses.
- Retention of existing vegetation on development sites.
- Soil stabilization and landscaping.
- Stream, lake and wetland buffers.
- Stormwater best management practices including quality treatment and infiltration.
- Floodplain management.
- Hydrogeological studies for proposed uses with large groundwater consumption.
- On-site sewage disposal system management.
- Limitations and special standards for development on steep slopes.

Floodplain Maps and Management

Flood hazard areas are identified on the federally-issued Flood Insurance Rate Maps for the *100-year flood* issued by the Federal Emergency Management Agency (FEMA). The *100-year flood* is a flood event of a magnitude which is expected to be equaled or exceeded once on the average during any 100-year period. (See the *Environmentally Constrained Lands Map* which accompanies this *Plan*.) This is the average period between such floods; and such floods can occur at shorter intervals or conceivably in the same year. In recent years floods exceeding the *100-year flood* event have occurred resulting in substantial damage.



Floodplain Cross Section

State and federal laws mandate the participation of local governments in the flood plain management program as a prerequisite to the purchase of flood plain insurance by individual property owners. The National Flood Insurance Program is administered by the FEMA which also has prepared and issued the maps which identify flood prone areas throughout the Country. The Pennsylvania Flood plain Management Act (Act 166 of 1978) requires local municipal participation in the flood plain management program, or state funding allocations such as Liquid Fuel Funds can be withheld. Local municipal regulations range from a total prohibition of flood plain development to requirements for flood-proofing and the elevation of buildings.

Improving Floodplain Management

Blooming Grove Township has adopted flood plain regulations which comply with the minimum required floodplain development standards required by state and federal flood insurance programs. In critical floodplain areas where the health, safety and welfare of residents are at stake, the Township should go beyond these minimum standards and consider stronger floodplain regulations to protect residents over the long term with an emphasis on:

- Minimizing dangers to public health and safety by protecting water supplies and maintaining natural drainage patterns.
- Minimizing increases in flood heights and downstream damage.
- Reducing financial burdens imposed on the Township, its emergency services and its residents by preventing excessive development in areas subject to flooding.

Developments of Special Concern

At a minimum, floodplain standards should prohibit developments of special concern within the 100 year floodplain and in all areas subject to flooding. Developments of special concern include such facilities as:

- Hospitals, jails or prisons, nursing homes, senior citizen housing, and similar such facilities.
- Mobile home parks and subdivisions.
- Sewage treatment facilities.

- Any activity used for the production or storage of certain specified dangerous materials or substances; or any activity requiring the maintenance of a supply of a specified volume of any of the specified dangerous materials or substances.

Adopting regulations which prohibit these uses of special concern from areas subject to flooding will provide for the long term protection of the health, safety and welfare of residents and other downstream residents, and help minimize the risks to emergency service providers during flooding events.

Prohibition of Structural Development in the Floodplain

The Township should also consider the prohibition of all structural development within critical floodplain areas including the 100 year floodplain areas as identified by the Township Flood Insurance Rate Map. Prohibition-type provisions can be justified if carefully tailored to specific conditions and the hazard potential of the Planning Area's various floodplains and/or watersheds. Variance provisions would be included to provide relief for individual properties where the prohibition standards preclude the use of the lot.

Inclusion of Floodplain Management into the Development Review Process

Land development techniques such as conservation design development and transferable development rights (TDR's) can be effective for floodplain management by allowing some density credit for floodplain land and shifting the construction of the dwelling units to better suited areas of the development tract or other areas of the municipality.

Provisions for Buffers and Maintenance of Hydrologic Regime

If all structural development is not restricted from the floodplain, provisions for watercourse buffers should be provided. Development within the floodplain areas should be restricted to activities that are compatible with maintaining the existing hydrologic regime and which do not alter the cross sectional dimension of the floodplain and its storage capacity.

Well Construction in Floodplain

The Township should consider standards for construction of public and private water wells throughout the Township, but particularly within floodplain areas. Public water supply sources located within the floodplain should be protected from flood

waters; municipal land use provisions should help in the long-term protection of these important resources.

Additional Flood Damage Mitigation Assistance

The Federal Flood Mitigation Assistance Program, administered by FEMA provides planning and project funding to assist communities in reducing or eliminating the long term risk of flood damage to buildings, manufactured homes, and other structures insurable under the National Flood Insurance Program (NFIP). NFIP-compliant communities with approved flood mitigation plans can apply for grants for such projects as the elevation, acquisition, and relocation of NFIP-insured structures. Pike County has prepared a hazard mitigation plan which is required for municipalities to become eligible for the Program. Unfortunately, funding for the Mitigation Assistance Program falls far short of requests for assistance, and prevention remains the best option for minimizing risks for flood damages.

Forest and Vegetation

Maintaining natural vegetation not only preserves rural character, but also has numerous environmental benefits, not the least of which are reducing stormwater, preserving surface water quality, and maintaining groundwater recharge. The Subdivision and Land Development Ordinance (SALDO) should include specific standards that govern preservation of vegetation during the development process. However, some development activities which are not governed by the SALDO, clearing for a parking lot for example, can be managed by a zoning ordinance with standards for preservation of natural vegetation. There are many local examples where a lot or large parcel have been totally stripped of vegetation with no development plan and resultant soil erosion and stormwater.

The best approach is to set specific standards for maintaining natural vegetation and require the developer to show why the existing vegetation within prescribed setback or buffer areas, and the entire parcel for that matter, cannot be maintained to the greatest extent possible. In addition, clearing vegetation should be prohibited until a land development plan is approved. The section would be written to limit timber harvesting in the buffer to selective cut only in accord with a forestry management plan so as not to preclude reasonable forestry enterprise.

Groundwater Conservation and Protection

Methods available for local municipalities to conserve the groundwater supply and protect groundwater quality are well documented, and these methods have been successful in many areas of the Commonwealth. Details of available methods, the authority for action, and sources of assistance are detailed in *Groundwater Protection and Management in Pennsylvania*.¹ The Report recommends the following five-step process to develop and put into place an effective groundwater protection program:

- Involve the community by organizing a committee of interested individuals from the community, and neighboring communities, if appropriate.
- Determine sources and uses of the community's water supply and define the proposed groundwater protection areas.
- Identify possible contamination sources-past, present, and future-in the groundwater protection areas.
- Establish goals and priorities based on an evaluation of the groundwater threats.
- Implement appropriate management measures, including plans for future needs.²

In addition to evaluating the applicability of the five-step formal planning process, other local municipal actions include:

- Zoning
 - Linking dwelling unit densities to the quality of the land by identifying environmentally sensitive areas as part of the development process.

¹*Groundwater Protection and Management in Pennsylvania, An Introductory Guide for Citizens and Local Officials*, League of Women Voters of Pennsylvania Citizen Education Fund and Water Resources Education Network Project, R. Merideth, J. R. Drohan, C. W. Abdalla, J. R. Jessen, E. D. Stevens, 2001, Third Edition.

²*Groundwater Protection and Management in Pennsylvania*, p. 13.

- Including standards for identification and protection of environmentally sensitive areas – recharge areas, floodplain, steep slopes, wetlands, riparian buffers, etc. – and update as necessary.
- Providing incentives for conservation subdivision design where full development density is permitted, individual lot sizes are reduced, a certain percentage of open space is set aside, and sensitive natural areas are preserved.
- Allowing planned residential development and transfer of development rights as a way to shift development away from sensitive environmental areas.
- Requiring a hydrogeologic study for any proposed use which will withdraw large quantities of groundwater.
- Requiring detailed water quality protection plans for any commercial or manufacturing use which have the potential for groundwater contamination.
- Sewage Enforcement
 - Continuing the strict enforcement of the on-lot sewage disposal program.
 - Evaluating the benefit of an on-lot sewage system management program.
- Stormwater Management
 - Requiring stormwater infiltration as the option of choice to maximize groundwater recharge.
 - Addressing stormwater quality (nutrient and pollutant removal) along with quantity.
- Well Construction and Protection - The Township has adopted a well ordinance, but should consider:
 - As a means of building a data base, requiring well drillers to submit copies of the state Water Well Completion Report which includes details about new wells – depth, depth to water bearing zones, static level, yield, and type of aquifer.
 - Requiring bacterial testing for all new wells with a report submitted to the municipality.
- Sponsoring an annual well water testing program and compile and map the results.
- Adopting well head protection standards that limit potential contaminating activities in zones around community wells.

Surface Waters and Wetlands

Establishing buffers along streams and around lakes, wetlands and vernal pools is essential to maintaining water quality and ecological integrity of riparian systems. Buffers also provide key stormwater management and flood control benefits. Buffers should not be confused with building or other setbacks, which generally apply only to construction of certain buildings or improvements. To maximize buffer benefits, these should be no disturbance zones where existing vegetation is maintained to the greatest extent practicable.

Buffer requirements are typically included in the zoning ordinance, although some stormwater ordinances also include buffer provisions. Blooming Grove Township Zoning Ordinance §414 prohibits buildings, structures, impervious surfaces, and on-lot septic systems within fifty feet of any water body, stream or wetland. SALDO §611 gives the Township the authority to require a wetland delineation if it is determined that wetlands may be present. The Township should consider:

- Requiring an undisturbed buffer of a defined width along all streams, whether perennial or intermittent.
- Including a stream/water body buffer definition: the area of land immediately adjacent to any stream, wetland, lake, pond or vernal pool, measured perpendicular to and horizontally from the top-of-bank on both sides of a stream or the delineated edge of the wetland, lake, pond, or vernal pool.
- Limiting earth disturbance, cutting of vegetation, and placement of fill (in addition to limiting buildings, structures and other impervious surfaces) in all buffer areas (streams, wetlands, other water bodies). Exceptions could include stormwater conveyance required by the township, stream crossings permitted by DEP, unpaved trails or the correction of hazardous conditions.
- Establishing a buffer for ponds and lakes and add

provisions to require the identification and buffering of vernal pools.

- Making wetland earth disturbance without appropriate state/federal approvals an ordinance violation to provide Township authority to proceed with enforcement action to address violations.

Steep Slopes

Steep slopes present special development problems and many zoning and subdivision ordinances include specific standards for steep slopes. The preferred approach would be conservation design which sets steep slopes aside as conservation areas. In addition, such standards should:

- Set a specific threshold to define steep slopes. Many municipalities use twenty-five percent as the threshold, while some use fifteen percent.
- Require the submission of detailed site, grading and drainage plans.
- Limit clearing of vegetation.
- Set a maximum building envelope size.
- Limit final slopes of cuts and fills to fifty percent.

Improving Stormwater Management

All of the streams in the Township are classified by the Pennsylvania DEP as Special Protection Waters and land development projects in these Special Protection Watersheds are subject to a number of state and federal water quality standards that relate to stormwater management. Significant changes have recently be instituted in state requirements.

Any inconsistency between local and state requirements may result in project delays as applicants face conflicting design standards. In order to ensure that township stormwater management standards are consistent with State water quality antidegradation requirements, Act 167 (Stormwater Management Act), Federal National Pollutant Discharge Elimination System (NPDES) requirements for stormwater discharges associated with construction activities, and DRBC's Special Protection Waters regulations, each Township should adopt a stand-alone stormwater ordinance with comprehensive stormwater management standards that address the major elements discussed below.

Preserve Existing Hydrologic Conditions

The recommended approach is to promote development practices that will minimize post-development runoff rates and volumes and minimize the need for artificial conveyance and storage facilities. Preserving natural hydrologic conditions requires careful site design that includes the following:

- Preserving natural drainage features such as vegetated drainage swales, channels, valleys, or depressions where water normally ponds.
- Minimizing earth disturbance and preserving natural vegetation to the greatest extent possible by conforming plans to meet existing topography.
- Minimizing impervious surfaces to the maximum extent possible, including building footprints, sidewalks, roads, driveways and parking areas.
- Disconnecting impervious areas by directing runoff from impervious surfaces over pervious areas where it may either infiltrate into the soil or be filtered through vegetation.

Maintain Groundwater Recharge

Stormwater management standards should require the use of infiltration to provide groundwater recharge whenever possible in recognition that stormwater as an important resource to maintain groundwater supplies. Concurrently, a provision must be included to ensure that any infiltration does not pose a threat to groundwater quality. These simple provisions are critically important in developing areas where groundwater use is increasing dramatically and stormwater is too often simply considered a problem.

Protect and Maintain Water Quality -

To the extent that applicants cannot totally infiltrate stormwater to pre-development volumes due to site conditions or limitations, measures must be evaluated and employed to prevent degradation of surface water quality from pollutants carried in stormwater discharges. Some examples of structural best management practices used to improve stormwater discharge water quality include vegetative filter strips, infiltration basins, bioretention areas and wet detention ponds.

Reduce Erosion and Scour of Stream Banks and Stream Beds

As storm flows increase, the velocities in streams also increase. Both the volume and rate of stormwater discharges must be managed to prevent physical degradation of receiving waters, such as stream bank erosion and channel scour.

Control Flooding

Flooding and stormwater problems are caused by excess stormwater quantity. While some over-bank (typically 2-year to 10-year storm events) and extreme (25, 50, and 100-year) flooding events are inevitable (thus the need for sound floodplain ordinances) the goal of stormwater management standards is to control the frequency of occurrences so that damages to existing infrastructure are not exacerbated by upstream development.

Define Inspection and Maintenance Responsibilities

Without regular inspections during construction and proper and long term maintenance, stormwater infiltration devices, detention basins, pollution control and other facilities will not function properly, often with problematic or even disastrous downstream effects. It is far too easy for a homeowners association or absentee landowner to postpone maintenance, particularly when much of the problem is experienced out of sight somewhere downstream. Even the addition of homes within a residential subdivision can have serious effects on neighbors if facilities are inadequately constructed and maintained. Standards should be included to address inspection during construction, long term ownership, maintenance agreements for privately owned stormwater facilities and specific maintenance schedules, making the failure to maintain any facility an ordinance violation and providing the authority to the Township to proceed with enforcement action to correct the problem.

Soil Erosion and Sedimentation Control

Pennsylvania DEP Chapter 102 and other regulations administered through the Pike County Conservation District govern soil erosion and sedimentation control, and there is no need for the Township to include detailed design standards in either the SALDO or a zoning ordinance. The key is to include a requirement for an approved soil erosion and sediment control plan in the SALDO as a condition of preliminary plan approval for all major subdivisions and all land developments, and in a zoning ordinance for any use involving earth disturbance governed by Chapter 102. Under DEP Chapter 102, an erosion and sediment

NPDES Permit Coordination

Coordination of Township approvals with the Conservation District review is most important for projects (potentially any project with 1 acre or more of earth disturbance) which require a National Pollutant Discharge Elimination System (NPDES) Permit for stormwater discharges associated with construction activities. Section 102.43 of the DEP Erosion Control Rules and Regulations, 25 Pa. Code 102.43 and Section 611 of The Clean Streams Law, the Act of June 22, 1937, PL 1987, as amended, 35 P.S. 691.611 prohibit the Township from issuing a building or other permit or final approval for earth disturbance activities requiring an NPDES Permit until DEP has issued the permit.

control plan is required for all earth disturbance activities in Special Protection Watersheds regardless of size.

Sewage Disposal

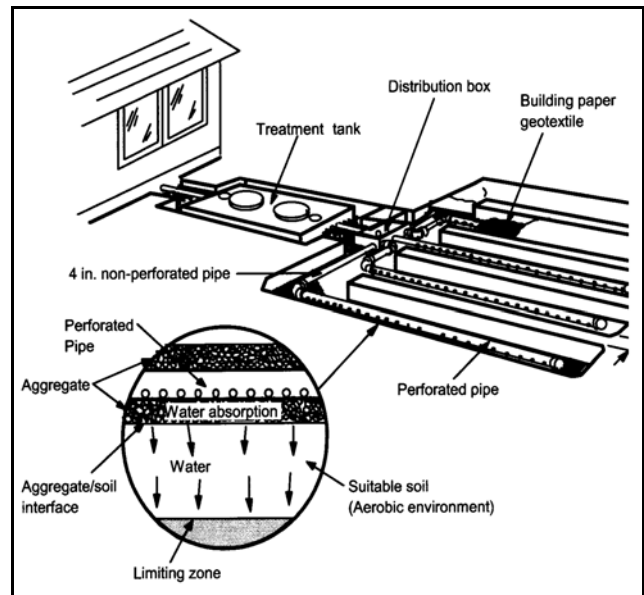
The disposal of wastewater must be addressed by all communities, but especially by a community that is experiencing growth and development. The volume of wastewater generated is directly related to a community's population and the extent and nature of commercial and residential development. In Blooming Grove Township, wastewater is comprised of sewage, that is, human wastes associated with residential and retail/service types of commercial development. Given the lack of industrial development in the Township, industrial wastewater disposal is not an issue.

Sewage disposal is one of the most critical factors affecting the future growth and development of the Township. Department of Environmental Protection regulations allow for two basic types of sewage treatment and effluent disposal - soil based disposal of effluent including individual, subsurface disposal and spray irrigation; and the discharge of treated effluent to surface waters (i.e. lakes and streams). Solids, following treatment, are either applied to agricultural lands or are disposed of in an approved solid waste landfill. Sewage disposal is critical because without a cost-effective and environmentally sound method, the Township's growth and development will be limited.

As discussed in previous sections, many soils in Blooming Grove Township have severe limitations for extensive use for land based sewage effluent disposal, both in terms of physical characteristics and the high

cost of land if proposed for spray irrigation or large disposal beds. At the same time, surface water quality in the Township is excellent, and its protection is paramount to maintaining the area’s rural character and quality of life. Finding a sensible solution within the bounds of current Department of Environmental Protection regulations and the reluctance to rely on a proliferation of treatment plants with stream discharges is a perplexing problem. It is clear that cost-effective and environmentally sound alternatives for sewage disposal must be identified by the scientific community and then must be legitimized by the Department of Environmental Protection via their regulatory process.

The primary means of sewage disposal in Blooming Grove Township is the use of a septic tank and subsurface soil disposal of the effluent, which includes both in-ground seepage beds and elevated sand mounds. It is also important to remember that many of the housing units in the Township were constructed prior to the 1968 state enactment of sewage regulations. Land application (spray irrigation) has found only limited use in the region for larger systems due to the need for large spray areas and the winter storage of effluent. Spray systems for individual homes are now permissible under new DEP regulations and may, given that the soil requirements are less stringent, allow the development of certain areas which were previously precluded due to poor soils. In addition to the need to identify land-based alternatives for sewage disposal to assure protection of ground and surface water, is the need to improve existing or develop new institutional arrangements for the monitoring and possible operation of sewage disposal systems.

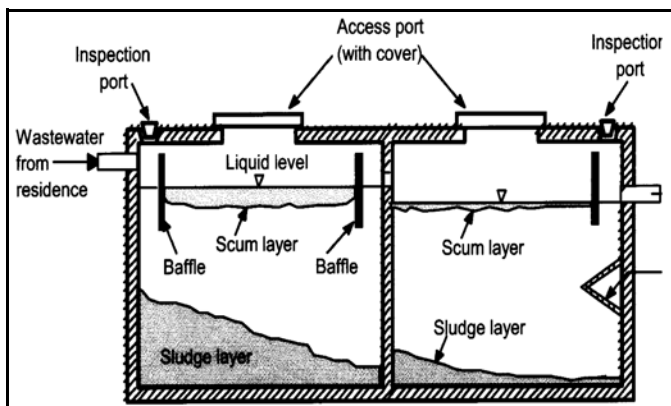


On-Lot Sewage System

Some communities have initiated municipally-operated on-site sewage disposal management programs, sewage treatment plant inspection and monitoring, and in some cases, municipal acquisition and operation of private sewage treatment plants. County and local municipal efforts should include imploring the Department of Environmental Protection to actively investigate the use of alternative sewage disposal methods to meet the needs of rural municipalities and other unique areas of the state.

Actions Related to On-Lot Sewage Disposal

- Continue to monitor the functioning of existing on-lot sewage disposal systems and order corrections when malfunctions occur.
- Continue to ensure that all new systems meet DEP regulations.
- Update the Township sewage facilities plan as needed.
- Consider an on-lot sewage system management program, particularly in areas where malfunctions are occurring or are likely to occur (e.g., poor soils, concentrated numbers of small residential lots).



Typical 2-Compartment Septic Tank

Open Space Planning

This *Comprehensive Plan* recognizes that open space in the Township is currently abundant and stable in ownership. The PA Bureau of Forestry owns and manages some 13,550 acres of the Delaware State Forest situated in the Township, the PA Game Commission owns another 7,920 acres as part of State Game Lands 180, and about 200 acres of Promised Land State Park are situated in the Township. In addition, the Blooming Grove Hunting and Fishing Club owns 12,960 acres of land in the Township, most of which is forest or other open land. (See the map on preceding page and above sidebar.) The Club is very stable in terms of membership and commitment to maintaining its land and, similar to the Delaware State Forest and State Game Lands, can be expected to remain undeveloped for the long term. In addition, the Delaware Highlands Conservancy holds a conservation easement on the Mill Pond Preserve just west of Fairview Lake with some 300 acres in Blooming Grove Township. This 13,260 acres of additional land brings the *relatively secure from development* land to 71% of the total land area.

Nevertheless, land ownership can change dramatically and even state-owned lands can be sold or traded. Planning for the preservation of open space is critical to the future of the community's quality of life. Without planning and local municipal management, more and more land will be developed and the results of rapid growth can only diminish the quality of life.

Identifying Conservation Lands

More and more municipalities throughout the Commonwealth are recognizing the importance of preserving open space as a means of protecting and enhancing the quality of life. Blooming Grove Township, as part of the comprehensive and open space planning process, will continue to evaluate the need for additional open space preservation in terms of the ownership and stability of existing open land (particularly Blooming Grove Hunting and Fishing Club), Township financial resources, support of Township residents, and the preservation efforts being undertaken by the County and private organizations.

Preservation Criteria

Long term Township open land planning must include the identification of key parcels for preservation based on Township-specific criteria. The planning should be undertaken by a committee of Township officials, owners of large land parcels, and residents. Given the limited resources available for in-fee or conservation

easement acquisition, the parcel should be prioritized, recognizing that any such ranking must be sufficiently flexible to enable the preservation of parcels which are threatened by imminent development.

Blooming Grove Township will as part of any open space plan:

- Develop criteria for identifying parcels important for preservation.
- Recognize that landowner commitment to preservation is an important criteria.
- Prioritize identified parcels.
- Include as a basic tenet that both in-fee or conservation easement acquisition would be on a willing seller basis except in an extraordinary circumstance such as a direct development threat to a critical natural area on a parcel with a high priority.
- Provide for flexibility in the design of residential developments with such techniques as conservation design and transferrable development rights. (See pages 6-10 - 6-19.)
- Consider the use of an *official map* to show identified lands.

Preservation Assistance and Funding

Financial resources for open land preservation are limited and the Township will pursue all available avenues of funding to preserve key open space lands and to assist property owners who are committed to preserving their land. Technical assistance and funding for planning and acquisition is available through the Pike County open space bond issue via the Office of Community Planning and the Scenic Rural Character Preservation Board. Additional technical assistance for preservation is available from many private land trusts and the Delaware Highlands Conservancy is a local organization active in land preservation that works with landowners and municipalities.

Blooming Grove Township will:

- Support landowner efforts for private land preservation via conservation easements.

Preservation Key Question

Is the land in a predominantly open and undeveloped condition that is suitable for any of the following?

- ☛ natural areas
- ☛ wildlife and native plant habitat
- ☛ important wetlands or watershed lands
- ☛ stream corridors
- ☛ passive, low-impact activities
- ☛ little or no land disturbance
- ☛ trails for non-motorized activities

Selection Criteria Considerations

Cost: the terms of the acquisition will allow the Township to maximize its assets and leverage landowner donations, grants, funding partnerships, and donations.

Community Benefit: the project will be beneficial to the Township and the County at large.

Conservation: the project protects wildlife and their habitats, and protects the ecological health and function of other protected lands.

Human Renewal: the project has scenic and aesthetic values and provide respite, renewal, and solitude.

Connectivity: the project will add to the existing or planned open space system and enhance ecological, hydrological, and recreational vitality.

Stewardship: the project will be protected in perpetuity and its open space conservation values will be preserved through good management and enforcement.

Feasibility: the project is for land that is largely or entirely in an undisturbed and natural state and will be maintained as such.

- Cooperate with nonprofit land trusts on any private conservation efforts in the Township.
- Seek any available technical assistance and funding from the County and state for land preservation.
- Evaluate the possibility of using Township funds for conservation easement acquisition.