

Model Conservation by Design Ordinance for Pennsylvania (Growing Greener 2.0)

PREFACE

Growing Greener: Conservation by Design (GG:CBD) is a collaborative program of the Pennsylvania Department of Conservation and Natural Resources (DCNR); the Governor's Center for Local Government Services; Natural Lands Trust, Inc., a regional land conservancy located in Media, Pennsylvania; and an advisory committee comprised of officials from state and local agencies, non-profits and the private sector. The program was originally developed by Randall Arendt, Senior Conservation Advisor at Natural Lands Trust, and noted author, lecturer and designer in the field of conservation design, and Michael Clarke, President of Natural Lands Trust, from 1988-1996.

Between 1997, when the GG: CBD program was initiated, and 2008, Natural Lands Trust completed ordinance reviews or "Assessments" for 126 Pennsylvania municipalities in 24 counties. More noteworthy is the fact that nearly 30% of all Townships in the 15 fastest growing Pennsylvania counties have participated in a GG: CBD Assessment. NLT staff have also written or reviewed GG: CBD ordinances adopted in 36 municipalities in 14 counties; and reviewed or designed 68 conservation subdivision plans. Communities that adopted rigorous versions of this model ordinance have conserved an average of 62% of residential land in conservation subdivisions as permanently protected Greenway land. By using the development process, over 2,000 acres have been preserved in this way as of 2008.

This model ordinance, consisting of model language for both zoning and subdivision and land development ordinances, provides regulations that can be added to typical, existing ordinances to implement the principles and standards of conservation subdivision design.

ACKNOWLEDGMENTS

The ordinance standards developed by Michael Clarke and Randall Arendt were first adopted by Wallace Township, Chester County, in 1994, later the recipient of the Governor's Award for Excellence in Local Government. The Wallace Township codes were published in the 1997 GG: CBD workbook, published nationally in Randall Arendt's book *Growing Greener: Putting Conservation into Local Plans and Ordinances* (Washington DC: Island Press, 1999). Island Press published a second version of the codes as an interactive CD-ROM, *Growing Greener Ordinance Language* (Washington DC: Island Press, 2001), with further contributions to Arendt and Clarke's work from NLT staff member Ann Hutchinson. In 2007, NLT planner Monica Drewniany embarked on yet another update to the ordinances. We are grateful to Drewniany, whose revisions just prior to her retirement made the codes "leaner and greener," reflecting years of experience working with municipalities adopting the conservation standards. We also thank George Asimos, esq., Partner at Saul, Ewing LLP for providing a legal review of *Growing Greener Version 2.0*.

HOW TO USE THIS MODEL ORDINANCE

When working with a community to apply these regulations, it is recommended that the consultant draft and review the subdivision standards first, before the zoning. Once the local planning commission understands the review procedures, plan content requirements and design process, the tendency to fixate on the minutia of lot sizes and setbacks in the zoning ordinance is greatly reduced. The design process that starts with the delineation of the Greenway land is the

most important feature of this ordinance. The zoning ordinance, then, simply fixes density and defines where the standards are applied.

As with any model ordinance, the consultant may retain certain articles and sections that apply best to the subject community, and omit others. Certain regulations, though, are essential to a *Growing Greener* ordinance. These key elements are listed below, with the ordinance section in which it appears in parentheses:

Subdivision and Land Development Ordinances contain, at a minimum:

- Optional Sketch Plan procedures that strongly encourage dialogue between the applicant and municipality before detailed plans are engineered. (Sections 408 and 501)
- A requirement for a context map, showing all natural and manmade features surrounding the site. (Section 502.B)
- The requirement of a site inventory of existing features upon which to base decisions regarding the development. (Section 502.C)
- The requirement of a site visit, preferably at the voluntary Sketch Plan stage, and always at the mandatory Preliminary Plan stage, by the planning commission members, accompanied by the developer, with the site inventory in hand. (Section 406)
- The required use of a Four-Step Design process in which the conservation areas, or Greenway lands, are determined first, before houses, streets and lot lines are established. (Section 602.B)
- Standards for the configuration and location of the Greenway lands. (Section 603)

Zoning Ordinances contain, at a minimum:

- The ability for an applicant to obtain full-density, through a “by-right” (versus conditional use) approval process, but *only* when a conservation option is selected. (Section 104.A)
- A requirement that protected lands in conservation subdivisions are comprised of at least 50% of the buildable ground, plus all of the constrained land, whenever the underlying density is one unit per acre or lower. (Section 104.D)
- Strong disincentives in order to discourage “conventional” development, usually by reducing the density by half. (Section 104.A)
- Restrictive covenants that ensure that the conservation lands are perpetually restricted from further development. (Section 109)

Options for Development

This model offers zoning standards that permit as many as five development options in a single residential zoning district, a welcome change from typical codes that offer a “one size fits all” approach to development. Some communities have adopted all five options, including Option 5, Village Development. By applying the Village Option, a community can provide for its fair share of dwelling types and densities and will likely find the compact form of development, coupled with a strong land protection component, far more satisfying than the older Planned Residential Developments often used to meet fair share requirements.

The simplest application of options, in a rural to suburbanizing community, is to choose just two of the options and apply them in one zoning district. Many Pennsylvania communities have a large existing zoning district that dictates a minimum 2-acre lot size whenever development occurs. If only Option 1(Basic Conservation with Neutral Density) and Option 4 (Country Properties) were adopted in that district, the community would be able protect natural resources

and landscape character across the majority of its lands, greatly lightening the footprint of development and leaving a conservation legacy for future generations.

CONTENTS

Model Zoning Ordinance

Definitions.....	Definitions-1
Article I – Conservation Subdivision Design Overlay District	
Section 101 – Purpose and Applicability.....	I-1
Section 102 – General Regulations.....	I-4
Section 103 – Use Regulations.....	I-4
Section 104 – Maximum Dwelling Units and Minimum Greenway Land.....	I-5
Section 105 – Dimensional Standards for Options 1 through 4.....	I-11
Section 106 – Discretionary Density Bonus.....	I-14
Section 107 – Transfer of Development Rights.....	I-14
Section 108 – Greenway Land: Use and Design Standards.....	I-16
Section 109 – Greenway Land: Permanent Protection.....	I-19
Section 110 – Greenway Land: Ownership and Maintenance.....	I-21
Article II – Standards for Option 5: Hamlets and Villages	
Section 201 – General.....	II-1
Section 202 – Permitted Uses.....	II-3
Section 203 – Density, Intensity and Minimum Greenway Land.....	II-4
Section 204 – Area and Dimensional Standards.....	II-6
Section 205 – Additional Standards for Hamlets and Villages.....	II-9
Section 206 – Greenway Land Design Standards.....	II-11
Section 207 – Design Standards for Villages.....	II-13
Section 208 – Modifications.....	II-18
Appendix A – Reference to Overlay in R-1 District.....	A-1
Appendix B – Table of Districts.....	B-1
Appendix C – Wastewater Treatment and Disposal.....	C-1

DEFINITIONS

The definitions in this article may be used in either or both the Zoning and the Subdivision and Land Development Ordinances, as applicable.

CALIPER - The diameter of a tree trunk measured 6 inches above the ground for a tree measuring up to and including 4 inches in diameter and 12 inches above the ground for a tree measuring above 4 inches in diameter. The term applies to nursery stock.

COMMON FACILITIES - All the real property and improvements, owned in common by residents within the development, which is served by the facilities. Common facilities include, without limitation, landscaped areas, buffers, Greenway land not included within title lines of any privately owned lot, and street rights-of-way not dedicated to the municipality.

COMMUNITY ASSOCIATION - A non-profit organization comprised of homeowners or property owners, the function of which is to maintain and administer property owned in common by members of the association or by the association, to protect and enhance the value of the property owned individually by each of the members. Homeowners Associations and Condominium Associations are types of Community Associations.

CONDOMINIUM - Real estate, portions of which is designated for separate ownership and the remainder of which is designated for common ownership solely by the owners of those separate portions, in accordance with the Pennsylvania Uniform Condominium Act 1980-82, as amended.

CONSERVANCY LOT - A large, privately owned and maintained lot, containing an existing dwelling, farm complex, or historic structure, comprising part of the required Greenway land in a conservation subdivision.

CONSERVATION AREAS, PRIMARY (PCA) - Lands upon which primary resources are located in conservation subdivisions. All Primary Conservation Areas are required to be located within Greenway lands.

CONSERVATION AREAS, SECONDARY (SCA) - Lands containing secondary resources that are conserved as a part of Greenway land.

CONSTRAINED LAND - Selected resources listed in the Zoning Ordinance, multiplied by a protection factor and totalled.

DBH (DIAMETER AT BREAST HEIGHT) - The diameter of a tree trunk measured 4.5 feet above the ground at the base of the tree. If a tree divides or splits into multiple trunks below 4.5 feet, the trunk is measured at its most narrow point beneath the split. The term applies to trees in the field (not nursery stock).

FRONT FACADE - The plane of the facade of the building closest to the street right-of-way, excluding stoops, porticos, open colonnades, and open porches.

GARAGE, FRONT-LOADED - A garage having its vehicular entry door facing the street.

GARAGE, SIDE LOADED - A garage having its vehicular entry door facing the side yard.

GARAGE, REAR LOADED - A garage having its vehicular entry door facing an alley or rear lane.

GREEN, COMMON - An area of Greenway land, surrounded by streets on at least 2 and often 3 or 4 sides, around which dwellings are organized.

GREENWAY LAND - A parcel or parcels of land and/or water, within a conservation subdivision, set aside for the protection of natural and cultural resources. Greenway land consists of Primary and Secondary Conservation Areas and is permanently restricted against further development. The terms “Greenway” and “Greenway land” are synonymous.

HEDGEROW - A linear plant community dominated by trees and/or shrubs. Hedgerows often occur along roads, fence lines, property lines, or between fields, and may occur naturally or be specially planted (e.g. as a windbreak).

HISTORIC RESOURCE - Any structure that is:

- A. Listed individually in the National Register of Historic Places (a listing maintained by the U.S. Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- B. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- C. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- D. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - 1. By an approved State program as determined by the Secretary of the Interior; or
 - 2. Directly by the Secretary of the Interior in states without an approved program.

HOMEOWNERS ASSOCIATION - A non-profit organization comprised of homeowners or property owners, planned and operated under negotiated and approved rules and regulations, for the purpose of administering the needs of residents through the maintenance of community owned property. This term is synonymous with property owners association.

INVASIVE PLANT SPECIES - Predominantly non-native tree, shrub, vine, or herbaceous species that grow or reproduce aggressively, usually because they have few or no natural predators, and which can so dominate that they out-compete many native plant species.

LAND DISTURBANCE - Any activity which exposes soil, alters topography and/or alters woody vegetation, except for removal of a safety hazard, diseased trees, or invasive vegetation.

PRIMARY CONSERVATION AREA - see Conservation Areas, Primary

RESOURCES, PRIMARY - Resources consisting of 100-year floodplain (including the floodway), wetlands and prohibitive steep slopes (above 25 percent). In conservation subdivisions, all lands containing primary resources are called Primary Conservation Areas.

RESOURCES, SECONDARY - Natural or cultural features outside Primary Conservation Areas that are worthy of conservation by inclusion in Greenway land. See a prioritized list of such features in Section 603 of the Subdivision and Land Development Ordinance. Lands containing secondary resources that are conserved are called Secondary Conservation Areas.

SECONDARY CONSERVATION AREA - See Conservation Areas, Secondary

SPECIMEN TREE - A unique, rare, or otherwise specifically selected tree or plant considered worthy of conservation by the municipality, because of its species, size, age, shape, form, historical importance, or any other significant characteristics, including listing as a Species of Special Concern by the Commonwealth of Pennsylvania. All healthy trees over 20 inches dbh are considered specimen.

COMMENTARY: Twenty inches is a suggested diameter; this number may be increased or decreased as suitable to the tree and woodland conditions in a municipality. Locating all specimen trees on a plan enables the municipality to choose which should be saved.

COMMENTARY: Not all trees reach specimen size at the same diameter. For example, a dogwood or sassafras is considered large at 20 inches, while an oak may not be considered large until it is about 32 inches. A more accurate, but more complex, method of designating specimen trees is to give size parameters for each species, as in the following table.

Non-invasive trees having a dbh 20 inches or greater, are considered specimen, except as otherwise specified in the following table.

Species	Min. Size (dbh)	Species	Min. Size (dbh)	Species	Min. Size (dbh)
Ash	32"	Maple	32"	Sycamore	36"
Beech	32"	Oak	32"	Tulip Tree	36"
Cherry	24"	Osage Orange	20"	Walnut	30"
Elm	30"	Pine	30"	Hickory	32"
Hemlock	30"	Sassafras	20"		
Locust	30"	Spruce	30"		

STEEP SLOPES - Areas of land, 3,000 square feet or greater, where the grade is 15 percent or greater. Steep slopes are divided into 2 categories:

- A. Precautionary slopes are those areas of land where the grade is 15 to 25 percent.
- B. Prohibitive slopes are those areas of land where the grade is greater than 25 percent.

Slope shall be measured as the change in elevation over the horizontal distance between consecutive contour lines. Slope shall be measured over 3 consecutive 2- foot contour intervals (6 cumulative

vertical feet of slope). All slope measurements shall be determined by a topographic survey signed and sealed by a registered surveyor or engineer licensed to practice in (*insert name of state*).

TERMINAL VISTA - The scene terminating the view down a road or street, as at an intersection or on the outside of a curve.

TRACT AREA, ADJUSTED - The gross tract area minus the constrained land.

TRACT AREA, GROSS - The total amount of land contained within the limits of the legally described property lines bounding the tract.

WETLANDS - Areas that are inundated and saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas. Any area meeting the official wetland definition of the U.S. Army Corps of Engineers or the (*state*) Department of Environmental Protection, as amended, shall be considered a wetland for the purposes of this Ordinance. In the event the definition of wetland accepted by the U.S. Army Corps of Engineers conflicts with the definition of a wetland accepted by the (*state*) Department of Environmental Protection, the more restrictive definition shall apply.

WOODLANDS - A tree mass or plant community in which tree species are dominant or co-dominant and the branches of the trees form a complete, or nearly complete, aerial canopy. Any area, grove, or stand of mature or largely mature trees (larger than 12 inches dbh) covering an area of 1/4 acre or more, or consisting of 10 individual trees larger than 6 inches dbh, shall be considered a woodland. The extent of any woodland plant community or any part thereof shall be measured from the outer-most drip line of all the trees in the plant community.

WOODLAND DISTURBANCE - Any activity that 1) alters the existing structure of a woodland or hedgerow, including the cutting or removal of canopy trees, sub-canopy trees, understory shrubs and vines, and herbaceous woodland floor species; 2) constitutes a land disturbance within a woodland or hedgerow. Woodland disturbance does not include the selective cutting or removal of invasive plant species. (See INVASIVE PLANT SPECIES)

ARTICLE I

CSD - CONSERVATION SUBDIVISION DESIGN OVERLAY DISTRICT

Contents:

- Section 101 - Purpose and Applicability
 - Section 102 - General Regulations
 - Section 103 - Use Regulations
 - Section 104 - Maximum Dwelling Units and Minimum Greenway Land
 - Section 105 - Dimensional Standards for Options 1 through 4
 - Section 106 - Discretionary Density Bonus
 - Section 107 - Transfer of Development Rights
 - Section 108 - Greenway Land: Use and Design Standards
 - Section 109 - Greenway Land: Permanent Protection
 - Section 110 - Greenway Land: Ownership and Maintenance
-

SECTION 101 - PURPOSE AND APPLICABILITY

- A. Purpose. In addition to the general goals in Section (*insert the section number for the general zoning ordinance goals*) and the goals for the (*insert the districts to which the overlay applies*) District(s), it is the purpose of this district to:
1. Conserve undeveloped land for the purpose of protecting Primary and Secondary Conservation Areas in contiguous, un-fragmented, commonly managed landscapes to:
 - a. Protect large, intact wildlife habitat areas and connect patches of wildlife habitat to support greater biodiversity, maintain ecosystem processes and allow larger, healthier populations to persist; and
 - b. Minimize edge conditions and associated colonization by invasive plant species.
 2. Contribute to the creation of a community wide Greenway system for the benefit of present and future residents;
 3. Protect productive agricultural soils for continued or future agricultural use by conserving blocks of land large enough to allow for efficient farm operations;
 4. Conserve existing landscape character by minimizing views of new development from existing roads, thereby reducing perceived density;
 5. Encourage innovation and promote flexibility, economy and ingenuity in development;
 6. Provide multiple development options for landowners to reflect their varying circumstances and the individual characteristics of their properties;

7. Provide for a diversity of lot sizes, building densities, and housing choices to accommodate a variety of age and income groups, and residential preferences;
 8. Provide homes with direct views of Greenway land, organized around common greens;
 9. Provide for the conservation and maintenance of Greenway land and for active or passive recreational use by residents;
 10. Provide greater efficiency in the siting of services and infrastructure, including the opportunity to reduce length of roads, utility runs, and the impervious cover required for residential development;
 11. Provide a wider range of feasible locations for stormwater and wastewater facilities in order to comply with prevailing state-of-the-art designs and best management practices;
 12. Protect water quality and reduce erosion and sedimentation by retaining existing vegetation and minimizing development on steep slopes;
 13. Implement natural resource conservation policies set forth in the municipality's Open Space Plan;
 14. Implement land use, open space, and community policies set forth in the municipality's Comprehensive plan.
- B. Development Options. In order to achieve the purposes in Subsection A above, the following five development options are permitted:
1. By right:
 - a. Option 1: *Basic Conservation with Neutral Density*, providing for residential uses at the density permitted by the underlying zoning, with at least 50 percent Greenway land.
 - b. Option 2: *Age Restricted Communities*, providing for residential uses in age-restricted or age-targeted communities at a density higher than Option 1, with at least 60 percent Greenway land.
 - c. Option 3: *Estate Lots*, providing for residential uses in conventional layouts, at half the density of Option 1, with common Greenway land permitted but not required.
 - d. Option 4: *Country Properties*, providing for residential uses at very low densities, with common Greenway land permitted but not required. Incentives are provided for the use of this option.
 2. By conditional use:

Option 5: *Hamlets and Villages*, providing for higher density residential and mixed-use/commercial development in the form of traditional hamlets and villages. Locations for the application of Option 5 are delineated on the

municipal Zoning Map as the Village Overlay District. Refer to Article II for standards relating to this option.

COMMENTARY: Some communities choose to adopt all five options in their ordinances, and many opt for only two or three. The ideal combination for many developing communities is Options 1, 4 and 5: Option 1 provides standard “two-acre” density; Option 4 provides large “farmettes” with no common Greenway land; and Option 5 provides higher density in the form of traditional, compact neighborhoods surrounded by Greenway land. A common application in more rural communities is Option 1 plus either Option 3 or 4.

Options 3 and 4 provide an answer for applicants who do not want to provide common Greenway land or set up a Community Association. For the opportunity to completely lot out a development parcel, density is significantly reduced. The only way to get full density or higher is to provide common Greenway land, as in Options 1, 2 and 5.

Option 2 addresses age-restricted or age-targeted communities, marketed as “active living 55+” communities. Because the dwelling unit is usually smaller than standard single-family detached or even attached housing, developers need higher density to offset their costs. Their approach is that age-restricted housing will not include children and, thus, have no impact on the local school district, an argument that often convinces municipalities to grant the higher density. Recognizing the reality of this market, higher density is a by-right form of development in Option 2.

The higher density and variety of housing types offered under Option 5 are one way to address fair share issues. The village-scale lots are particularly popular with empty nesters, single-parent households and couples with young children or no children. Villages can also provide non-residential uses that serve the community. Villages serve as an ideal location for the dwelling units transferred from another parcel under a TDR (Transfer of Development Rights) ordinance.

- C. Applicability. This district shall be an overlay on the (*insert district name*) District(s) and shall apply to all residential uses on tracts 10 acres of Adjusted Tract Area or larger, except for minor subdivisions, which are exempt as set forth in Section _____ (*see sample language in Appendix A*).

COMMENTARY: Many communities choose to exempt minor subdivisions. This permits a farmer, for example, to break off a lot to finance farming operations or a parent to give a lot to a child, without involving conservation design.

COMMENTARY: The 10-acre threshold is based on the question of how many homes it takes to make a viable HOA. The municipality may want to consider five homes as a workable number to start with. At 1-ac density, the threshold can be reduced to 5 acres (again, 5 homes). It is also possible to set the threshold according to the number of units instead of acres.

SECTION 102 - GENERAL REGULATIONS

The design of all new subdivisions in the CSD District shall be governed by the following minimum standards:

- A. Ownership. The development tract may be held in single ownership or in multiple ownerships. When a development tract is held in multiple ownerships, it shall be:
 - 1. Represented by a single application; and
 - 2. Presented and approved under a common plan. The entire tract shall be designed in accordance with this article.
- B. Combining the Design Options. The development options permitted in this Article may be combined at the discretion of the Governing Body, based upon demonstration by the applicant that such a combination would better fulfill the purposes set forth in Section 101.A, as compared with applying a single option to the property. When more than one option is applied to a development tract, the applicant shall clearly indicate the boundaries of each option.
- C. Protection of Conservation Areas. The proposed design shall conserve Primary Conservation Areas. Demonstration by the applicant that these features are protected by the proposed application shall be prerequisite to approval of conditional use applications and all preliminary and final plan approvals. The protection of Secondary Conservation areas shall be addressed through the Four-Step Design Process described in Section 602 of the Subdivision and Land Development Ordinance.
- D. Community Wastewater Systems. In developments to be served by community wastewater disposal systems, the selection of the wastewater treatment technique shall be based upon the municipality's list of "Preferred Alternative Types of Community Wastewater Systems" in Appendix _____. (*See Appendix C for suggested language*)

COMMENTARY: The list of "Preferred Alternative Types of Community Wastewater Systems" can be taken from the community's Act 537 Sewage Facilities Plan or the Plan itself can simply be referenced.

SECTION 103 - USE REGULATIONS

- A. Uses Permitted in Options 1 through 4.
 - 1. Single-family detached dwellings.

COMMENTARY: Semi-detached and attached dwelling units can also be permitted.

- 2. Greenway land. See Greenway land uses in Section 108.
- 3. Home occupations in accordance with Section (*insert applicable section*).
- 4. In Option 4 subdivisions, on a building lot containing 10 or more acres, an accessory dwelling unit (ADU) is permitted, subject to the provisions in Section 104.C.

- B. Uses Permitted In Option 5: Hamlets And Villages. See Article II.

SECTION 104 - MAXIMUM DWELLING UNITS AND MINIMUM GREENWAY LAND

COMMENTARY: The five options offered in this section link density to the amount of Greenway land. When Greenway land increases, permitted density increases as well. Option 1 matches the density achievable in the underlying conventional zoning district and requires at least 50% Greenway land. Options 3 and 4 decrease density (and permit, but do not require Greenway land). Options 2 and 5 permit increased density (and require 60% and 70% Greenway land respectively). Option 5 permits doubled density and is a conditional use to which additional design standards apply.

Because Pennsylvania courts have ruled against large lot zoning, the standards in the following section are based on a hypothetical rural district with a minimum lot size of 80,000 square feet and no public sewer or water. In zoning districts where public sewer and/or water are available, density would most likely be increased.

Appendix B illustrates how the five options can be adapted in higher density districts.

- A. The maximum number of dwelling units shall be determined by using one of two approaches: a calculation using the density factor set forth in Table 104.A and the formulas in Subsection D, or by a yield plan described in Subsection E. The applicant shall determine which approach is most suitable.
- B. Greenway Land. The minimum Greenway land shall be as set forth in Table 104.A, regardless of which method is used to determine the maximum number of units.

TABLE 104.A

	DENSITY FACTOR	MINIMUM GREENWAY LAND
OPTION 1 Basic Conservation with Neutral Density	1 du/80,000 SF ATA ¹	50% of ATA plus constrained land ²
OPTION 2 Age-Restricted (or Age-Targeted) Communities	1 du/60,000 SF ATA ¹	60% of ATA plus constrained land ²
OPTION 3 Estate Lots	1 du/160,000 SF ATA ¹	Greenway land is permitted, but not required.
OPTION 4 Country Properties	1 du/10 ac of Base Site Area (see Section 104D.4.c.1)	Greenway land is permitted, but not required.
OPTION 5 Hamlets and Villages	1 du/40,000 SF ATA ¹	70% of ATA plus constrained land ²

¹ ATA = Adjusted Tract Area (see Section 104.D)

² See Section 104.D.2

1. Greenway land shall be delineated to include all Primary Conservation Areas and, in addition, sufficient Secondary Conservation Areas that, when added to the Primary Conservation Areas, shall equal the minimum required Greenway land.
 2. Greens.
 - a. At least two to three percent (2-3%) of the required Greenway land shall be in the form of common greens. The minimum percentage of open space in greens shall be as follows:
 - 1) Two percent (2%) of the required Greenway land when the average lot size is 15,000 square feet or more;
 - 2) Three percent (3%) of the required Greenway land when the average lot size is less than 15,000 square feet.
 - b. In Option 5, at least 15 percent of the required Greenway land shall consist of multiple common greens, squares, or parks.
 3. In Options 1 and 2, up to 80% of the required Greenway land may be in the form of “conservancy lots” as permitted in Section 110.A.4. The remaining Greenway land shall be owned and managed by a community association, conservation organization or the municipality, in conformance with Section 110.
- C. Accessory Dwelling Units (ADU's). In Option 4, one ADU is permitted on a lot of 10-acres or larger, in addition to the density permitted in Section 104.A above, in accordance with the following standards:

1. The ADU shall be designed to harmonize with the appearance of the principle dwelling.
2. The ADU shall be located within the principal dwelling unit or in existing or new outbuildings (such as barns, stables, carriage houses, garages and springhouses).
3. The gross floor area of the ADU shall not exceed 900 square feet. An existing historic dwelling more than 50 years old that exceeds these floor area limits, up to a maximum of 2,000 SF of living area, may be used as an ADU.

COMMENTARY: A second ADU, not exceeding 750 SF, could also be permitted. These size limits are subject to local interpretation. For example, on lots greater than 15 acres, a municipality could permit that the second ADU could take the form of a tenant house containing up to 2,000 SF.

4. The ADU shall meet all the setback standards in Section (*insert section with front, side and rear yard standards for principle dwellings underlying district*), except that historic dwellings, more than 75 years old, shall be exempt from these requirements.
 5. Building permits for an ADU shall not be issued until the applicant demonstrates that a restrictive easement has been placed on the subject property prohibiting future enlargement of the ADU beyond that permitted herein. This restriction shall also be incorporated into the building permit. Issuance of permits for ADU's shall be contingent upon approval of the Sewage Enforcement Officer for appropriate sewage disposal systems.
 6. ADU's shall not count toward the density limits set forth in Section 104.
- D. Adjusted Tract Area Approach. Determination of the maximum number of dwelling units shall be based upon the following calculations.
1. Determine Gross Tract Area. Gross tract area shall equal the acreage within the legally described parcel minus existing public or private road rights-of-way.
 2. Determine Constrained Land. Constrained land consists of the resources listed in Table 104.D, multiplied by a protection factor and totaled. In the event two or more resources overlap, only the resource with the highest protection factor shall be used.

Table 104.D

	Resource	Area of Resource (acres)	Protection Factor	Constrained Land (acres)
a.	Existing Utility Rights-of-Way		x 1.0	=
b.	That portion of lands under conservation easement that are restricted from further development		x 1.0	=
c.	100-year Floodplain		x 1.0	=
d.	Wetlands		x 0.95	=
e.	Prohibitive Steep Slopes (over 25%)		x 0.85	=
f.	Precautionary Steep Slopes (15-25%)		x 0.25	=
g.	Rock Outcroppings over 1,000 SF in area		x 0.90	=
h.	CONSTRAINED LAND = SUM OF a through g =			

COMMENTARY: In regions where prohibitive steep slopes are extensive, the 85% net-out could be reduced to 65% or prohibitive slopes could be defined as 35% instead of 25%.

Riparian buffers are not netted out, because they are essentially a building setback, implemented through site design, not a density reduction. They often include buildable land for which density should be granted.

Woodlands on buildable land are not netted out; they are protected through site design, not a density reduction.

3. Determine Adjusted Tract Area (ATA). Adjusted Tract Area equals the gross tract area minus the constrained land.

a.	Gross tract area	_____ acres
b.	minus Constrained Land (from Table 104.D.h above)	- _____ acres
c.	equals Adjusted Tract Area (ATA)	= _____ acres ATA

4. Maximum Number of Dwelling Units. In Options 1, 2, 3 and 5, the maximum number of dwelling units equals the Adjusted Tract Area (ATA) divided by the applicable density factor set forth in Table 104.A.

a.	Adjusted Tract Area (from 3.c above, converted to square feet)	_____ SF
b.	divided by density factor (from Table 104.A)	÷ _____
c.	equals maximum number of dwelling units	= _____ DU's

- 1) In Option 4, the maximum number of dwelling units equals the gross tract area divided by 10 acres.
- 2) Where calculations result in fractional numbers, the fraction shall be rounded down to the next whole number.

E. Yield Plan Approach (applicable to Options 1, 2 and 5 only).

1. Number of Units Permitted.

- a. For Option 1, the maximum number of dwelling units shall be determined by a layout with conventional lotting using the dimensional standards in Table 104.E. The number of units permitted in the conservation subdivision shall equal the number of units on the yield plan, provided it meets the requirements of this section and all sections of the Subdivision and Land Development Ordinance applicable to conventional lotting.

Table 104.E

Standard	Option 1
Minimum lot area	80,000 SF
Minimum street frontage	150 feet
Front yard	75 feet
Rear yard	75 feet
Side yard	40 feet one side 100' aggregate

COMMENTARY: Since the purpose of a yield plan is to match the number of units achievable under conventional lotting, the dimensional standards in Table 104.E should equal those of the underlying district.

- b. For Option 2, the maximum number of units permitted shall equal the number of units on an Option 1 yield plan, multiplied by a factor of 1.25.
- c. For Option 5, the maximum number of units permitted shall equal the number of units on an Option 1 yield plan, multiplied by a factor of 2.0.

2. Wetlands, slopes greater than 25 percent and land under high-tension electrical transmission lines (69 kV or greater) and any other existing easements or encumbrances shall not be counted toward minimum lot area.
 3. No more than 25 percent of the minimum lot area may consist of land within the 100-year floodplain. Floodplain that is counted toward minimum lot area shall be free of wetlands.
 4. Yield plans shall meet the following requirements:
 - a. Yield plans shall be prepared as conceptual layout plans in accordance with the standards of the Subdivision and Land Development Ordinance, containing proposed lots, streets, rights-of-way, and other pertinent features. Yield plans shall be drawn to scale. The layout shall be realistic, reflecting a development pattern that could reasonably be expected to be implemented, taking into account the presence of wetlands, floodplains, steep slopes, existing easements or encumbrances and, if unsewered, the ability of the site to utilize on-lot soils-based sewage disposal methods.
 - b. The yield plan shall identify the site's primary and secondary resources, as identified in the Existing Resources/Site Analysis (ER/SA) Plan required in Section 502.C in the Subdivision and Land Development Ordinance.
 - c. On sites not served by central sewage disposal facilities, density shall be further determined by evaluating the number of homes that could be supported by individual soils-based sewage disposal methods. For the purposes of determining density under this Section, this standard shall exclude holding tanks, individual stream discharge systems and evapotranspiration systems.
 - d. Based on the ER/SA Plan and observations made during an on-site visit of the property, the municipal Engineer shall select a 10% sample of the lots considered marginal for on-lot sewage disposal. The applicant shall provide evidence that these lots meet the standards for an individual soils-based septic system. Should any of the lots in a sample fail to meet the standard for an individual soils-based septic system, those lots shall be deducted from the yield plan and a second 10% sample shall be selected by the municipal Engineer and tested for compliance. This process shall be repeated until all lots in a given sample meet the standard for an individual soils-based septic system.
- F. Total Number of Dwelling Units. The total number of dwelling units permitted on a development site equals the sum of the following, each of which shall be itemized separately in a table on the plans:
1. Maximum number of dwelling units permitted in Section 104.D.4.c or 104.E, as selected by the applicant.
 2. Any additional units permitted as the result of the discretionary density bonus permitted in Section 106.
 3. Under Option 4, accessory dwelling units permitted in Section 103.A.4.

- G. Preservation of Historic Dwellings. To encourage the preservation of historic dwellings, such preserved dwellings shall not count toward the maximum number of dwelling units referenced in Section 104.F.1 above, provided:
1. Such dwellings are at least 75 years old;
 2. The dwelling is preserved in accordance with the Secretary of the Interior standards; and
 3. The dwelling is placed in a landscape context that respects its historical status and appearance, as determined by the Governing Body.

SECTION 105 - DIMENSIONAL STANDARDS FOR OPTIONS 1 THROUGH 4

- A. The dimensional standards in Table 105.A shall apply to Options 1 through 4.

COMMENTARY: Refer to Appendix B for different dimensional standards that apply to zoning districts with higher original densities.

TABLE 105.A

	Option 1 Basic Conservation with Neutral Density	Option 2 Age-Targeted/ Age-Restricted Communities	Option 3 Estate Lots	Option 4 Country Properties
Density (Refer also to Section 104)	1 du/80,000 SF ATA	1 du/60,000 SF ATA	1 du/160,000 SF ATA	1 du/10 AC gross
Minimum lot area	20,000 SF Up to 20% of the lots may be reduced to 10,000 SF	12,000 SF Up to 20% of the lots may be reduced to 7,500 SF	40,000 SF	60,000 SF
Minimum lot width at building line ¹	80 feet	65 feet	115 feet	140 feet
Minimum street frontage	20 feet	20 feet	25 feet	50 feet
Minimum front yard Garage setback ²	20 feet 10 feet	20 feet 10 feet	40 feet 10 feet	100 feet 10 feet
Minimum rear yard Accessory Bldgs.	40 feet 10 feet	30 feet 10 feet	50 feet 10 feet	50 feet 10 feet
Minimum side yard	5 feet 30' aggregate	5 feet 25' aggregate	20 feet 50' aggregate	20 feet
Max. height	35 feet	35 feet	35 feet	35 feet

¹ In the case of flag lots, the building line shall be located where the lot equals the minimum width.

² For front-facing garages, distance behind the front façade of the primary dwelling.

COMMENTARY: The lot sizes in Option 1 will typically be much closer to 30,000 SF, because, with a density of 1 du/80,000 SF, that lot size can be delivered by developers, while still meeting the 50% Greenway land requirement. A small minimum lot size does no harm, because developers will make the lot sizes as large as possible, provided they can still meet the Greenway land requirement. In Option 2, with a density of 1 DU/60,000 SF, the lot areas will typically be closer to 18,000 SF.

COMMENTARY: Most communities are used to using lot dimensions as way of creating distance between dwellings or limiting the number of units, so they are provided here. Once density is set, however, it is not necessary to have lot dimensions at all. Minimum separation distances can also be used as a way of ensuring that buildings are not too close together. Fire codes are often used as a basis for determining appropriate minimum separation distances. Lower Merion Township in Montgomery County and North Coventry Township in Chester County are examples of Pennsylvania communities that adopted separation distances instead of lot areas.

COMMENTARY: The significant dimensional difference between lot width at building line and street frontage is based on the acceptance of “flag” (or “rear”) lots at the end of cul-de-sac bulbs, or to reach into fingers of buildable land between resource areas, without extending streets any further than necessary. Proper controls on flag lots must be added to the section on street standards in the Subdivision and Land Development Ordinance. The lot width is based on achieving a depth to width ratio of about 2 ½ or 3:1.

- B. Impervious Cover for Options 1 through 4 shall be limited in accordance with the following table.

Lot Area	Maximum Impervious Cover
Less than 10,000 SF	50%
10,000-19,999 SF	35%
20,000-43,560 SF	20%
Larger than 43,560 SF	Reduce limit by 1.5% for each additional acre up to a maximum impervious cover of 20,000 SF.

- C. Design Standards for Options 1 - 4.
1. No part of any residential lot shall encroach upon Greenway land with the exception of conservancy lots, as permitted in Section 110.A.4.
 2. All new dwelling units shall meet the following setback requirements:

From external road ultimate rights-of-way	100 feet
From all other tract boundaries	50 feet
From cropland or pasture land	100 feet (not applicable to Option 4)
From buildings or barnyards housing livestock	300 feet (not applicable to Option 4)
From active recreation areas such as courts or playing fields (not including tot lots)	150 feet (not applicable to Option 4)

3. Additional design standards in Article VI of the Subdivision and Land Development Ordinance shall apply.

SECTION 106 - DISCRETIONARY DENSITY BONUS

Additional density may be permitted by the Governing Body when workforce housing is provided on site in accordance with the following:

- A. The applicant shall provide evidence that the workforce housing units will be constructed by the time 90 percent of the market rate dwellings are completed.
- B. For each workforce housing unit provided, one additional dwelling unit shall be permitted, up to a maximum increase of 15% over the maximum number of units permitted in Section 104.F.1.
- C. For the purposes of this section, workforce housing is defined as a unit made available at rents for residents whose income is between 30-60% of Area Median Income (AMI); and home prices for residents whose income is between 80-100% of AMI, adjusted for family size, as determined by the U.S. Department of Housing and Urban Development.

SECTION 107 - TRANSFER OF DEVELOPMENT RIGHTS (TDR)

COMMENTARY: This is the simplest form of TDR—a single owner with two parcels. Dwellings permitted on one parcel are shifted to the other parcel (in addition to the dwellings already permitted on that parcel).

All or some of the units permitted under Section 104.F.1 on one tract may be transferred to another tract, by conditional use, provided the following conditions are met:

- A. Both tracts shall be located in the CSD District.
- B. The applicant shall demonstrate that providing fewer or no units on one tract and more units on another tract advances the purposes of conservation subdivision set forth in Section 101 better than locating the maximum number of units on each tract.
- C. The Governing Body shall determine that one tract is less suitable for development (the sending tract) and the other tract is more suitable for higher density development (the

receiving tract), in accordance with the goals of the Comprehensive Plan. At a minimum, the location of the receiving tract shall meet the following criteria:

1. The site takes access from a primary or secondary collector road; and
2. Public sewers and treatment capacity are available or a community system is acceptable.

COMMENTARY: Suitable locations for higher density development should be determined in the Comprehensive Plan. The receiving area should meet the stated criteria or be mapped on the Zoning Map.

- D. Permission to transfer units from one tract to another shall be subject to the requirements of the municipal Zoning Ordinance, municipal Subdivision and Land Development Ordinance and any other municipal regulations which apply to the development of the tract(s).
- E. The applicant shall enter into an agreement with the municipality specifying the maximum number of units permitted on each of the two tracts and other conditions as applicable. When less than the maximum number of units are transferred from one tract to another, no further transfer of units shall be permitted from the sending tract.
- F. At least 40% ATA of the receiving tract shall be Greenway land, of which 5% shall be in the form of common greens meeting the requirements of Section 206.D.

COMMENTARY: As density goes up, the amount of Greenway land may go down to 30%, depending on the resulting lot size and types of permitted units.

- G. Prior to final approval of the plans for the sending or receiving tract, a deed of dedication to the municipality or a conservation easement meeting the requirements of Section 109.A shall be established prohibiting any development of the sending tract, except as agreed in Section 107.E above. Such restriction shall be recorded in the County Office of Recorder of Deeds. The terms and form of the deed of dedication or conservation easement shall be acceptable to the municipality.
- H. For the purposes of this Section, the following definitions shall apply:
 1. “Sending Tract” shall mean the tract from which development rights are severed and transferred to another tract, in exchange for a permanent restrictive covenant.
 2. “Receiving Tract” shall mean the tract to which the development rights from a sending tract are transferred and added to the maximum density.
 3. “Transfer of Development Rights,” or TDR, shall mean the detaching of development rights from a specific parcel or parcels, which are desired by the municipality to remain undeveloped, and permitting those rights to be transferred from those lands, so that the development potential they represent may occur on other lands where more intensive development is deemed to be appropriate.

SECTION 108 – GREENWAY LAND: USE AND DESIGN STANDARDS

A. Uses Permitted on Greenway Land.

1. Conservation of open land in its natural state.
2. Agricultural and horticultural uses, including raising crops or livestock, and related accessory buildings. Specifically excluded are commercial and intensive feedlot and livestock operations involving swine, poultry, mink, and other animals likely to produce highly offensive odors.
3. Pastureland for horses used solely for recreational purposes. Equestrian facilities shall be permitted, but shall not consume more than 50% of the minimum required Greenway land.

COMMENTARY: Standards for the maximum number of animal units per acre may be inserted here.

4. Forestry in keeping with established best management practices for selective harvesting and sustained yield forestry as published by the Pennsylvania Bureau of Forestry.
5. Village greens, central commons, picnic areas, community gardens, trails and similar low-impact, passive recreational uses.
6. Active non-commercial recreation areas, such as playing fields, playgrounds and bikeways, not requiring supporting structures. Such recreational uses shall meet the following standards:
 - a. Such areas shall not consume more than 50% of the minimum required Greenway land or five acres, whichever is less. The 5-acre limit may be increased to 10 acres on development parcels 200 acres or larger.
 - b. Playing fields and playgrounds shall not be located within 100 feet of the tract boundary or a dwelling unit within the development parcel.
 - c. Minimum parking facilities for the same, as determined by the Governing Body, may also be permitted. Such lots may be paved with gravel and shall be unlighted, properly drained and provide safe ingress and egress.
7. Non-commercial recreation areas such as playing fields, courts, swimming pools or picnic areas requiring supporting structures, and their parking areas, are permitted, but shall not count toward the minimum required Greenway land, unless dedicated to the municipality. Structures shall be diminimus to the activity. Parking areas may be paved with gravel and shall be unlighted, properly drained and provide safe ingress and egress.
8. Audubon International Signature golf courses and their accessory facilities and parking areas, when permitted by the underlying zoning district, may comprise up to 50 percent of the minimum ATA of the required Greenway land. This use shall not include driving ranges or miniature golf. The gross floor area devoted

to sales of golf equipment, clothing, food and other similar items shall not exceed 1,200 square feet gross. Accessory facilities and parking areas shall not count toward the minimum Greenway land requirement.

COMMENTARY: Where golf courses are a prevalent use, the golf course standards in the local Zoning Ordinance should be strengthened to address conservation of land and water resources.

9. The total area of water supply systems, sewage disposal systems, stormwater management systems and associated easements may occupy up to 50 percent of the minimum ATA required in the Greenway land. The following standards shall apply:
 - a. Water Supply Systems.
 - 1) Drainage easements for water lines may be counted toward the minimum Greenway land requirement.
 - 2) Land used for ground-level well structures and associated parking exceeding 5,000 square feet shall not count toward the minimum Greenway land requirement.
 - b. Sewage Disposal Systems.
 - 1) Sewage treatment lagoons, structures, structure access areas and parking lots shall not count toward the Greenway land requirement.
 - 2) Soil absorption areas shall be appropriate for active or passive recreation.
 - 3) Absorption fields serving individual dwelling units may be located in the Greenway land, but individual treatment tanks shall be located within the lots they serve.
 - 4) Drainage easements for sewer lines may be counted toward the minimum Greenway land requirement.
 - c. Stormwater Management Systems. The following stormwater management practices are acceptable within the Greenway land, provided they meet the guidelines in the Pennsylvania Stormwater Best Management Practices Manual:
 - 1) Infiltration basin, provided the berms do not exceed 36 inches in height;
 - 2) Subsurface infiltration bed;
 - 3) Infiltration trench;
 - 4) Rain garden;
 - 5) Vegetated swale;
 - 6) Infiltration berm, provided the berms do not exceed 24 inches in height.
10. Easements or rights-of-way for overhead power lines shall not count toward the minimum Greenway land requirement.

COMMENTARY: It may be appropriate to consider permitting additional uses in the Greenway land, such as production of energy generated through wind or solar harvesting. Where additional uses require the erection of structures or other modifications to the open space, their effects on the appearance and functionality of the open space should be carefully examined. Additional ordinance requirements may be necessary to guide the design and location of these uses.

11. Specifically prohibited are:

- a. Motorized off-road vehicles, shooting ranges and other uses similar in character and impact as determined by the Governing Body. This provision shall not prohibit vehicles used for maintenance purposes.
- b. Surface mining and quarrying.

B. Greenway Land Design Standards.

1. Greenway land in all options shall be identified and laid out according to the Four-Step Design Process described in Section 602 of the Subdivision and Land Development Ordinance, which begins with the identification of primary and secondary conservation areas.
2. Greenway land shall be laid out in accordance with the municipality's map of Potential Conservation Lands in the Comprehensive Plan, to ensure that, over time, an interconnected network of Greenway land will be created.
3. In Options 1 and 2, wherein 50 and 60%, respectively, of the Adjusted Tract Area is set aside as Greenway land, which may be owned by various entities, at least 20% of the Adjusted Tract Area shall be available for the common use of the subdivision residents.
4. In Options 3 and 4, Greenway land is permitted, but not required, except as follows. When the Governing Body determines a benefit to residents of the development in the form of trails or open space links, the applicant shall provide such linkages. In establishing the need for such linkages, the Governing Body may consider:
 - a. Implementation of the municipal Comprehensive Plan, Open Space Plan, trail map or official map;
 - b. Trails integral to children's access to schools and parks;
 - c. Impact on woodland and stream corridors.
5. Buffers for Adjacent Public Parkland: Where the proposed development adjoins public parkland, a natural Greenway land buffer at least 150 feet deep shall be provided within the development along its common boundary with the parkland, within which no new structures shall be constructed, nor shall any clearing of trees or understory growth be permitted, except as may be necessary for street or trail construction or for the removal of invasive plant species.

- a. Where existing vegetation provides an adequate buffer, as determined by the Governing Body, the depth may be reduced to 75 feet.
 - b. Where the buffer is unwooded, the Governing Body may require vegetative screening to be planted, or that it be managed to encourage natural forest succession through restricted mowing policies and the periodic removal of invasive plant species.
6. Applicants for new residential development may fulfill the public land dedication requirements in Section (*insert applicable section number*) of the Subdivision and Land Development Ordinance, by dedicating an equivalent amount of Greenway land as public recreation land.
- C. Additional Standards.
1. No portion of any building lot may be used for meeting the minimum Greenway land requirement, except as permitted within conservancy lots, described in Section 110.A.4.
 2. Pedestrian and maintenance access shall be provided to Greenway land in accordance with the following requirements:
 - a. No more than 15 lots shall be contiguous to each other without a centrally located access point meeting the following standards:
 - 1) The width of the access strip shall equal the minimum width of a lot, and in no case shall be less than 50 feet.
 - 2) The access strip shall extend the full depth of the adjacent lots.
 - b. Access to Greenway land used for agriculture or horticulture may be restricted or prohibited for public safety and to prevent interference with agricultural operations.
 3. Greenway land that is not wooded or farmed shall be landscaped in accordance with the landscaping requirements and Greenway land management plan standards in Section 110.B.

COMMENTARY: The landscaping requirements should specifically address landscaping in conservation designs. Screening buffers should not be automatically required at perimeter boundaries, especially along municipal roads, as they could block desirable scenic views. For the same reason, fields should not necessarily be required to be screened.

SECTION 109 - GREENWAY LAND: PERMANENT PROTECTION

Whenever the landowner is providing Greenway land as part of the development, a conservation easement restricting such Greenway land in perpetuity against further subdivision or development shall be executed between the landowner and the municipality or a qualified land conservancy acceptable to the municipality. Deed restrictions may also be used in certain applications, in accordance with Subsection B below.

COMMENTARY: Although a conservation easement is always the preferred method of land protection, the provision for deed restrictions is included for those communities in which there is no conservation organization to hold the easement. A conservation easement is held by an entity that takes responsibility for monitoring the land, while a deed restriction does not involve such monitoring. Further, deed restrictions can be challenged by the landowner and can be overturned by the courts. If a municipal government is party to the restriction (and remains conservation minded) the restriction is less likely to be overturned.

COMMENTARY: This model ordinance does not require conservation easements for Option 3, Estate Lots, and Option 4, Country Properties, so that the tax benefits of “limited development” are not lost to the landowner. When the landowner chooses to develop under Options 3 and 4, he is voluntarily giving up density and may, therefore, qualify for the associated tax advantages. In Options 1, 2 and 5, however, development is at maximum density, so it is unlikely that there is a charitable donation and, thus, no tax benefit on the Greenway land.

- A. Conservation Easements. Conservation easements are required to protect Greenway lands from further subdivision and development and to conserve the natural characteristics of such lands. Conservation easements shall conform to the following minimum requirements:
1. Easements shall be granted to a land conservancy meeting the requirements in Section 110.A.3. The Grantee shall have the rights of reasonable entry and enforcement.

COMMENTARY: It is advisable to have the municipality as a back-up, secondary grantee of the conservation easement. Vice versa, if the municipality holds the easement, it is advisable to have a land conservancy as a back-up grantee.

2. The property made subject to the conservation easement shall be described by metes and bounds, by an exhibit containing the subdivision plan and designating the property, and photographs which illustrate the nature and character of the property and any special environmental features identified by the Planning Commission during the subdivision process.
3. Grantors shall declare that the terms of the easement shall run with the land and bind the property in perpetuity for the benefit of the Grantee.
4. The uses of property subject to the conservation easement shall be limited by the permitted uses defined by Section 108 of this ordinance. The following use restrictions shall also apply:
 - a. The property shall not be further subdivided into additional building lots.
 - b. Construction shall be permitted only in areas specifically designated in the property description and approved by the Governing Body. The determination of the need for any additional disturbance shall lie with the Governing Body.

- c. Permitted construction activities, including cutting and removing of trees and other vegetation shall be permitted only in compliance with the Management Plan.
 - d. Signs, fencing and dumping shall be restricted in consistence with the permitted uses and Management Plan.
5. The terms and restrictions of the conservation easement shall be approved by the Governing Body which shall be guided by the objectives set forth in the Municipal Comprehensive Plan and Open Space Plan, as well as the Management Plan for the property.
 6. Provisions pertaining to remedies, liability, indemnification and other relevant subjects, shall be approved by the Grantor, the Governing Body and the authorized representative of the Grantee before final approval of the development plan by the Governing Body.
- B. Deed Restrictions. Deed restrictions may be used in the place of conservation easements only under the following circumstances and in accordance with the following standards:
1. When Greenway land totals less than 5 acres, a deed restriction may be used.
 2. If no entity is available or willing to hold a conservation easement on required Greenway land, a deed restriction may be used.
 3. The municipality shall be party to the deed restriction. The deed restriction shall be used only if approved by the municipality. If the municipality does not agree to be party to the restriction, no deed restriction shall be used.
 4. Restrictions, meeting municipal specifications, shall be placed in the deed for each lot with Greenway land. The deed restriction shall ensure the permanent protection and continuance of the Greenway land and shall define permitted uses.
 5. It shall be clearly stated in the individual deeds that maintenance responsibility for the Greenway land lies with the property owner.

SECTION 110 - GREENWAY LAND: OWNERSHIP AND MAINTENANCE

COMMENTARY: The standards in this section can be incorporated into a general section in the ordinance dealing with the maintenance of common facilities.

- A. Ownership Options for Greenway Land. The following methods may be used, either individually or in combination, to own common facilities and Greenway land. Greenway land shall not be transferred to another entity except for transfer to another method of ownership permitted under this section, and then only when there is no decrease in the total Greenway land. Ownership methods shall conform to the following:
1. Municipality.
 - a. Fee Simple Dedication to the Municipality. The municipality may, but shall not be required to, accept dedication of any portion of the Greenway land, provided that:

- 1) There is no cost of acquisition to the municipality; and
 - 2) The municipality agrees to and has access to maintain such Greenway land.
- b. Dedication of Easements to the Municipality. The municipality may, but shall not be required to, accept dedication of easements for public use of any portion of the Greenway land. In such cases, the facility remains in the ownership of the community association, or private conservation organization, while the municipality holds the easements. In addition, the following regulations shall apply:
- 1) There shall be no cost of acquisition to the municipality;
 - 2) Any such easements for public use shall be accessible to the residents of the municipality; and
 - 3) A satisfactory maintenance agreement shall be reached between the owner and the municipality.
2. Community Association. Greenway land and common facilities may be held in common ownership for the use of all residents of the subdivision or land development and shall thereby be controlled and maintained by a Community Association. Community Association Documents shall be in compliance with the Pennsylvania Uniform Planned Community Act (as to a Homeowners' Association Document) or the Pennsylvania Uniform Condominium Act (as to a Condominium Association Document), as the case may be. The Community Association Document shall include, but not be limited to, the following:
- a. A description of the common Greenway land to be owned by the Community Association. This description shall include a plan of the proposal highlighting the precise location of all aspects of the common Greenway land;
 - b. Statements setting forth the powers, duties, and responsibilities of the Community Association, including the services to be provided;
 - c. A Declaration of Covenants, Conditions, and Restrictions (Declaration), giving perpetual easement to the lands and facilities owned by the Community Association. The Declaration shall be a legal document providing for automatic membership for all owners in the subdivision or land development and shall describe the mechanism by which owners participate in the Community Association, including voting, elections, and meetings. The Declaration shall give power to the Community Association to own and maintain the common Greenway land and to make and enforce rules;
 - d. Statements prescribing the process by which Community Association decisions are reached and setting forth the authority to act;
 - e. Statements requiring each owner within the subdivision or land development to become a member of the Community Association;
 - f. Statements setting cross covenants or contractual terms binding each owner to all other owners for mutual benefit and enforcement;

- g. Requirements for all owners to provide a pro rata share of the cost of the operations of the Community Association;
 - h. A process of collection and enforcement to obtain funds from owners who fail to comply;
 - i. A process for transition of control of the Community Association from the developer to the unit owners;
 - j. Statements describing how the common Greenway land of the Community Association will be insured, including limit of liability;
 - k. Provisions for the dissolution of the Community Association;
 - l. Agreements for the maintenance of stormwater management facilities; and
 - m. Agreements for the maintenance and operation of water supply and wastewater treatment facilities.
3. Private Conservation Organization or the County. With permission of the municipality, an owner may transfer either fee simple title of the Greenway land or easements on the Greenway land to a private non-profit conservation organization or to the County provided that:
- a. The conservation organization is acceptable to the municipality and is a bona fide conservation organization intended to exist indefinitely;
 - b. The conveyance contains appropriate provisions for proper reverter or retransfer in the event that the organization or the County becomes unwilling or unable to continue carrying out its functions;
 - c. The Greenway land is permanently restricted from future development through a conservation easement and the municipality is given the ability to enforce these restrictions; and
 - d. A maintenance agreement acceptable to the municipality is established between the owner and the organization or the County.
4. Conservancy Lots. Up to 80 percent of the required Greenway land may be located within one or more privately owned conservancy lots of at least 10 acres provided:
- a. The Greenway land is permanently restricted from future subdivision and development through a conservation easement, except for those uses listed in Section 108.
 - b. The easement provides the municipality the right, but not the obligation, to enforce these restrictions.

B. Management Plan.

1. Unless otherwise agreed to by the Governing Body, the cost and responsibility of maintaining Greenway land shall be borne by the property owner, community association, or conservation organization.
2. The applicant shall, at the time of preliminary plan submission, provide a plan for management of Greenway land in accordance with Section 502.J in the Subdivision and Land Development Ordinance.

C. Remedy. Failure to adequately maintain the Greenway land in reasonable order and condition in accordance with the development plan constitutes a violation of this ordinance.

1. In the event that the organization established to maintain the Greenway land, or any successor organization thereto, fails to maintain all or any portion thereof in reasonable order and condition, the municipality may serve written notice upon the owner of record, setting forth the manner in which the owner of record has failed to maintain the Greenway land in reasonable order and condition, and may direct the owner to remedy the same within twenty (20) days.
2. Upon default by any owner or other entity responsible for maintenance of Greenway land, where such maintenance is necessary to abate a nuisance, emergency, hazard or other condition threatening persons or property or the public health, safety or welfare, the municipality may, but shall not be obligated to, take the following actions:
 - a. Upon 30 days advance written notice to the owner or entity responsible for such maintenance (or any lesser number of days as may be specified in the notice in instances of emergency) and the failure of such owner or entity to perform the necessary maintenance and remedy the condition set forth in the notice, the municipality may enter upon the Greenway land to correct the condition. If the municipality is forced to assume responsibility for maintenance, any escrow funds may be forfeited and any permits may be revoked or suspended.
 - b. Any and all costs incurred by the municipality in connection with such notice and maintenance shall be paid by the owner or responsible entity within 10 days after written demand by the municipality. Upon failure of the owner or responsible entity to pay such costs in the time required, there shall be added thereto, interest at the rate of 15 percent per annum as well as all costs incurred by the municipality in collection thereof.

All such costs of maintenance, remediation, notices, and collection, including court costs and attorney's fees, shall constitute a municipal lien and be enforceable as such against the owner or responsible entity. Notice of such lien shall be filed by the municipality in the office of the Prothonotary of the County.

ARTICLE II

STANDARDS FOR OPTION 5: HAMLETS AND VILLAGES

Contents:

- Section 201 - General
- Section 202 - Permitted Uses
- Section 203 - Density, Intensity and Minimum Greenway Land
- Section 204 - Area and Dimensional Standards
- Section 205 - Additional Standards for Hamlets and Villages
- Section 206 - Greenway Land Design Standards
- Section 207 - Design Standards for Villages
- Section 208 - Modifications

COMMENTARY: Article VII-A of the Pennsylvania Municipalities Planning Code grants powers to municipalities to zone for traditional neighborhood development (TND). The purposes in Section 201 meet the objectives of TND, and all the regulations in this Article II comply with Article VII-A of the MPC.

SECTION 201 - GENERAL

- A. Purpose. The primary purpose of the Hamlet and Village Option is to provide for a diversity of housing types, age groups and income levels in a manner consistent with the variety of existing homes in the municipality and with traditional village building and site development patterns. Additionally, it is the purpose of this ordinance to:
1. Encourage creation of a functionally diverse, but visually unified, community focused on a central square.
 2. Promote use of common greens, landscaped streets, boulevards, parkways, and “single-loaded” streets woven into street and block patterns that provide neighborhood identity and space for social activity, recreation, and visual enjoyment.
 3. Provide buildings for common or institutional purposes, such as civic or religious assembly, that act as visual landmarks and symbols of identity.
 4. Promote pedestrian movement by locating new village housing, services, jobs and public places within convenient walking distance of each other, wherever practicable;
 5. Reduce traffic congestion and dependence on the automobile by creating a hierarchy of streets and ways that effectively serve pedestrians, cyclists and drivers;
 6. Provide for a hierarchy of Greenway land from public greens or parks to farmland and woodland conserved as greenbelt areas protected under permanent conservation easements.

- B. Applicability and Locational Criteria. Hamlet and village development is a conditional use in the Village Overlay Zoning District as delineated on the municipal Zoning Map.

COMMENTARY: The Village Overlay Zoning District should reflect the goals of the municipal Comprehensive Plan. The Plan should recognize that to provide appropriate building areas suitable for construction of hamlets and villages, they will necessarily be located largely on the relatively flat and well-drained soils associated with agriculture. Wherever possible, new hamlets and villages should be located near established community landmarks (such as churches, schools or parks), or within convenient walking distance of existing historic village centers.

1. Hamlets and villages should be sited and designed to avoid or minimize negative impacts on existing woodlands and hedgerows, wetlands, stream valleys, cultural landscapes and scenic views from municipal roads.
2. The use of special site design techniques is encouraged as a way of conserving the municipality's rural character in situations where topography, hedgerows or other vegetation would not provide naturalistic screening opportunities.
3. Villages proposed to contain more than 50 dwelling units shall be located with direct access to at least one primary arterial or collector road identified in the Comprehensive Plan.
4. Hamlets and villages shall be served by public or central sewer and water.

- C. Scale Criteria.

1. Hamlets shall include at least 4, but no more than 25 units. The minimum land area for a hamlet shall be 4 acres of Adjusted Tract Area (ATA).
2. Villages shall contain 26 or more dwelling units. The minimum land area for a village shall be 26 acres of ATA.

- D. Village Areas. All villages shall contain both a Village Residential Area and Village Greenway land. Villages may also contain a Village Commercial Area. These areas are intended to provide for the diversity necessary for traditional village life while maximizing the interactions among related uses and minimizing the adverse impacts of different uses upon each other.

1. The Village Residential Area is intended to contain dwelling units and related accessory uses.
2. The Village Commercial Area is intended primarily to provide uses that meet the retail and service needs of a traditional village center and its vicinity, and may contain other compatible uses such as civic and institutional uses of community-wide importance and second-floor residential uses. The Village Commercial Area may be located either at the approximate center of the village, or at the edge, near an existing municipal collector or arterial street.
3. The Village Greenway land is intended to provide a greenbelt surrounding the Village Residential Area and common greens within the Village Residential and Village Commercial Area.

SECTION 202 – PERMITTED USES

A. Hamlets. Uses permitted in hamlets are:

1. Residential uses:
 - a. Single-family detached dwellings.
 - b. Semi-detached dwellings.
 - c. Three and 4-family dwellings designed to resemble traditional multi-family homes built in the boroughs and villages of the county prior to 1930, and sited so they front directly onto streets, not parking areas.

COMMENTARY: A municipality may choose to require a certain percentage of various dwelling types.

- d. Accessory dwelling units that are architecturally integrated with the primary structure or accessory buildings as permitted in Option 4 Country Properties.
 - e. Home occupations and other uses accessory to residential uses.
 2. Greenway Land. Uses permitted in Greenway land are those listed in Section 108.A, and shall conform to the standards of Section 206.

B. Villages. Village uses are located within Village Residential, Village Commercial and Village Greenway land.

1. Village Residential Area. The Village Residential Area is located outside the Village Commercial Area and contains primarily single-family detached dwelling units, but may include some two, three or four-family units. Permitted uses are:
 - a. Uses permitted in Section 202.A above except that at least 20 percent of the units shall be of a type other than single-family detached, provided that when developments contain fewer than 50 dwelling units, the units may be 100 percent single-family detached.

COMMENTARY: A community may choose to include elderly congregate housing. Note it is permitted in the Village Commercial Area.

2. Village Commercial Area. Permitted uses are:
 - a. The residential uses permitted in the Village Residential Area.
 - b. Retail uses, professional offices and personal or professional services occupying 6,000 square feet or less in one-and-one-half-story buildings, and up to 8,000 square feet in buildings of two or more stories. Uses with drive-in windows are prohibited.

- c. Civic and institutional uses such as schools, libraries, and places of worship.
- d. Governmental or public uses, excluding storage of materials, trucking or repair facilities, private or municipal sanitary landfills, recycling facilities, township garages and sand/salt storage facilities.
- e. Bed-and-breakfast establishments.
- f. Day-care center.
- g. Elderly congregate housing, senior citizen/disabled housing, and nursing homes.
- h. Second-story dwelling units are specifically encouraged and shall be permitted in addition to the maximum number of units otherwise permitted, provided the total number of dwelling units in a development shall not be increased by more than 10 dwelling units or 10 percent, whichever is greater. Shared parking arrangements shall be permitted.

COMMENTARY: Shared parking standards should be adopted, by reference, from established sources such as those published by the Urban Land Institute in its publication, "Shared Parking Standards."

- i. Home occupations

A. COMMENTARY: The municipality should review its regulations pertaining to home occupations (particularly those concerning dimensional requirements such as setbacks) to ensure compatibility with the character of the village use. Often such regulations reflect more suburban characteristics and can unintentionally prevent or discourage such activities in this mixed-use district.

- j. Live/work units for artisans, professionals and service providers.
- k. Gasoline stations only along major arterial roads.

COMMENTARY: Communities may wish to add Special Exception Uses such as public utilities, including substations, pumping stations and waste treatment facilities and their accessory uses.

- l. Active recreation

- 3. Village Greenway Land. Uses shall be the uses permitted in Section 108.A and shall conform to the standards of Section 206.

SECTION 203 – DENSITY, INTENSITY AND MINIMUM GREENWAY LAND

- A. The maximum number of dwelling units shall be determined as set forth in Section 104.

- B. Density Bonus. The density bonus set forth in Section 106 “Discretionary Density Bonus” shall apply to village and hamlet development.
- C. Commercial Intensity. Village Commercial development, including associated parking areas, may occupy up to 5 percent of the Adjusted Tract Area of the entire village. This maximum may be increased:
1. Up to 10 percent if the new buildings include second-story non-retail commercial uses above at least 10 percent of the new commercial building coverage.
 2. Up to 15 percent if they include second-story residential uses and at least half the new building coverage shall be of two-story construction and at least 25 percent of the second-story shall be designed for residential use.
- D. Greenway Land.
1. The minimum required Greenway land shall be as set forth in Section 104.
 2. Greenway land shall include multiple greens, commons, squares or parks provided:
 - a. In hamlets, at a rate of at least 1,000 square feet for each dwelling unit.
 - b. In villages, at a rate of 15 percent of the minimum required Greenway land.
 3. At least 20 percent of the required Greenway land shall be in a form accessible to the residents, such as a central green, neighborhood squares or commons, recreational playing fields, walking trails, other kinds of footpaths, a community park, or any combination thereof. In addition, no more than 50 percent of the required Greenway land may be comprised of active recreation facilities such as playing fields, golf courses, tennis courts, etc. Greenway land shall not be used for residential lots, except as provided in Subsection 4 below.
 4. Country Properties. Greenway land may, at the discretion of the Governing Body, take the form of Country Properties, following the standards that apply to Option 4 in Article I and the following standards. If the standards in Article I and the standards below conflict, the latter shall rule.
 - a. The area occupied by Country Properties shall not exceed 80 percent of the total required Greenway land.
 - b. Only 80 percent of a Country Property lot may be counted toward the minimum Greenway land requirement.
 - c. Country properties shall have a minimum lot size of 10 acres gross.
 - d. Greenway land on Country Properties shall not include buildings, other than those traditionally associated with Greenway uses, such as barns, stables and other similar outbuildings.

- e. Up to two accessory dwelling units (ADUs) may be built on Country Properties in accordance with Section 104.C. and the following requirements:
 - 1) The gross floor area in the first accessory dwelling unit shall not exceed 900 square feet.
 - 2) The gross floor area in the second ADU shall not exceed 750 square feet, except that, on lots exceeding 15 acres, the second ADU may take the form of a tenant house containing up to a maximum of 2,000 square feet of gross floor area.
 - 3) An existing historic dwelling more than 75 years old that exceeds these floor area limits, up to a maximum of 2,000 SF of living area, may be used as a first or second ADU without having to meet the setback standards in Subsection f. below.

- f. Country Properties shall meet the following dimensional standards:
 - 1) Minimum lot width at street line: 50 feet.
 - 2) Minimum lot width at building line: N/A
 - 3) Minimum front yard: 100 feet.
 - 4) Minimum side yard: 50 feet.
 - 5) Minimum rear yard: 50 feet.
 - 6) Maximum building height: 2.5 stories or 35 feet
 - 7) Maximum impervious coverage: 5 percent.

- g. Country Properties shall be protected from further subdivision through conservation easements running with the chain of title and recorded in the County Register of Deeds.

SECTION 204 – AREA AND DIMENSIONAL STANDARDS

A. Residential Uses.

- 1. Residential uses shall meet the lot area and width standards in Table 204.A.1.

Table 204.A.1

	Minimum Lot Area	Minimum Lot Width at Building Line
Single-family detached dwelling	5,500 SF	40 ft
Single-family detached dwelling with accessory dwelling unit	8,500 SF	40 ft
Semi-detached dwelling (twin)	2,750 SF	30 feet
3 to 4-family dwelling (townhouse)	1,950 SF	18 feet

COMMENTARY: Street frontage and lot width at building line can be different dimensions. Width needs to be sufficient to accommodate the building and its side yard setbacks. Street frontage may be considerably less, just sufficient to provide vehicular access. In situations with alleys or back lanes, the street frontage requirement can be met solely on the alley, with the front of the lot abutting Greenway land, such as village greens or pedestrian walkways. One such example is in Weatherstone, by The Hankin Group, in West Vincent Township, Chester County, Pennsylvania.

COMMENTARY: To encourage walking along residential streets, lots should be as narrow as possible. In general, the narrowest lot that appears to be practicable for single-family detached dwellings is about 30 feet wide. Variations of this house type may include highly usable decks or patios located in the strip of land between homes. Visual privacy from the house abutting it on the other side is assured by eliminating windows on that façade, or by restricting them to clerestory windows for day lighting purposes. Visual privacy for outdoor seating can be provided by opaque screening, 42 inches high.

2. Residential uses shall meet the yard requirements in Table 204.A.2. Side yards may be modified in accordance with Section 205.B.

Table 204.A.2

	Minimum Front Yard (from street line unless otherwise indicated)	Minimum Rear Yard	Minimum Side Yard
Principal dwelling: Single-family detached	12 ft	30 ft	Note 1
Semi-detached (twin)	12 ft	20 ft	Note 1
3 to 4-family dwelling (townhouse)	12 ft	20 ft	Note 1
Front porch, open, with steps	6 ft	NA	Note 1
Front porch, enclosed by windows or screens	10 ft	NA	Note 1
Garage, detached front-loading	40 ft	7 ft	5 ft
Garage, attached side-loading	10 ft	10 ft	Note 1
Garage, attached front-loading	10 ft behind the plane of the front façade of the principal dwelling	10 ft	Note 1
Garage, rear-loading	NA	10 ft from rear service lane or alley	5 ft ²

¹ Minimum 20-foot separation between principal dwellings on adjacent lots.

² May be reduced to 0' for twins and townhouses; i.e. they may be attached.

3. Front facades of dwellings on opposite sides of the street shall be located a minimum of 70 feet and a maximum of 90 feet apart, excluding porches. This requirement shall not apply to dwellings which front on boulevards, common greens or other Greenway land.

B. Yards.

1. The applicant is encouraged to consider variations in the principal building position and orientation, but shall meet the minimum standards in Table 204.A.2.
2. Residential side yards may be reduced to zero (“zero lot line”) in the Village Residential Area, when a dwelling has either no side windows, or when the side windowsills are located at least 64 inches above the finished grade.

COMMENTARY: Minimal side yard setbacks allow dwellings to be located off-center on their lots, so that one side yard may be larger and therefore provide more usable outdoor space.

- C. Non-residential uses in the Village Commercial Area shall be contained on a lot for which the minimum lot area is determined by adding 20 percent to the land area needed for the building, on-site parking, ingress/egress, and any on-site infrastructure that is required, including septic systems and stormwater management facilities. The additional 20 percent shall serve as setback areas and landscaped buffers. Each lot shall meet the following standards:

- | | |
|--|----------------|
| 1. Minimum street frontage: | 50 ft. |
| 2. Maximum building coverage: | 50% |
| 3. Maximum impervious surface coverage: | 75% |
| 4. Minimum front yard setback: | 0 ft. |
| 5. <i>Maximum</i> front yard setback (“build-to” line):
At least 60 percent of the buildings shall be located at the “build-to” line. | 15 ft. |
| 6. Minimum side yard setback: | 5 ft. |
| 7. Minimum rear yard: | 20 ft. |
| 8. Maximum building height:
Except for schools, libraries, and churches: | 35 ft.
None |

D. Maximum Impervious Cover.

- | | |
|---|-----------------|
| 1. Hamlet residential lots: | 50% on each lot |
| 2. Village, total impervious coverage within each area: | |
| a. Village Residential Area: | 60% of ATA |
| b. Village Commercial Area: | 80% of ATA |

- c. Village Greenway Land: 5% of ATA
- E. Street Frontage: Lots must have frontage either on a street or on a rear service lane or shared driveway, except that dwellings served by rear lanes may front directly onto parks or greens, which shall be designed with perimeter sidewalks.
- F. Height:
 - 1. Hamlets: maximum 35 feet.
 - 2. Villages: Building height shall be between 1.5 and 2.5 stories above grade at the front elevation, with a maximum height of 35 feet.

COMMENTARY: A minimum height, or so-called "build-up line," is required to produce a greater feeling of enclosure in new village streetscapes, helping them to achieve the character of older traditional neighborhoods.

- 3. The height limitations of this ordinance shall not apply to chimneys, spires, steeples, gables, cupolas, standpipes, flagpoles, monuments, transmission towers, radio or television antennas, cables, water tanks and similar structures and necessary mechanical appurtenances, provided that no such exception shall cover, at any level, more than 10 percent of the area of the building's roof or the ground on which it is located. Such architectural features on institutional or civic buildings may equal the height of the building.

SECTION 205 –ADDITIONAL STANDARDS FOR HAMLETS AND VILLAGES

- A. Lot Area. Area contained within a lot shall be exclusive of 100-year floodplains, wetlands and slopes exceeding 25 percent, with the exception of Country Properties in Greenway land.
- B. Flag Lots. Flag lots are permitted in limited applications in conservation subdivisions to locate dwellings at the ends of cul-de-sacs and between "fingers" of Greenway land in order to avoid extending streets further than necessary. The following standards shall apply:

COMMENTARY: Flag lots can be very useful in creative site design, making it possible to use odd corners of land in reasonable ways. These suggested regulations help control mis-use or over-use of flag lots.

- 1. No more than two contiguous flag lots shall be created. Shared driveways are encouraged between adjacent flag lots.
- 2. Flag lots shall comprise no more than 10 percent of all lots in the development.
- 3. The access strip of a flag lot shall be owned by the owner of the main portion of the flag lot and shall extend to an existing public or private street. The access strip shall serve as the primary access for the lot.

4. The access strip shall have a minimum width of 20 feet. The width shall be increased as necessary to contain all grading for the driveway within the access strip.
5. The access strip shall have a maximum length of 200 feet, except for Country Properties for which there is no such restriction.
6. The minimum lot width of the lot at the building line shall be the minimum lot width required at the street line. Minimum lot width shall be measured parallel to the street at the point of the proposed building closest to the street and shall extend the full depth of the building, plus an additional 20 feet.
7. The minimum lot area of the flag lot shall be calculated exclusive of the access strip.

C. Accessory Dwelling Units (ADU's).

1. A maximum of 15 percent of the residential lots within a village and 5 percent within a hamlet may contain one ADU.
2. Accessory dwelling units shall not be counted toward maximum density.
3. Accessory dwelling units shall be limited to one per lot, except in Country Properties.
4. Accessory dwelling units shall not exceed 900 square feet in floor area, except the second unit in Country Properties.
5. Either the principal dwelling or the accessory dwelling unit shall be owner-occupied.
6. ADU's, whether in principal or accessory buildings, shall meet the setback requirements in Table 204.A.2.

COMMENTARY: Accessory dwelling units are an effective way of providing for smaller dwellings that are essentially "invisible." Because of their smaller size, they tend to be more affordable. In historic structures, the community may choose to increase the maximum size of accessory dwelling units to make the reuse of these structures more economically feasible.

- D. At least 50 percent of the lots in hamlets and villages shall directly abut Greenway land or face greenway land across a street.
- E. Integrating Mixed Dwelling Types. When semi-detached and/or attached dwellings are proposed, such dwellings shall be designed to reflect the County's vernacular building tradition for such building types. When attached dwelling types are proposed, they shall be integrated architecturally and in scale so that they are physically incorporated within the same streetscape as single-family dwellings and nonresidential buildings, and not isolated in separate areas.

F. Parking.

1. Minimum Off-Street Parking Requirements. The minimum number of parking spaces required in Section (*insert standard section*) shall be provided unless different standards are stated below:
 - a. Accessory Dwelling Unit: 1 space
 - b. Offices, Professional and Public Buildings: 1 space/300 SF of gross floor area
 - c. Retail uses and Personal Services: 1 space/300 SF of gross floor area
 - d. All uses not listed above or in Section (*insert number of standard section*): Sufficient number of parking spaces as determined by the Planning Commission.
2. Other Provisions.
 - a. On-Street parking spaces along the front property line of a lot shall be counted toward the minimum number of parking spaces required for the use on that lot.
 - b. Non-residential off-street parking shall be to the side or rear of buildings, or located within internal parking areas not visible from the street.
 - c. On-street parking spaces shall always be parallel to the curb.
 - d. Off-street parking may be located on a lot within 600 feet (measured along a publicly accessible route) from the use to which the parking is accessory. Said lot containing the parking shall be owned or leased to the owner of the principal use, or the lot containing the parking shall be dedicated to parking for as long as the use to which it is accessory continues and it is owned by an entity capable of assuring its maintenance as accessory parking.

SECTION 206 – GREENWAY LAND DESIGN STANDARDS

- A. Greenway land shall be delineated in accordance with the standards in Sections 602 and 603 of the Subdivision and Land Development Ordinance.
- B. The Greenway land shall be located and designed to add to the visual amenities of villages and hamlets and to the surrounding area, by maximizing the visibility of Greenway land as terminal vistas at the ends of streets or along the outside edges of street curves, and as perimeter greenbelts. Greenbelts shall be designed to provide buffers and to protect scenic views as seen from existing roadways and from public parks.
- C. Greenway land shall consist of two types: natural and formal.
 1. Natural Greenway land consists of, but is not limited to: meadows, woodlands, specimen trees, hedgerows, wetlands, floodplain and steep slopes.

2. Formal Greenway land consists of: greens, commons, squares and parks that are defined by building walls, streets and street trees.

D. Greens, Commons, Squares and Parks.

1. Greens, commons, squares, and parks shall serve a variety of outdoor leisure and assembly needs of village residents and enhance the form and appearance of the village.
2. Greens, commons, squares and parks shall be distributed throughout hamlets and, in villages, the Village Residential Area and, when included, the Village Commercial Area.
3. Common Greens in Village Commercial Areas. When a Village Commercial Area is proposed, a central village green shall be required. The central green shall be designed as an attractive gathering place for village residents in both day and evening and:
 - a. Shall be located within 200 feet of the outer perimeter of the Village Commercial Area. These locational requirements may be adjusted by reason of topography or natural resources to be preserved, at the discretion of the Governing Body;
 - b. Shall border on the principal street running through the Village Commercial area, or be located so as to constitute the “terminal vista” of that street;
 - c. Should be surrounded by buildings on all sides, and shall be surrounded by streets on at least three sides;
 - d. Shall be located within 1500 feet of 80 percent of all dwelling units in the village. Alternatively, two smaller common greens at least 6,000 square feet in area may be substituted for the central green, in order to meet this proximity standard;
 - e. Shall be of pedestrian scale, between 20,000 and 40,000 square feet in area, and shall be no longer or wider than 300 feet;
 - f. Should ideally be surrounded by two-story development that may include residential, civic and institutional uses in addition to commercial uses;
 - g. Shall be landscaped using elements of formal gardens including walkways, monuments, statues, gazebos, fountains, park benches and pedestrian scale lampposts.
4. Locations for Civic or Institutional Uses. Lots with front lot lines along at least 20 percent of the circumference of a central green (either facing the green across a street or directly fronting on to a green) shall be reserved for civic or institutional uses and be so designated on the Final Plan. However, after two years subsequent to approval of a Final Plan for a Village Commercial Area, other uses may be permitted in these locations by majority vote of the Governing Body.

5. Smaller greens, commons and squares, at least 5,000 square feet and no larger than 30,000 square feet, shall be dispersed throughout the hamlet or village in such a way that no lot is more than 1,250 feet from a green, common or square.
 6. All greens, commons and squares shall be planted with shade trees along their edges, at intervals not greater than 40 feet.
 7. The visibility of greens, commons, and squares shall be maximized by locating Greenway land in “terminal vista” locations as often as possible, such as the ends of streets at 3-way intersections or occupying a corner of a 4-way intersection.
 8. Greens, commons and squares shall contain no more than 10 percent impervious coverage.
- E. Accessory Dwelling Units on Country Properties. Accessory dwelling units in principal residences or in new traditional outbuildings, such as barns, stables, carriage houses, and springhouses, shall be designed as shown in (*source document or reference for design guidelines*).
- F. Permanent Protection, Ownership and Management of Greenway Land. Sections 109 and 110 shall apply.

SECTION 207 - DESIGN STANDARDS FOR VILLAGES

- A. Overall Form.
1. New village development shall be compact with a well-defined edge between new developed areas of the village and adjacent rural, undeveloped lands. This shall not apply in the case of infill parcels within an existing village.
 2. New streets shall connect with existing streets when possible and shall continue the settlement pattern of existing villages and boroughs.
- B. Block Design.
1. Villages shall be designed in a generally rectilinear pattern of blocks and interconnecting streets and rear lanes, defined by buildings, landscaping, pedestrian ways, sidewalks and street furniture. To avoid the monotony of a rigid grid layout and to better conform to the natural terrain, streets may include frequent gentle curves.
 2. The maximum block length shall be 800 feet, with mid-block footpaths connecting to sidewalks or other paths when block length exceeds 500 feet.
 3. Rectilinear blocks of the dimensions required above may be reshaped at the discretion of the Governing Body when topography, existing vegetation, or hydrology considerations influence block shape and size.
 4. In the Village Commercial Area, at least one pedestrian pathway, a minimum of eight feet wide, shall be provided for every 250 feet of street frontage, connecting with rear parking lots.

5. Each block that includes storefronts and/or residential lots less than 40 feet wide shall be designed to include a rear alley serving parking areas or garages in the rear.
6. Local access streets shall be configured using a design speed of 25 mph. Traffic calming techniques shall include “T” intersections, traffic islands, circles, loops or crescents, and roundabouts. Speed bumps, humps and tables shall be avoided. At least 25 percent of local access streets shall terminate in “T” intersections. The distance between “T” intersections shall not exceed three blocks or 1,500 linear feet, which ever is less. “T” intersections shall meet the offset requirements from other intersections set forth in the (*municipal subdivision and land development ordinance*).

COMMENTARY: Experience has shown that physical features are more effective than regulatory devices (stop signs, posted speed limits, etc.) in reducing vehicle travel speed. Unfortunately, decades of subdivision street design standards written by highway engineers have eliminated many traditional traffic-calming features, such as circles, crescents, and sharp curves. For additional information on traffic calming theory and techniques, readers are referred to Pedestrian- and Transit-Friendly Design: A Primer for Smart Growth, by Reid Ewing (Smart Growth Network, 1999), and Street Design Guidelines for Healthy Neighborhoods by Dan Burden et al. (Center for Livable Communities, 1999).

C. Locational Considerations for Village Uses.

1. Residential uses, excluding upper story dwelling units in the Village Commercial Area, shall not be located within 500 feet of an arterial highway having 4 or more lanes, nor within 300 feet of a 2-lane arterial road, unless effectively screened from public view by topography, dense vegetation or other physical or visual barriers.

COMMENTARY: A deep buffer area along existing highways helps to maintain rural character as well as reduces traffic noise on village residents and enhances safety for young children and pets. Substituting earthen berms for "foreground meadows" in open landscapes introduces an artificial and very suburban element into the countryside and should be generally prohibited. When berms are unavoidable, they should be required to be designed with very gently tapering edges resembling natural landforms, and landscaped naturalistically with native species of shrubs and trees.

2. Village Commercial Areas may be located either at the approximate center of the village, or at the edge, near an existing Major or Minor Collector (including all state highways). If the Village Commercial Area is located along a collector road, parking areas shall be screened from view, preferably by locating them behind the commercial buildings, as seen from the collector.
3. Village Commercial Areas shall be located within ¼ mile (about a 5-minute walk) from as much of the residential areas as possible. Non-residential uses that are intended to serve an area beyond the village shall be located to permit vehicular access from outside the village without passing through village residential streets. Village Commercial Areas may be located close to state highways.

4. Use Transitions.

- a. Similar land uses shall face one another across a street, while dissimilar land uses shall abut along alleys or rear parking areas.
- b. Where feasible, a village green shall be used to separate residential blocks from mixed-use blocks.

COMMENTARY: The purpose of this regulation is to avoid distinct visual differences on two sides of the same street, such as in the scale of buildings. Alleys are an effective means of creating an unobtrusive common boundary between different land uses such as commercial and residential, and between different intensities of the same land use (e.g., single-family and multi-family housing).

5. At least 80 percent of dwelling units shall be within 1,500 feet of the Village Commercial Area.
6. Nonresidential uses generating more than *(insert number)* trips per day shall be located to permit vehicular access from outside the village without passing through residential streets. This part of the village shall be located close to streets having a functional class designation of collector or higher.

COMMENTARY: A distance of about ¼ mile has been found to be the maximum comfortable walking distance for many Americans, in terms of walking from homes to shops. The average American can usually travel this distance within approximately five minutes.

D. Design Standards for Village Commercial Area

1. Design Considerations along an Existing Major Arterial Street. When the Village Commercial Area is located along an existing major arterial street the following provisions shall apply:
 - a. The buildings shall be designed with display windows and signage facing the major arterial street.
 - b. Canopy trees shall be planted at intervals not greater than 40 feet along the major arterial street.
 - c. The Village Commercial Area shall not parallel the major arterial street for a distance greater than 600 feet, unless the storefronts are located behind a landscaped buffer area providing visual screening in all seasons of the year, or on the opposite side of a village green extending the full length of the Village Commercial Area as it parallels the major arterial street. If berms are used within the buffer, they shall be no taller than two feet and shall taper gradually into the landscape with slopes not exceeding 1:5.

COMMENTARY: These provisions will help prevent Village Commercial Areas from presenting a strip center appearance along any public thoroughfare running alongside or through the village.

2. Landscaping of Commercial Buildings. In addition to the requirements of the Subdivision and Land Development Ordinance, the following regulations shall apply:
 - a. To reduce maintenance, ensure longevity, and reinforce the indigenous plant materials of the area, landscaping around commercial buildings and their parking lots shall emphasize native plant species. Species shall be selected to provide visual interest at different times of the year, with low maintenance needs.
 - b. The facades of commercial buildings may be separated from the sidewalk by a landscaped strip no greater in depth than three (3) feet, except as necessary to accommodate outdoor eating establishments, or in courtyard designs.
3. Street Furniture.
 - a. At least one public trash receptacle of a design and color approved by the Governing Body shall be provided in each block on each side of the street.
 - b. Public benches of a design and color approved by the Governing Body shall be provided at bus stops and at intervals no greater than 100 feet on each block, and in greens, commons, squares and parks at a rate of one bench per 5,000 square feet.
 - c. At least one bicycle rack adjacent to the sidewalk shall be provided on each block, with a paved pad.
4. Signs. In addition to the requirements in Section (*insert standard sign section number*), signs shall conform to the following regulations:

COMMENTARY: Business identification signs are an integral part of any commercial structure. Artisan crafted signs and high-quality materials should be highly encouraged. The size, location and type of signs should not cover or obscure the architectural details of a building, or otherwise detract from its overall design.

- a. Signs shall not be freestanding pole signs and shall be affixed to a building facade, canopy, or arcade.
- b. The top of signs (except window signs) shall be located no higher than the sills of second-story windows.
- c. Signs shall be constructed of wood, metal or synthetic material, provided that the typeface and logos have a dimensional rather than flat quality.

- d. Sign colors shall preferably be dark background colors with light-colored lettering.
- e. Signs may be illuminated from external light sources only; lighting shall conform to the regulations contained in Section [reference to lighting standards section of ordinance]. Flashing and moving lighting, or signs with color changes are prohibited.
- f. Animated signs that use actual motion or the illusion of motion or change of lighting are prohibited.
- g. External neon signs are prohibited. Non-flashing neon signs may be displayed inside windows provided they occupy no more than 15 percent of the glass area of the window in which they are displayed.

COMMENTARY: These sign regulations are offered as a minimum, and should be used in conjunction with village standards tailored to the region which regulate size, number, location, shape, position on the buildings, materials, typeface, logos and illumination. The regulations should also address specific sign types such as freestanding signs, projecting signs, window signs, wall signs and awnings.

E. Design Standards for Village Residential Areas.

- 1. Architecture. Housing styles, shapes and materials shall be varied within the overall theme of traditional village dwellings as shown in (*source document or reference for design guidelines*). Buildings may be either traditional in their architectural character or a contemporary expression of historically traditional styles and forms. Regardless of which architectural style is utilized, it shall be applied consistently to residential, commercial and institutional uses throughout the village, in order to create an architecturally cohesive community.
 - a. Single-family detached dwellings, excluding those on country properties, shall be designed so that:
 - 1) At least two-thirds shall be oriented with their gable-ends facing the street.
 - 2) At least 35 percent shall have a covered front entry porch, raised a minimum of 18 inches above ground level.
 - b. Two, three and four-family dwellings shall be designed to emulate traditional buildings of this nature in (*municipal name*) historic settlements or to resemble large single-family residences as shown in (*name of reference for design guidelines*).
 - c. Pitched roofs with slopes between 8:12 and 12:12 shall be encouraged.

COMMENTARY: Architectural design standards are enforceable outside designated historic districts because the Village Design Overlay District is (a) optional and (b) offers built-in density incentives. Good examples of two-family and multifamily buildings can be seen in the TND Series: Traditional Neighborhood Design, Volumes I and II (Homestyles Publishing and Marketing, Inc., 1997). Where architectural styles other than neo-traditional are appropriate, the Township may wish to consult local architects in order to establish architectural design standards.

2. Building Materials.

COMMENTARY: An optional paragraph may be inserted here requiring the use of building materials traditional in the region.

3. Accessory Dwelling Units.

- a. The design of accessory dwelling units shall comply with the following regulations:
 - 1) Accessory dwellings or outbuildings shall be designed according to the principles shown in *(source document or reference for design guidelines)*.
 - 2) Exterior fire escapes are prohibited on any side of accessory dwelling units except the rear.
 - 3) All off-street parking for accessory dwelling units shall be located to the side or rear and shall be visually screened from adjoining properties.
- b. Issuance of permits for accessory units shall be contingent upon County Health Department approval for any necessary on-site septic sewage disposal systems.

SECTION 208 - MODIFICATIONS

- A. The Governing Body may permit the modification of the provisions of this article, including but not limited to provisions relating to the percentages of dwelling types and the amount of nonresidential development, in order to encourage a well-planned traditional township center.
- B. Any such modification shall be subject to the following criteria:
 1. The design and modifications shall be in harmony with the purposes and the land-use standards contained in this article;
 2. The design and modifications shall generally enhance the development plan, the central core area, the streetscapes, and the neighborhoods, or at least not be any less desirable than the plan that could be created in conformance with this article;

3. The design and modifications shall not produce lots or street systems that would be impractical or detract from the appearance of the District, and shall not adversely affect emergency vehicle access or deprive adjoining non-commercial properties of adequate light and air.
 4. Increased residential density or intensification of nonresidential uses shall be offset by corresponding special efforts by the applicant to improve the appearance of the development through enhanced architectural and landscaping efforts.
 5. The applicant shall demonstrate that the proposed modifications will produce equal or better results, from the Township's perspective, and represent the minimum modification necessary.
- C. If the Governing Body determines that the applicant has met his/her burden, it may grant a modification of the requirements of this article. In granting modifications, the Governing Body may impose such conditions as will, in its judgment, secure the objectives and purposes of this article.

APPENDIX A

REFERENCE TO OVERLAY IN R-1 DISTRICT

COMMENTARY: Within each zoning district to which the Conservation Subdivision Design Overlay District applies, a short section should be added referring to this article. Such a section can also include an exemption for minor subdivisions. The threshold of 10 acres can be increased or decreased, depending on the density of the underlying district. Conservation subdivision should, generally, “kick in” with five or more dwelling units. It takes at least that many dwelling units to establish a functional homeowners association. An example follows.

R-1 RURAL PRESERVATION DISTRICT

SECTION 401- USES PERMITTED BY RIGHT

- A. Single family detached dwelling.
1. On tracts 10 acres or larger, conservation subdivision with single-family detached dwellings, in compliance with Article I “Conservation Subdivision Design Overlay District” and Article II “Standards for Option 5: Hamlets and Villages.”
 2. Proposals on tracts 10 acres or larger that are exempt from the standards of Subsection A.1 above are:
 - a. Proposals for minor subdivisions involving three lots or less providing such proposals shall meet the requirements of Section (*insert section with dimensional standards for conventional lots*).
 - b. Proposals with a density no greater than one dwelling unit/20 acres or less, regardless of the number of lots.
 3. On tracts less than 10 acres the following uses are permitted:
 - a. The use in Subsection A.1 above, or
 - b. Conventional subdivision with single-family detached dwellings and no common Greenway land. Such development shall meet the requirements of Section (*insert section with dimensional standards for conventional lots*).

COMMENTARY: Option 5, Hamlets and Villages, is a conditional use. If a community decides to include Option 5, it should be listed under conditional uses for the district.

COMMENTARY: This model ordinance refers to single-family detached dwellings throughout; however, all dwelling types may be permitted. Since density is set by formula or yield plan, permitting attached units does not increase density.

APPENDIX B

TABLE OF DISTRICTS

This table provides examples of how the five *Growing Greener* options may be applied to a variety of zoning districts based on their existing minimum lot sizes. The districts vary from nearly rural to nearly urban, with minimum lot sizes ranging from 80,000 SF to 10,000 SF.

TRACT SIZE: 50 Acres Gross 36 ac. net (ATA)	District A Lowest Density 80,000 SF Base	District B Lower Moderate 60,000 SF Base	District C Moderate Density 40,000 SF Base	District D Upper Moderate 20,000 SF Base	District E Upper Density 10,000 SF Base
Option 1 Density: Number of Lots: Lot Size Max.: Lot Size Min.: Lot Width (Min.): Open Space %:	80,000 sf/ du 18 Lots 40,000 sf 20,000 sf 100' 50%	60,000 sf/ du 24 Lots 24,000 sf 12,000 sf 80' 50%	40,000 sf/ du 36 Lots 20,000 sf 10,000 sf 60' 50%	20,000 sf/ du 72 Lots 10,000 sf 5,000 sf 40' 40%	10,000 sf/ du 144 Lots 6,000 sf 4,000 sf 40' 40%
Option 2 Density: Number of Lots: Lot Size Max.: Lot Size Min.: Lot Width (Min.): Open Space %:	60,000 sf/ du 24 Lots 24,000 sf 12,000 sf 80' 60%	40,000 sf/ du 36 Lots 12,000 sf 10,000 sf 60' 60%	28,000 sf/ du 54 Lots 11,000 sf 6,000 sf 50' 60%	14,000 sf/ du 108 Lots 5,500 sf 4,000 sf 40' 60%	8,000 sf/ du 180 Lots 4,000 sf 2,500 sf 25' 50%
Option 3 Density: Number of Lots: Lot Size Max.: Lot Size Min.: Lot Width (Min.): Open Space %:	160,000 sf/ du 9 Lots NA 40,000 sf 100' 0-75%	120,000 sf/ du 13 Lots NA 30,000 sf 80' 0-75%	80,000 sf/ du 18 Lots NA 20,000 sf 60' 0-75%	40,000 sf/ du 36 Lots NA 10,000 sf 50' 0-75%	20,000 sf/ du 72 Lots NA 5,000 sf 40'
Option 4 Density: Number of Lots: Lot Size Max.: Lot Size Min.: Lot Width (Min.): Open Space %:	10 ac/ du 5 Lots NA 60,000 sf 130' 0-90%	7 ac/ du 7 Lots NA 40,000 sf 100' 0-85%	160,000 sf/ du 9 Lots NA 30,000 sf 80' 0-80%	80,000 sf/ du 18 Lots NA 20,000 sf 60' 0-75%	40,000 sf/ du NA 10,000 sf 50' 0-75%
Option 5 Density: Number of Lots: Lot Size Max.: Lot Size Min.: Lot Width (Min.): Open Space %:	40,000 sf/ du 36 Lots 12,000 sf 6,000 sf 60' 70%	30,000 sf/ du 54 Lots 9,000 sf 5,000 sf 55' 70%	20,000 sf/ du 72 Lots 6,000 sf 4,000 sf 50' 70%	10,000 sf/ du 144 Lots 3,000 sf 2,500 sf 25' 70%	NA NA NA NA NA NA

APPENDIX C

WASTEWATER TREATMENT AND DISPOSAL

COMMENTARY: Lots one acre or larger can usually accommodate on-site septic systems contained completely within the lot. Smaller lots can also use individual septic systems with the treatment tank located on the lot and the absorption field in the common open space to the rear of the lot. When lots get too small to make this feasible, community wastewater systems must be used. The zoning ordinance should be revised to insert the following section, which prioritizes such systems.

Provided by: Castle Valley Consultants, 10 Beulah Road, New Britain, Pa. 18901
Phone: (215) 348-8257

SECTION ___ - WASTEWATER TREATMENT AND DISPOSAL FEASIBILITY REPORT

- A. All Preliminary Subdivision and Land Development Plan applications shall include a Wastewater Treatment and Disposal Feasibility Report containing the following information.
1. The report shall include the complete Sewage Facilities Planning Module as provided by the Pennsylvania Department of Environmental Protection, including complete site testing information.
 2. The report shall demonstrate the adherence of the Plan to all relevant portions of the municipal code.
 3. The report shall evaluate individual on-lot sewage systems as the preferred technology for single-family dwellings on lots of one acre or greater in size, site conditions permitting, unless specified otherwise by the official municipal Sewage Facilities Plan.
 4. When the installation of a community sewage system is proposed, the report shall begin the evaluation of alternative technologies below, and continue the evaluation in sequence. The most preferred feasible alternative, as selected by the municipality, shall be the technology selected for use.
 - a. Alternatives shall be evaluated in the following order of preference as established below:
 - 1) Lagoon treatment system with spray irrigation disposal;
 - 2) Lagoon treatment system with drip irrigation disposal;
 - 3) Community tertiary treatment with membrane filtration system with spray irrigation disposal;
 - 4) Community tertiary treatment with membrane filtration system with drip irrigation disposal;
 - 5) Community aerobic treatment with spray irrigation disposal;
 - 6) Community aerobic treatment unit with drip irrigation disposal;
 - 7) Community septic tank with sand filter treatment followed by subsurface disposal;

- 8) Community tertiary treatment with membrane filtration system with subsurface disposal;
- 9) Community aerobic treatment with sand filter followed by subsurface disposal;
- 10) Transport to existing public sewage facility;
- 11) Central holding tank (for existing uses only);
- 12) Other wastewater options.

COMMENTARY: If stream discharge systems are the only alternative available in a community, they should be added to the list with appropriate parameters.

- a. When evaluating the feasibility of the preferred alternatives, a combination of options may be required. For example, if a site is capable of disposing of only 50 percent of its effluent via land disposal and the only other feasible option is transport to an existing public facility, it is required that the greatest amount possible be disposed of using the preferred disposal option and only the excess be disposed of via the less preferred option.
 - b. Lagoons are the preferred method of treatment and must be used wherever possible. The lagoons shall be designed as deep aerated cells with bottom aeration.
2. The report shall evaluate the alternatives considering the municipal wastewater policies as established in the official Sewage Facilities Plan and shall state how the selected alternative will support the stated policies.
 3. The municipality reserves the right to require the applicant, or a consultant hired at the applicant's expense, to evaluate additional wastewater treatment and disposal alternatives in addition to the one proposed, to determine whether use of a technology more consistent with municipal wastewater and land use policies is feasible.
 4. The municipality reserves the right to require the implementation of a system other than the one proposed by the applicant if it results in long-term environmental protection and economic savings to the municipality and/or system users.
 5. The report shall include a detailed breakdown of operation and maintenance costs for the proposed system to demonstrate the estimated yearly cost per unit served. The operation and maintenance budget shall include a capital reserve component to provide for replacement of major equipment.
 6. The report shall be prepared by a registered professional engineer and be submitted with the preliminary plan for review and recommendation by the municipal engineer or other consultant as selected by the municipality.
 7. Where a community sewage system utilizing surface or subsurface disposal of wastewater effluent is proposed, hydrogeologic and permeability testing will be required as part of the report.

8. The report shall contain sufficient engineering and cost data, evaluations and recommendations sufficient to enable the municipality to evaluate the various means for wastewater treatment and disposal considered and ultimately selected.
9. The report shall be prepared by a registered professional engineer and be submitted with the preliminary plan for review and recommendation by the municipal engineer or other consultant as selected by the municipality.
10. Where a community sewage system utilizing surface or subsurface disposal of wastewater effluent is proposed, hydrogeologic and permeability testing will be required as part of the report.
11. The report shall contain sufficient engineering and cost data, evaluations and recommendations sufficient to enable the municipality to evaluate the various means for wastewater treatment and disposal considered and ultimately selected.

CONTENTS

Model Subdivision and Land Development Ordinance

Article IV – Plan Processing Procedures

Section 400 – General.....	IV-1
Section 401 – Classification of Plans - Major and Minor	IV-1
Section 402 – Procedures for Minor Plans	IV-1
Section 403 – Overview of Procedures	IV-1
Section 404 – Pre-Application Meeting	IV-2
Section 405 – Existing Resources and Site Analysis (ER/SA) Plan	IV-2
Section 406 – Site Visit.....	IV-2
Section 407 – Pre-Submission Conference	IV-3
Section 408 – Sketch Plan Submission and Review	IV-3
Section 409 – Preliminary Plan Submission and Review	IV-5
Section 410 – Final Plan Submission and Review	IV-5

Article V – Plan Content Requirements

Section 500 – Purposes and Applicability.....	V-1
Section 501 – Sketch Plan.....	V-1
Section 502 – Preliminary Plan.....	V-2
Section 503 – Final Plan.....	V-11

Article VI – Resource Conservation and Greenway Delineation Standards

Section 600 – Applicability.....	VI-1
Section 601 – Site Planning and Design Standards.....	VI-1
Section 602 – Design Process for Residential Subdivisions with Greenway Land.....	VI-6
Section 603 – Design Review Standards for Greenway Land.....	VI-9
Section 604 – Mandatory Dedication of Land for Park and Recreation Purposes.....	VI-12
Section 605 – Resource Protection Standards for Site Preparation and Cleanup.....	VI-12
Section 606 – Individual Sewage Disposal Systems.....	VI-13

Article VII – Supplemental Design Standards for Option 5: Hamlets and Villages

Section 700 – General.....	VII-1
Section 701 – Site Planning and Design.....	VII-1
Section 702 – Streets, Sidewalks and Parking.....	VII-3
Section 703 – Street Trees and Landscaping.....	VII-7
Section 704 – Architectural Design Standards and Guidelines for Villages and Hamlets.....	VII-9
Section 705 – Modifications.....	VII-14
Section 706 – Illustrated Design Principles.....	VII-15
Appendix A – Review Process.....	A-1
Appendix B – Developer’s Sketch Plan Agreement.....	B-1
Appendix C – Alternatives to the Cul-de-sac.....	C-1
Appendix D – Illustrated Design Principles for Villages.....	D-1

ARTICLE IV

PLAN PROCESSING PROCEDURES

Contents:

- Section 400 - General
 - Section 401 - Classification of Plans - Major and Minor
 - Section 402 - Procedures for Minor Plans
 - Section 403 - Overview of Procedures
 - Section 404 - Pre-Application Meeting
 - Section 405 - Existing Resources and Site Analysis (ER/SA) Plan
 - Section 406 - Site Visit
 - Section 407 - Pre-Submission Conference
 - Section 408 - Sketch Plan Submission and Review
 - Section 409 - Preliminary Plan Submission and Review
 - Section 410 - Final Plan Submission and Review
-

SECTION 400 - GENERAL

All Sketch, Preliminary and Final subdivision or land development plans shall be reviewed by the Planning Commission and may be reviewed by any municipal consultants approved by the Governing Body. All Preliminary and Final Plans shall be approved or disapproved by the Governing Body in accordance with the procedures specified in this Article.

SECTION 401 - CLASSIFICATION OF PLANS – MAJOR AND MINOR

COMMENTARY: Minor plans can be exempted from the requirements of conservation subdivision in the zoning ordinance, so it is a good idea to differentiate between major and minor plans. Minor plans are usually defined as having a limited number of lots (typically just 2 or 3), do not involve any public improvements and have a streamlined review process. Communities establish various minor plan review procedures, so no regulations are specified herein.

SECTION 402 - PROCEDURES FOR MINOR PLANS

Insert Township regulations.

SECTION 403 - OVERVIEW OF PROCEDURES

All subdivisions and land developments shall comply with the following procedures. These steps shall be followed sequentially and may be combined only at the discretion of the municipality.

- A. Pre-Application Meeting, in accordance with Section 404. This step is voluntary, but encouraged for both Sketch and Preliminary Plan submittals.
- B. Site visit with Existing Resources/Site Analysis Plan, in accordance with Section 405. This step is voluntary, but strongly encouraged for Sketch Plan, and required for Preliminary Plan.

- C. Pre-Submission Conference, in accordance with Section 407. This may be combined with the site visit, at the discretion of the Planning Commission. This step is voluntary, but encouraged for both Sketch and Preliminary Plan submittals.
- D. Sketch Plan and Site Context Map submission and review in accordance with Section 408 and 502.B. This step is voluntary, but strongly encouraged.
- E. Preliminary Plan submission and review, in accordance with Section 409; approved, disapproved or approved with conditions.
- F. Final Plan submission, in accordance with Section 410; approved or disapproved.
- G. Governing Body signatures, if approved.
- H. Delivery of financial security, execution of public improvement agreements and other requirements of the ordinance.
- I. Recording of plan with County Recorder of Deeds.
(A procedural flow chart is provided in Appendix A.)

SECTION 404 - PRE-APPLICATION MEETING

The applicant is strongly advised to schedule a pre-application meeting with the site designer and the Planning Commission (and/or the municipality's staff or planning consultant). This meeting introduces the applicant to the municipality's zoning and subdivision regulations and procedures, and is used to discuss the applicant's objectives, and to schedule site visits, meetings and plan submissions as described below. Applicants are encouraged to present the ER/SA Plan, at this meeting.

SECTION 405 - EXISTING RESOURCES AND SITE ANALYSIS (ER/SA) PLAN

- A. The applicant shall submit an ER/SA Plan, prepared in accordance with the requirements contained in Section 502.C. The purpose of this plan is to familiarize officials with existing conditions on the applicant's tract and within its immediate vicinity, and to provide a complete and factual reference at the site visit.
- B. The ER/SA Plan forms the basis for the design shown on the voluntary Sketch Plan or on the Preliminary Plan. The applicant is strongly encouraged to submit the ER/SA Plan prior to or at the site visit.

SECTION 406 - SITE VISIT

- A. After preparing the ER/SA Plan and Site Context Map, the applicant is strongly encouraged to arrange for a site visit with the Planning Commission and other municipal officials, and shall provide sufficient copies of the ER/SA Plan to distribute to all municipal officials attending the site visit. Applicants, their site designers and the landowner are encouraged to accompany the Planning Commission. The purpose of the site visit is to familiarize local officials with the property's existing conditions and special features, to identify potential site design issues and to provide an informal opportunity to discuss site design concepts, including the general layout of Greenway land (if applicable) and potential locations for proposed buildings and street alignments.

- B. The site visit shall be an advertised meeting, in accordance with Section _____.

COMMENTARY: The municipal solicitor may be consulted to determine whether a site visit is only an informational meeting, which does not require advertisement. Communities should be careful to avoid having a quorum of the Governing Body and the Planning Commission.

- C. Comments made by municipal officials or their staff and consultants are only suggestions. No formal recommendations will be offered and no official decisions will be made at the site visit.

SECTION 407 – PRE - SUBMISSION CONFERENCE

Following the site visit and prior to the submission of a Sketch Plan (or Preliminary Plan, if no Sketch Plan is submitted), the applicant is encouraged to meet with the Planning Commission to discuss the findings of the site visit and to develop a mutual understanding on the general approach for subdividing and/or developing the tract. At the discretion of the Planning Commission, this conference may be combined with the site visit. No formal recommendations will be offered and no official decisions will be made at the pre-submission conference.

SECTION 408 - SKETCH PLAN SUBMISSION AND REVIEW

COMMENTARY: The Pennsylvania Municipalities Planning Code (MPC) provides for only two 90-day review periods for subdivision or land development applications—Preliminary and Final Plans. The MPC is silent on Sketch Plans. Experience shows that if requirements are not onerous and are seen as a way to avoid delays or significant changes to engineered plans, most developers voluntarily submit a Sketch Plan. Sometimes the best way to encourage Sketch Plans is a well-trained clerk at the front desk of the municipal building who states, “In this municipality we expect Sketch Plans.”

- A. Purpose

Applicants for subdivision or land development approval are strongly encouraged to submit a Sketch Plan to the municipal Planning Commission for review prior to submission of a formal application. The Sketch Plan phase provides the applicant with an opportunity to ask questions about such topics as interpretation of ordinance language and conceptual design issues. This plan also provides the municipality with an opportunity to become acquainted with the project and to express concerns that may surface about such issues as ordinance compliance and community impact. The chief value of this plan is that important design issues can be considered and clarified at a conceptual design stage before significant drafting, design, engineering and agency review funds are expended. The provision of a Sketch Plan is particularly critical for conservation subdivisions that designate Greenway land in accordance with the Four-Step Design Process described in Section 602, and the Greenway design review standards in Section 603. Submission of a Sketch Plan does not constitute formal filing of a plan with the Governing Body or the Planning Commission, and shall not commence the statutory review period as required by the Pennsylvania Municipalities Planning Code.

- B. Sketch Plan Submission and Review

1. Copies of a Sketch Plan, meeting the requirements set forth in Section 501, shall be submitted to the municipal Secretary during business hours for distribution to the Governing Body, the Planning Commission, the municipal Planner, the municipal Engineer and applicable municipal advisory boards (such as the Parks Board, the Environmental Advisory Council, the Historic Architectural Review Board, the Shade Tree Commission, and the Greenway land Committee) at least 7 days prior to the Planning Commission meeting at which the Sketch Plan is to be discussed.
2. The Sketch Plan delineates a conceptual layout for Greenway land, building sites, street alignments, sewer, water and stormwater management facilities, and shall be overlain on the ER/SA Plan.
3. Sketch Plan Review Standards. The Planning Commission review shall informally advise the applicant of the extent to which the proposed subdivision or land development conforms to the relevant standards of this Ordinance, and may suggest possible plan modifications that would increase its degree of conformance. Their review shall include, but is not limited to:
 - a. The location of all areas proposed for land disturbance (streets, foundations, yards, water supply, sewage disposal systems, stormwater management areas, including associated grading) with respect to features of natural or cultural significance as identified on the applicant's ER/SA Plan and on the municipality's Map of Potential Conservation Lands;
 - b. The potential for street connections with existing streets, other proposed streets, or in potential developments on adjoining parcels; the location of proposed access points along the existing road network;
 - c. Building layout;
 - d. When Greenway land is provided:
 - 1) The potential for Greenway land connections with existing or potential Greenway land on adjoining parcels;
 - 2) The relationship of buildings to Greenway land;
 - 3) Pedestrian access to Greenway land;
 - e. The compatibility of the proposal with respect to the objectives and policy recommendations of the municipal Comprehensive Plan and Open Space Plan; and
 - f. General consistency with the requirements of the Zoning Ordinance.
4. The Planning Commission shall submit its written comments to the applicant and the Governing Body; provided, however, that failure of the Planning Commission to submit comments in writing shall not be deemed to be an approval of any application or to vest any rights in the applicant.
5. The applicant may, but need not, request further review of the Sketch Plan by the Governing Body. Upon receiving written request by the applicant, the Governing Body may consider the Sketch Plan. The Governing Body may meet with the applicant and may advise the applicant as to their concerns. The Governing Body

is not required to review the Sketch Plan or to submit comments to the applicant if the Governing Body does not review the Sketch Plan.

COMMENTARY: To avoid a situation where the Governing Body may not agree with the Planning Commission, it is a good idea to give the Governing Body an opportunity to comment on the Sketch Plan before the applicant moves on to engineering a Preliminary Plan.

6. The Sketch Plan may be submitted by the Governing Body to the County Planning Commission, or other advisors, for unofficial review and comment.

COMMENTARY: Municipalities should determine whether the County is willing to conduct such a review and if so, whether fees will be charged.

7. The applicant is encouraged to submit a revised Sketch Plan to demonstrate that the Planning Commission's comments have been addressed.
8. Nothing contained herein, nor the failure of the Planning Commission or the Governing Body, or both, to proceed or act in accordance with this Section, shall be deemed to be a decision with respect to any subdivision or land development plan or to vest any rights in the applicant.

COMMENTARY: Developers are sometimes leery of Sketch Plans, because they fear they are "showing their hand" with a plan that gives them no vested rights. Unfortunately, some communities have been known to quickly revise their ordinances for the purpose of foiling a proposed development plan. In communities that intend to act in good faith, but have difficulty getting developers to submit Sketch Plans, this fear may be overcome by entering into a "Sketch Plan Agreement." A sample form is provided in Appendix B.

SECTION 409 - PRELIMINARY PLAN SUBMISSION AND REVIEW

To standard language add:

Where development of less than the entire tract is intended, or where the tract is intended to be developed at less than maximum density, the Governing Body may require the applicant to file a Sketch Plan showing future potential subdivision of the entire tract to ensure that subdivision may be accomplished in accordance with current ordinances and with appropriate access.

SECTION 410 - FINAL PLAN SUBMISSION AND REVIEW

To standard language, add the following as conditions of Final Plan approval.

- A. Permanent Protection of Greenway Land. In Options 1, 2 and 5, where the landowner is providing required Greenway land as part of the development, an easement restricting such Greenway land in perpetuity against further subdivision or development shall be executed between the landowner and the municipality and/or a qualified land conservancy acceptable to the municipality. A deed restriction may also be used in limited applications. Section 109 in the Zoning Ordinance shall apply. This section shall not apply to Options 3 and 4.

- B. Greenway Land Performance Bond. Where intended as common or public amenities, all landscape improvements, plantings, trails, and recreational facilities within Greenway land shall be provided by the developer. A performance bond or other security acceptable to the municipality shall be required to cover the costs of installation of such improvements in the Greenway land. The performance bond or other security shall be in the same form and adhere to the same conditions as otherwise required for proposed improvements by this ordinance.

ARTICLE V

PLAN CONTENT REQUIREMENTS

Contents:

- Section 500 - Purposes and Applicability
 - Section 501 - Sketch Plan
 - Section 502 - Preliminary Plan
 - Section 503 - Final Plan
-

SECTION 500 - PURPOSES AND APPLICABILITY

The provisions of this Article shall apply to all subdivision and land development applications. For the convenience of applicants, the municipality provides a complimentary Plan Requirements Checklist listing all the documents that this Ordinance requires to be submitted, at each step of the review process. Copies of this checklist are available from the municipal office. The checklist also facilitates review by staff and officials, as they review each application for completeness and conformance with relevant ordinance provisions.

COMMENTARY: The plan requirements for conventional subdivisions should be the same as those for conservation subdivisions. Each should be required to submit an Existing Resources/Site Analysis Plan and a Sketch Plan is encouraged for both types of plans. This levels the playing field in that conservation plans are not required to submit more information or go through more complicated procedures than conventional plans.

SECTION 501 - SKETCH PLAN

- A. The municipality strongly recommends that the applicant submit a Sketch Plan as a basis for informal discussion with the Planning Commission and, as appropriate, the Governing Body. A Sketch Plan helps applicants and officials develop a better understanding of the property and establish an overall design approach that respects its special or noteworthy features, while providing for the density permitted under the Zoning Ordinance.
- B. The applicant may submit whatever information he deems useful. However, to facilitate the fullest possible response from the Planning Commission, the applicant is encouraged to submit the information listed below.
 - 1. An Existing Resources/Site Analysis Plan as set forth in Section 502.C. For the purposes of the Sketch Plan, topography may be taken from U.S.G.S. maps; wetlands may be taken from maps published by the U.S. Fish and Wildlife Service or the U.S.D.A. Natural Resources Conservation Service; and woodlands may be taken from aerial photographs.
 - 2. A Site Location Map and Site Context Map as set forth in Section 502.B.
 - 3. An aerial photograph with property lines indicated. The conceptual layout may be imposed on the aerial photograph.

4. Zoning information including applicable district, lot area and bulk regulations, Adjusted Tract Area calculations, density and Greenway land requirements, including proposed development data.
5. A schematic layout indicating a general concept for land conservation and development, at the same scale as the ER/SA Plan. The Sketch Plan may be prepared as a simple overlay on top of the ER/SA Plan.
 - a. In the case of land developments, locations of proposed buildings and major structures, parking lots and other improvements.
 - b. In the case of conservation subdivisions, a schematic layout indicating conformance with the Four-Step Design Process set forth in Section 602 of this Ordinance.
6. Streets on and adjacent to the tract.
7. General description of proposed method of water supply, sewage disposal and stormwater management.
8. A statement indicating that the Sketch Plan is a schematic drawing, not intended for construction purposes.
9. Drafting standards set forth in Sections 502.A.1-6 shall be met.

SECTION 502 - PRELIMINARY PLAN

A Preliminary Plan shall consist of and be prepared in accordance with the following standards.

- A. Drafting Standards.
 1. The plan shall be drawn to a scale of either 1" = 100' or 1" = 200', whichever fits best on a standard 24" x 36" sheet, unless otherwise approved by the Planning Commission.
 2. Dimensions shall be set in feet and decimal parts thereof, bearings in degrees, minutes and seconds with errors in closure not more than 1 part in 10,000.
 3. Each sheet shall be numbered and shall show its relationship to the total number of sheets.
 4. The plan shall bear a legend adequate to indicate clearly, which features are existing and which are proposed.
 5. All plans submitted shall be made on sheets no larger than 30" x 42", nor smaller than 24" x 36".
 6. Where it is necessary to use more than 1 sheet for the plan, the layout shall be such that any lot shall be complete on 1 sheet and no lot shall be split on 2 sheets. In such cases, the master plan shall be submitted as part of the application at a scale of 1" = 200'.

7. Signature blocks for the municipal Planning Commission, Governing Body, municipal Engineer and County Planning Commission shall be provided on the right-hand side of the Title Plan, Improvement Construction Plan and Stormwater Management Plan.
8. All plans and surveys shall be prepared by a registered professional engineer, a registered surveyor or registered landscape architect. The plan shall bear the seal and signature of such registered professionals.

B. Site Context Map.

A map showing the location of the proposed subdivision or land development within its neighborhood context shall be submitted.

1. For sites under 100 acres, such maps shall be at a scale not less than 1" = 200', and shall show the relationship of the subject property to natural and man-made features existing within 1,000 feet of the site. For sites of 100 acres or more, the scale shall be 1" = 400', and shall show the above relationships within 2,000 feet of the site.
2. The features to be shown on a Site Context Map include:
 - a. Topography (from the most current U.S.G.S. maps).
 - b. Streams and water courses, drainage basins and sub-basins.
 - c. Wetlands (from the most current maps published by the U.S. Fish & Wildlife Service or the U.S.D.A. Natural Resources Conservation Service).
 - d. Woodlands over ½ acre in area (from aerial photographs).
 - e. Ridge lines.
 - f. Public roads, trails, utility easements, pipelines and rights-of-way.
 - g. Public land and land protected under conservation easements.
 - h. Zoning district boundaries.
 - i. Existing property lines.
 - j. Names of owners of all properties and the names of all subdivisions.
3. The above information may be superimposed on an aerial photograph.

C. Existing Resources and Site Analysis Plan (ER/SA Plan).

For all subdivisions, an ER/SA Plan shall be prepared to provide the applicant and the municipality with a comprehensive analysis of existing conditions, both on the proposed development site and within 500 feet of the site. Conditions beyond the parcel boundaries may be described based on existing published data available from governmental agencies, and from aerial photographs. The following information shall be shown:

1. Existing Natural Features
 - a. A vertical aerial photograph at a scale that matches the scale of the ER/SA Plan, with property lines shown.
 - b. Topography. Contour line intervals shall be not more than 2 feet, determined by photogrammetry, for land with average natural slope of 10 percent or less, and at intervals of not more than 5 feet for land with average slope exceeding 10 percent. Ten foot intervals interpolated from U.S.G.S. published maps are permissible beyond the parcel boundaries. Slopes between 15 and 25 percent and exceeding 25 percent shall be clearly indicated. Slope shall be measured over 3 or more 2-foot contour intervals. Topography shall be prepared by a professional land surveyor or professional engineer from an actual field survey of the site or from stereoscopic aerial photography and shall be coordinated with official U.S.G.S. benchmarks. Datum to which contour elevations refer shall be noted.
 - c. The location and delineation of wetlands, ponds, streams, ditches, drains, and natural drainage swales, as well as the 100-year floodplains.
 - d. Vegetative cover conditions on the property according to general cover type including cultivated land, permanent grass land, meadow, pasture, old field, hedgerow, woodland and wetland, specimen trees, the actual canopy line of existing trees and woodlands. Vegetative types shall be described by plant community, relative age and condition. For woodlands, a woodlands evaluation report shall be submitted meeting the requirements of Section 601.B.1.
 - e. Soil series, types and phases, as mapped by the U.S.D.A Natural Resources Conservation Service in the published soil survey for _____ County, and accompanying data tabulated for each soil relating to its suitability for construction (and, in unsewered areas, for septic suitability). The following soil types shall be specifically identified:
 - 1) Alluvial soils.
 - 2) Seasonal high water table soils.
 - 3) Hydric soils.
 - 4) Class I and II agricultural soils.
 - 5) Soil hydrologic group (i.e., Group A, B, C or D).
 - f. Ridge lines and watershed boundaries
 - g. Geologic formations, including rock outcroppings, cliffs, sinkholes, and fault lines, based on available published information or more detailed data obtained by the applicant.
 - h. Any portion of the tract identified as a Pennsylvania Natural Diversity Inventory (PNDI) site or that is included on a county or local Natural Areas Inventory.

- i. A viewshed analysis showing the location and extent of views into the property from public roads and from public parks, public forests, and state game lands. Significant scenic views from the property shall also be delineated.
2. Existing Man-Made Features, including:
 - a. Location, dimensions, and use of existing buildings, driveways and any other man-made features on the site.
 - b. Location, names, widths, centerline courses, paving widths, identification numbers, and rights-of-way, of existing streets and alleys.
 - c. Locations of trails that have been in public use (pedestrian, equestrian, bicycle) or are proposed on a municipal or county Open Space or Greenway Plan.
 - d. Location and size of existing utilities.
 - e. Any easements, deed restrictions, rights-of-way, or any other encumbrances upon the land, including location, size and ownership.
 - f. Site features or conditions such as hazardous waste, dumps, underground tanks, active and abandoned wells, quarries, landfills, sand mounds, and artificial land conditions.
 - g. Locations of historically significant sites or structures on the tract, including, but not limited to foundations, cellar holes, stone walls, earthworks, and burial sites. Any portion of the site located within an Historic District, and historical resources identified in the *municipal* Comprehensive Plan.
3. Planned or Proposed Features. Streets, trails, utility corridors and other public infrastructure planned or proposed in local, regional or county plans or Official Maps shall be delineated.

D. Four-Step Design Process for Conservation Subdivisions.

Preliminary Plans for conservation subdivisions shall include documentation of the Four-Step Design Process set forth in Section 602, used in determining the layout of Greenway land, dwelling units, streets, stormwater management facilities and lot lines. When requested by the Planning Commission, the applicant shall submit 4 separate sheets indicating the delineation of each step of the design process.

E. Preliminary Improvements Construction Plan.

The plan shall include the following:

1. Historic resources, trails and significant natural features, including topography, areas of steep slopes, wetlands, 100-year floodplains, swales, rock outcroppings, vegetation, existing utilities, and other site features, as indicated on the ER/SA Plan.
2. Existing and approximate proposed lot lines, lot areas, any existing easements and rights-of-way.
3. Approximate location, alignment, width and tentative names of all proposed streets and street rights-of-way, including all street extensions or spurs that are reasonably necessary to provide adequate street connections and facilities to adjoining development or undeveloped areas; preliminarily-engineered profiles for proposed streets.
4. Approximate location of proposed swales, drainage easements, stormwater and other management facilities.
5. Sewage Facilities.
 - a. Where community sewage service is proposed, the conceptual layout of proposed sewage systems, including but not limited to the tentative locations of sewer mains and sewage treatment plants, showing the type and degree of treatment intended and the size and capacity of treatment facilities.
 - b. Plan information shall include the evaluation of alternative technologies in order of preference as outlined in Table ____ of the municipal Wastewater Facilities Plan and in Section 606 of the Subdivision and Land Development Ordinance. The most preferred feasible alternative shall be chosen by agreement between the municipality, the Pennsylvania Department of Environmental Protection (DEP), and the applicant. The preliminary design of the proposed system shall also be included, showing the size, capacity, and location of treatment facilities and, where applicable, wastewater reclamation/land application sites.
 - c. Where individual on-site sewage facilities are proposed, the applicant shall submit a statement with regard to the suitability of the soil to absorb sewage wastes. Test pit and percolation test information required in Section _____, shall be provided and the approximate location of the system shall be indicated. In conservation subdivisions, absorption fields for individual on-site systems may be located in common Greenway land. Horizontal isolation distances for treatment tanks and sewage absorption areas shall be provided as required by (*insert applicable state legislation*).

COMMENTARY: Some communities choose to limit the number of private absorption fields in Greenway land to a fixed number or a percentage, such as 10 percent of the total number of on-site systems.

6. The applicant shall provide a statement of proposed ownership and responsibility for operation and maintenance.
7. Where central water service is to be permitted, the conceptual layout of proposed water distribution facilities including water mains, fire hydrants, storage tanks and, where appropriate, wells or other water sources.
8. Location of all percolation tests as may be required under this Ordinance, including all failed test sites or pits as well as those approved and including an approved alternate site for each lot requiring a sand mound system. All approved sites shall be clearly distinguished from unapproved sites.
9. Limit-of-disturbance line (must be exact in relation to the retention of existing vegetation proposed to be saved).
10. Approximate location and dimensions of proposed playgrounds, public buildings, public areas and parcels of land proposed to be dedicated or reserved for public use.
11. If land to be subdivided lies partly in or abuts another municipality, the applicant shall submit information concerning the location and conceptual design of streets, layout and size of lots and provisions of public improvements on land subject to his control within the adjoining municipalities. The design of public improvements shall provide for a smooth, practical transition where specifications vary between municipalities. Evidence of approval of this information by appropriate officials of the adjoining municipalities also shall be submitted.
12. Where the applicant proposes to install the improvements in phases beyond the 5 year period described in Section 508(4) of the Pennsylvania Municipalities Planning Code, he shall submit with the Preliminary Plan a delineation of the proposed sections and a schedule of deadlines within which applications for final approval of each section are intended to be filed in accordance with the Municipalities Planning Code, as amended.
13. Typical cross-section drawing(s) for all proposed streets shall be shown, including details relating to thickness, crowning and construction materials and methods.
14. Location of all proposed street, traffic and other signs, including identification and entrance signs, indicating the type, material, and any lighting of such sign.
15. Lighting plan.
16. Utilities and Easements.
 - a. Utility easement locations.
 - b. Layout of all proposed sanitary and storm sewers and location of all inlets and culverts, and any proposed connections with existing facilities (these data may be on a separate plan). All construction of water systems and sanitary sewers shall be in accordance with the standards and specifications adopted by the municipality and the plan shall be so noted.

- c. The tentative location of proposed on-site sewage and water facilities.
 17. Approximate location of proposed shade trees and landscaping, plus locations of existing vegetation to be retained.
 18. Detail sheet(s) providing sufficient details and notes to define the construction methods and materials of proposed improvements.
 19. Signature blocks for the municipal Planning Commission, Governing Body and the County Planning Commission shall be provided on the right-hand side of the Preliminary Improvements Construction Plan.
- F. Preliminary Landscape Plan.
1. The applicant shall submit a master landscape plan showing all areas of the conservation subdivision, including Greenway lands. This plan shall be prepared by a Landscape Architect registered by the Commonwealth of Pennsylvania. A signed and sealed plan shall be submitted prior to final approval.
 2. The landscape plan shall show the location of all proposed trees, shrubs, perennials, groundcovers and other plantings.
 3. The landscape plan shall show the location, species, approximate size and approximate quantity of all existing vegetation to be preserved. Fencing or other means of tree protection shall also be shown on the plan.
 4. The landscape plan shall include a schedule of all proposed landscaping, providing the following information:
 - a. Common and scientific name;
 - b. Size, including caliper, height, spread and pot size as applicable;
 - c. Remarks regarding spacing, habit or other planting instructions as necessary;
 - d. Remarks or symbols clearly indicating any plant material proposed to meet a specific planting requirement.
 5. The landscape plan shall show all utilities, above or below ground, in order to avoid conflicts between plantings and pipes, structures or wires.
 6. The landscape plan shall include notes stating the following:
 - a. That all landscaping shall be guaranteed for 18 months from the time of acceptance by the municipality. Should the 18 month maintenance period end after November 15th and before May 15th of the following year, the maintenance period shall be extended until May 15th or a time when the plant material is in full leaf, whichever comes later.
 - b. That the developer shall be required to post a performance bond with _____ Township to ensure that any tree that dies within the maintenance period shall be replaced.

- c. That all plant material shall be of satisfactory health, size and condition in accordance with the standards set forth by the American Nursery and Landscape Association in the most recent edition of the American Standards for Nursery Stock.
- d. That any proposed plan modifications, including relocation of proposed plant material or substitutions for size or species must be submitted to the Township for approval prior to any changes in the field.

G. Preliminary Studies and Reports.

When required by the governing body, typically in cases involving large subdivision and land development proposals (with more than 25 lots) or smaller development plans where the governing body believes that potential impacts could be significant, the Preliminary Plan submission shall include 1 or more of the following studies to assist in determination of the impact of the application upon municipal services and facilities:

1. Sewer and Water Feasibility Report.
2. Hydrology and Groundwater Protection Study.
3. Erosion and Sedimentation Control Plan.
4. Stormwater Management Plan.
5. Impact Studies:
 - a. Traffic Impact Study
 - b. Public Services and Facilities
 - c. Police and Fire
 - d. Recreation
 - e. Cost/Revenue Analysis
 - f. Historic Resources
 - g. Well Withdrawal Impact
 - h. Other studies, as determined by the Governing Body

H. Preliminary Community Association Document.

1. A Community Association Document, also known as a Homeowner's Association Document or a Condominium Association Document, shall be provided for all subdivision and land development applications which propose lands or facilities to be used or owned in common by all the residents of that subdivision or land development and not deeded to the municipality. Such document shall be in compliance with the Pennsylvania Uniform Planned Community Act (as to a Homeowners' Association Document) or the

Pennsylvania Uniform Condominium Act (as to a Condominium Association Document), as the case may be.

2. The elements of the Community Association Document shall include, without limitation, the following:
 - a. A description of all lands and facilities to be owned by the Community Association. This description shall include a map of the proposal indicating the precise location of those lands and facilities.
 - b. Statements setting forth the powers, duties, and responsibilities of the Community Association, including the services to be provided.
 - c. A Declaration of Covenants, Conditions, and Restrictions, giving perpetual easement to the lands and facilities owned by the Community Association. The Declaration shall be a legal document, which also provides for automatic Association membership for all owners in the subdivision or land development and shall describe the mechanism by which owners participate in the Association, including voting, elections, and meetings. Furthermore, it shall give power to the Association to own and maintain the common property and to make and enforce rules.
 - d. Statements prescribing the process by which Community Association decisions are reached and setting forth the authority to act.
 - e. Statements requiring each owner within the subdivision or land development to become a member of the Community Association.
 - f. Statements setting cross covenants or contractual terms binding each owner to all other owners for mutual benefit and enforcement.
 - g. Statements that the Community Association Document shall be provided to all prospective lot buyers/owners at the time of the agreement of sale and shall be referenced on the deed for each lot.
 - h. Requirements for all owners to provide a pro rata share of the cost of the operations of the Community Association.
 - i. A process of collection and enforcement to obtain funds from owners who fail to comply.
 - j. A process for transition of control of the Community Association from the developer to the unit owners.
 - k. Statements describing how the lands and facilities of the Community Association will be insured, including limit of liability.
3. Disclosure of the Community Association Document shall be provided to all prospective lot buyers/owners at the time of agreement of sale and shall be referenced on the deeds for all lots within the subdivision.

- I. Preliminary Conservation Easement or Deed Restriction Documents.
- J. Preliminary Greenway Land Ownership and Management Plan.
 - 1. Using the Preliminary Plan as a base map, the boundaries, acreage and proposed ownership of all proposed Greenway land shall be shown, including a plan containing the following information:
 - a. Proposed ownership, use restrictions, limitations on buildings and improvements;
 - b. Necessary regular and periodic operation and maintenance tasks and responsibilities for the various forms of Greenway lands (i.e., lawns, playing fields, meadow, pasture, cropland, woodlands and other Greenway elements) including mowing, control of invasive species, etc.
 - c. Estimate of staffing needs, insurance requirements, and associated costs, and defining the means for funding the maintenance of the Greenway land on an on-going basis. Such funding plan shall include the means for funding long-term capital improvements as well as regular yearly operating, maintenance and capital reserve costs.
 - d. Such management plans shall be consistent with the requirements of Section 110.B of the Zoning Ordinance.

COMMENTARY: This Plan may be based on the model prepared by the Natural Lands Trust. As early as 1990, Lower Merion Township in Montgomery County, Pennsylvania, provided an early version of this model to developers, who routinely adopted it.

- 2. At the municipality’s discretion, the applicant may be required to escrow sufficient funds for the maintenance of Greenway land for up to 18 months in accordance with the applicable provision of Article _____ of this ordinance.
- 3. Changes to the management plan shall require approval by the municipality.

K. Preliminary Engineering Certification.

SECTION 503 - FINAL PLAN

Final plans shall be consistent with the terms of Preliminary Plan approval, including any conditions specified by the Governing Body, and modified as necessary to reflect the proposal for Final Plan approval.

COMMENTARY: The subsections below are not complete. Language is provided only as it relates to conservation subdivision and Greenway land.

A. Drafting Standards.

B. Final ER/SA Plan.

A plan as stipulated in Section 502.C, consistent with the terms of Preliminary Plan approval and modified as necessary to reflect the proposal for final approval.

C. Final Title Plan.

D. Final Improvements Construction Plan.

E. Final Stormwater Management and Erosion & Sedimentation Control Plan.

F. Final Greenway Ownership and Management Plan. Using the Final Plan as a base map, the boundaries, acreage and proposed ownership of all Greenway land shall be shown. A narrative report shall also be prepared indicating how and by whom such Greenway land will be managed, and demonstrating the applicant's compliance with Article _____ of the municipal Zoning Ordinance.

G. Deed Descriptions. Prior to Final Plan approval, the applicant shall submit to the municipality deed descriptions, prepared by a registered land surveyor, for:

1. Any areas reserved for Greenway land.

2. Any lots on which deed restrictions or easements are a condition for final plan approval.

H. Final Conservation Easement or Deed Restriction Documents.

I. Final Landscape Plan.

The final landscape plan shall be consistent with the terms of Preliminary Plan approval and modified as necessary to reflect the proposal for final approval.

J. Final Community Association Document.

The Final Community Association Document shall be consistent with the terms of Preliminary Plan approval and modified as necessary to reflect the proposal for final approval.

K. Performance Guarantee.

The applicant shall execute an Escrow Agreement to cover the cost of all required improvements and common amenities, including those on Greenway lands.

L. Additional Approvals, Certificates and Documents.

To standard language add:

1. All offers of dedication of realty or structures and all declarations, easements and covenants governing the reservation and maintenance of undedicated Greenway land shall be in a form satisfactory to the Governing Body.

2. A copy of such deed restrictions, easements, covenants and declarations that are to be imposed upon the property to comply with the Final Plan as approved by the Governing Body. All such documents shall be in a form satisfactory to the Governing Body.
- M. Performance Guarantee.
- N. Additional Approvals, Certificates and Documents.

COMMENTARY: For the convenience of applicants, the municipality should consider providing a complimentary Plan Requirements Checklist listing all the documents that the ordinance requires to be submitted at each step of the review process. Copies of the checklist can be made available at the municipal office. The checklist also facilitates review by staff and officials, as they review each application for completeness and conformance with relevant ordinance provisions.

ARTICLE VI

RESOURCE CONSERVATION AND GREENWAY DELINEATION STANDARDS

Contents:

Section 600 - Applicability

Section 601 - Site Planning and Design Standards

Section 602 - Design Process for Residential Subdivisions with Greenway Land

Section 603 - Design Review Standards for Greenway Land

Section 604 - Mandatory Dedication of Land for Park and Recreation Purposes

Section 605 - Resource Protection Standards for Site Preparation and Cleanup

Section 606 - Individual Sewage Disposal Facilities

SECTION 600 – APPLICABILITY

Sections 601 and 604 shall apply to all subdivision and land development applications in the municipality. Sections 602 and 603 shall apply to all subdivision and land development applications within the Conservation Design Overlay District.

SECTION 601 – SITE PLANNING AND DESIGN STANDARDS

Natural, cultural and historic resources shall be conserved in accordance with the following:

- A. Surface and Groundwater Resources. This section is intended to ensure that the municipality's limited groundwater resources are protected for purposes of providing water supplies for its residents and businesses, and to protect the base flow of the municipality's surface waters.
 1. Disturbance to the following areas shall be limited to the minimum practicable disturbance needed and shall be avoided to the extent that the Four-Step Design Process makes it unnecessary:
 - a. Streams, springs, swales;
 - b. Buffer zones;
 - c. Wetlands, areas with seasonally high water tables, vernal pools and other areas of surface water concentration. Seasonal high water table soils may be disturbed where it can be demonstrated that they are suitable for low density residential uses and conventional on-site sewage systems, where applicable.
 2. All floodplain areas shall be preserved from any destruction or damage from clearing, grading, filling or dumping of waste material, stumps, or other material of any kind, except as permitted in the floodplain regulations of the municipal zoning ordinance.

3. Streets, buildings and other impervious surfaces shall be located to minimize disturbance to areas identified as having the greatest permeability, where precipitation is most likely to infiltrate and recharge the groundwater.

COMMENTARY: Because of their extreme limitations, stream valleys, swales and other lowland areas warrant designation as Greenway lands. Adjoining buffer lands should also usually be included in the Greenway. Riparian buffer widths commonly vary from 25 to 100 feet on each side of a stream or wetland.

B. Woodlands.

1. The evaluation of the tract's woodlands shall be undertaken by a forester, landscape architect, horticulturalist or another qualified professional acceptable to the municipality. This evaluation shall be submitted as a report and made a part of the application for a Preliminary Plan. The report shall include, at a minimum, 1 or more maps indicating boundaries and conditions of woodland areas accompanied by a report addressing the criteria in Subsection 2 below.
2. Woodlands on any tract proposed for subdivision or land development shall be evaluated to determine the extent to which such woodlands should be partly or entirely located within Greenway land. Evaluation criteria shall include:
 - a. Configuration and size.
 - b. Stocking, health and species composition.
 - c. The site's capabilities to support woodlands, based upon its topographic, soil and hydrologic characteristics.
 - d. Ecological functions including, but not limited to, protecting steep slopes, stabilizing erodible soils, maintaining stream quality and groundwater recharge, and providing plant and animal habitat.
 - e. Relationship to woodlands on adjoining and nearby properties and the potential for maintaining continuous woodland areas.
 - f. Potential recreational use for pedestrian and equestrian trails, picnicking and other outdoor activities.
 - g. Potential for visual buffers between areas of development and adjacent roads and properties.
3. In designing a subdivision and land development plan for any tract, the applicant shall be guided by the following standards:
 - a. Healthy woodlands exceeding 1 acre shall be preserved to the greatest extent possible. Proposed site improvements shall be located, designed and constructed to minimize the loss or degradation of woodland areas. Where disturbance or tree cutting is unavoidable or considered desirable in accordance with sound forest management practices, as much of the woodland as possible should be retained, of a size and configuration which would promote its growth and natural regeneration.

- b. Disturbance of groves of trees, single specimen trees, hedgerows, and other vegetation, providing food and cover for wildlife or visual amenity shall be minimized.
 - c. Woodlands along roadways, property lines, stone fences and hedgerows shall be preserved as buffers against adjacent properties and between areas being subdivided within a property. Preservation shall include ground, shrub, understory and canopy vegetation.
 - d. Disturbance or removal of woodlands and vegetation performing important soil stabilizing functions on wet soils, stream banks and steep slopes may be undertaken on a limited, selective basis to minimize the adverse impacts of such actions, only when approved by the Governing Body.
 - e. No clearing or earth disturbance (except for soil analysis for proposed sewage disposal systems) shall be permitted on a site before the completion of subdivision and land development agreements. The determination of sight distance clearances along roadways shall be made graphically and not by clearing on-site prior to final plan approval.
 - f. Removal of invasive species shall be permitted.
- C. Upland Rural-Agricultural Areas. Upland Rural-Agricultural areas consist of fields, pastures, meadows, and former agricultural areas in early stages of woodlands succession, with fences, stone walls, tree groves and hedgerows, typically bordered by stream valleys and upland woodlands. These comprise the municipality's historic working landscape, dotted with historic houses, barns and other structures. They also contain the greatest concentration of prime agricultural soils. Because of their openness and high visibility, development in these areas is likely to be most readily seen and disruptive to the historic landscape. Such areas sometimes provide habitat for wildlife, in conjunction with nearby woodlands and stream valleys. These areas also frequently offer the fewest constraints for development.
1. Elements that lend themselves to incorporation into the Greenway land include prime agricultural soils and natural features such as hedgerows, tree groves, stone walls and visually prominent places such as knolls and hilltops.
 2. When such areas are used for development, preferred locations are non-prime agricultural soils and lower topographic settings where development will be visually less obtrusive.

COMMENTARY: Since development must go somewhere on the site, municipalities must decide whether saving woodland or saving agricultural land achieves their open space goals best. The prioritized list in Section 603.A helps in this regard.

- D. Slopes.
1. Areas of steep slope shall be preserved in accordance with Article ___ of the Zoning Ordinance and as required below.

2. No site disturbance shall be permitted on prohibitive steep slopes exceeding 25 percent except grading for a portion of a driveway accessing a single family dwelling when it can be demonstrated that no other alignment, which avoids slopes exceeding 25 percent, is feasible.
3. On slopes 15 percent or greater, earth cuts or fills shall not exceed a vertical dimension over 6 feet, except where in the judgment of the Governing Body no reasonable alternatives exist for the construction of roads, drainage structures and other public improvements, in which case such vertical dimensions shall not exceed 12 feet. Roads and driveways shall follow the line of existing topography to minimize the required cut and fill. Finished slopes of all cuts and fills shall meet the requirements of Section _____.

COMMENTARY: Many communities have more complete steep slope protection standards in their zoning ordinance.

- E. Rare and Endangered Species. Habitat and rare or endangered plants and animals, documented by the Pennsylvania Natural Diversity Inventory, shall be protected by avoiding their disturbance in areas proposed for development and incorporating them into Greenway land, where required. Sites in county and local Natural Areas Inventories shall also be preserved to the greatest extent possible.
- F. Historic Structures and Sites.
 1. All subdivisions and land developments shall comply with Article _____, Historic Preservation Standards, of the Zoning Ordinance.
 2. Subdivision and land development applications shall be designed to protect existing historic resources of all classes, as documented in the municipality's Survey of Historic Resources. The protection of an existing historic resource shall include the conservation of the landscape associated with and significant to that resource, to preserve its historic context. Where, in the opinion of the Governing Body, a plan will have an impact upon an historic resource, the developer shall mitigate that impact to the satisfaction of the Governing Body by modifying the design, relocating proposed lot lines, providing landscape buffers, or other approved means.

COMMENTARY: In a conservation subdivision, a good way to preserve the landscape context for an historic structure is to place it on a large "conservancy lot," which is permitted in the Zoning Ordinance, 80 percent of which can be counted toward meeting the Greenway land requirement. Additionally, the Zoning Ordinance, does not count preserved historic dwellings toward the maximum number of permitted units.

COMMENTARY: Certain development actions trigger review by the State Historical and Museum Commission. The most common occurrence is the crossing of wetlands with roads or utilities.

3. Municipal review and approval of the applicant's interaction with the State Historical and Museum Commission with regard to the preservation of historic resources, as required by state and federal law, shall be required prior to Final Plan approval.

G. Scenic Road Corridors.

All subdivision and land development proposals shall preserve the scenic road corridors identified in the municipality's Open Space or Comprehensive Plan, to the greatest extent possible. These roads shall be incorporated into Greenway land or otherwise protected by providing for building setbacks and architectural designs that minimize intrusion on the character being preserved. Where such designs fail to satisfactorily protect corridors, applicants shall provide naturalistic, planted screening buffers to minimize the adverse visual impacts of the proposed development. The trees and shrubs specified for a scenic road corridor shall be selected from the list of approved species in Appendix _____.

COMMENTARY: The typical ordinance list of approved landscaping species, which usually includes street and parking lot trees, could also include a separate section of species for trees and shrubs that were historically found along the community's rural roads in the past. Applicants should ensure that the species selected are available as nursery stock.

H. Trails. Trails provide residents with recreational opportunities, health benefits and means of non-vehicular travel. For children, they are an essential means of transportation between neighborhoods and to schools and parks. Recognizing these purposes, the following standards shall apply:

1. When a subdivision or land development proposal is traversed by, or abuts, an existing trail customarily used by pedestrians and/or equestrians, the Governing Body may request the applicant to make provisions for continued recreational use of the trail. In conservation designs, the trail should be included in Greenway land accessible to the public.
2. An applicant may propose and develop a new trail. Trails shall be designed to implement the local and County Open Space Plan.
3. The applicant may alter the course of an existing trail within the development tract under the following conditions:
 - a. The points at which the trail enters and exits the tract remain unchanged.
 - b. The proposed alteration exhibits quality trail design according to generally accepted principles of landscape architecture (for example: Pennsylvania Bureau of State Parks publication "Non-Motorized Trails" or USDA Forest Service "Trail Construction and Maintenance Handbook").

- c. The proposed alteration does not locate the trail on a street.
4. When trails are intended for public use, they shall be protected by a trail easement. The width of the trail easement shall be a minimum of 2 feet on each side of the trail surface. The language of the easement shall be to the satisfaction of the Governing Body, upon recommendation of the municipal Solicitor.
5. The width of the trail surface may vary depending upon the type of use to be accommodated, but shall, in no case, be less than 3 feet or greater than 10 feet.
6. Trail improvements shall demonstrate adherence to principles of quality trail design.
7. Trails shall have a vertical clearance of no less than 10 feet.
8. No trail shall be designed with the intent to accommodate motorized vehicles, other than maintenance or emergency vehicles.
9. The land area permanently designated for trails for public use shall be credited toward the Greenway land requirement described in Section 104 of the Zoning Code.

SECTION 602 - DESIGN PROCESS FOR RESIDENTIAL SUBDIVISIONS WITH GREENWAY LAND

- A. An Existing Resources/Site Analysis Plan, described in Section 502.C, shall be completed prior to starting the Four-Step Design Process.
- B. Four-Step Design Process. Residential subdivisions proposed under the Conservation Subdivision Design Overlay District and containing Greenway land shall follow the Four-Step Design Process described below. Applicants are required to document the design process in accordance with Section 502.D.
 1. Step 1: Delineation of Greenway land, including Stormwater and Wastewater Management Areas

General locations for Greenway land, including stormwater and wastewater management areas, shall be delineated according to the following procedure:

 - a. Using the ER/SA Plan as a base map, Primary and Secondary Conservation Areas shall be delineated consistent with the Map of Potential Conservation Lands.

COMMENTARY: A Map of Potential Conservation Lands illustrates a community's overall strategy to conserve an interconnected network of lands with particular resource values. Elected officials adopt the Map into the Comprehensive or Open Space Plan, thereby establishing the conservation network as official local policy. For more information on creating such maps, see Arendt, Randall. Growing Greener: Putting Conservation into Local Plans and Ordinances. Washington DC and Covelo, California: Island Press, 1999.

- b. Greenway land shall include all Primary Conservation Areas plus enough Secondary Conservation Area to meet or exceed the minimum acreage requirement for Greenway land set forth in the Zoning Ordinance.
 - 1) The applicant shall prioritize natural and cultural resources in terms of their highest to least suitability for inclusion in the proposed Greenway land in accordance with Sections 603.A and B ("Prioritized List of Resources to be Conserved" and "Additional Design Standards").
 - 2) The locations and boundaries of Primary Conservation Areas shall follow the actual boundaries of floodplains, wetlands, and steep slopes over 25 percent.
 - 3) The locations and boundaries of Secondary Conservation Areas shall be based on the priorities established above, practical considerations given to the tract's configuration, its context in relation to resources on adjoining properties, and the applicant's subdivision objectives. Secondary resources with the highest significance shall be included in the Greenway land. The applicant shall also be guided by any written recommendations provided by the municipality regarding the delineation of Secondary Conservation Areas, following the Site Visit and/or the Pre-Submission Conference.
 - 4) Greenway land shall be delineated in a manner clearly indicating Greenway land boundaries as well as the types of resources included within them.
- c. Preferred locations for stormwater and wastewater management facilities shall be identified using the ER/SA Plan as a base map.
 - 1) The design of these facilities should strive to use the natural capacity and features of the site to facilitate the management of stormwater and wastewater generated by the proposal.
 - 2) Opportunities to use these facilities as a buffer between the proposed Greenway land and development areas are encouraged.
 - 3) Stormwater management facilities should be located in areas identified as groundwater recharge areas.

- 4) Wastewater facilities shall comply with the requirements of Zoning Ordinance Appendix C and the municipal Sewage Facilities Plan Update.
- 5) These facilities located within the Greenway land may be counted toward the minimum Greenway land requirement only if they meet the requirements of Section 108.A.9.c in the Zoning Ordinance.
- d. Development areas constitute the remaining lands of the tract outside the Greenway land, where dwellings, streets, and lots are to be delineated in accordance with Steps 2, 3, and 4 below.

2. Step 2: Locations for Dwelling Units

Dwelling units shall be tentatively located, using the proposed Greenway land from Step 1 as reference and orientation as well as other relevant data on the ER/SA Plan. Dwelling units shall be sited to:

- a. Fit the tract's natural topography;
- b. Be served by adequate water and sewerage facilities;
- c. Provide views of and access to adjoining Greenway land;
- d. Avoid encroaching upon Greenway land in a manner visually intrusive to users of such areas; and
- e. Be located at least 100 feet from Primary Conservation Areas and 50 feet from Secondary Conservation Areas.

3. Step 3: Alignment of Streets and Trails

- a. Once dwelling units have been located, applicants shall delineate a street system that provides a safe pattern of vehicular and pedestrian access to each dwelling unit. Streets and trails shall conform to the tract's natural topography and provide for a safe pattern of circulation to, from and within the tract.
- b. Streets and driveways crossing wetlands and traversing slopes over 15 percent shall be avoided to the greatest extent practicable.
- c. Street connections are encouraged in order to minimize the number of new cul-de-sacs and to facilitate easy access to and from homes in different parts of the tract and on adjoining parcels. Three way intersections shall be preferred over 4-way intersections.
- d. Lots shall generally be accessed from interior streets, rather than from roads bordering the tract. Conservancy lots may be exempt from this requirement, as determined by the Governing Body.

- e. A tentative network of trails shall be shown, where appropriate, providing access to natural and cultural features in the Greenway land. Potential trail connections to adjacent parcels shall also be shown in areas where a county or municipal trail network is envisioned.
 - f. Common greens, shaped by the street system, shall meet the requirements of Section 603.B.1.
4. Step 4: Design of Lot Lines
- a. Lot lines shall follow the configuration of dwelling locations and streets in a logical and flexible manner.
 - b. Lot lines are not required (as in a condominium form of home ownership).

SECTION 603 - DESIGN REVIEW STANDARDS FOR GREENWAY LAND

- A. Prioritized List of Resources to be Conserved. The location of proposed Greenway land shall follow the standards set forth in Section 601, shall reflect the Greenway land and trail corridor recommendations of the municipal Open Space Plan, and protect the resources identified on the Map of Potential Conservation Lands. The applicant shall demonstrate, to the satisfaction of the Governing Body, that the following resources are incorporated into the Greenway land.
- 1. The following primary resources shall be included in the Greenway land. Lands containing primary resources are called Primary Conservation Areas (PCA). All PCAs shall be included in Greenway land.
 - a. Lands within the 100-year floodplain (including the floodway);
 - b. Wetlands;
 - c. Prohibitive steep slopes in excess of 25 percent.
 - 2. The following secondary resources, listed in order of priority, shall be included in the Greenway land to the fullest extent practicable. Lands containing secondary resources that are included in Greenway land are called Secondary Conservation Areas (SCA).
 - a. Significant habitat and species listed as endangered, threatened, or of special concern, such as those listed in the Pennsylvania Natural Diversity Inventory and county and local Natural Areas Inventories.
 - b. Precautionary steep slopes 15-25 percent, particularly those adjoining watercourses and ponds, due to the potential for soil disturbance leading to erosion that is detrimental to water quality.
 - c. Healthy woodlands, particularly those performing important ecological functions such as soil stabilization and protection of streams, wetlands and wildlife habitats.

- d. Hedgerows, groups of trees, specimen trees and other unique or significant vegetation features.
- e. Areas where precipitation is most likely to recharge local groundwater resources because of topographic and soil conditions affording high rates of infiltration and percolation.
- f. Class I, II and III agricultural soils as defined by the USDA Natural Resources Conservation Service.
- g. Historic structures and sites.
- h. Visually prominent topographic features such as knolls, hilltops and ridges, and scenic views as seen from public roads (particularly those with historic features). Significant views from within the site outward shall also be considered.
- i. Existing or proposed trails connecting the tract to other locations in the municipality (see also Section 601.H).

COMMENTARY: Each community should organize this list according to local priorities. For example, communities that want to preserve farmland may put "Class I, II and III agricultural soils" first, while communities wanting to preserve their last remaining woodlands may put these first.

- B. Additional Design Standards. Meeting the priorities in Subsection A above, Greenway land shall be configured to:
1. Be free of all structures, except historic buildings, structures related to Greenway uses and utilities as permitted in Section 108 in the Zoning Ordinance.
 2. Be undivided by public or private streets, except where necessary for proper traffic circulation.
 3. Be interconnected wherever possible to provide a continuous network of Greenway land within and adjoining the subdivision.
 4. Be suitable for active recreational uses, where deemed appropriate by the Governing Body, without interfering with adjacent dwelling units, parking, driveways, and roads.
 5. Provide buffers to adjoining parks, preserves or other protected lands.
 6. Include common greens. An individual green shall be 5,000-30,000 square feet. Greens shall be surrounded by streets and dwellings on at least 2 and often 3 or 4 sides. Dwellings shall face the green. Common greens may be designed as terminal vistas within a street system.
 7. Provide for pedestrian paths and trails for use by the residents of the subdivision and/or the municipality, except in those cases where part of the Greenway land is located within private residential lots. Consideration shall be given to providing

for public access on such trails if they are linked to other publicly accessible pathway systems within the municipality.

8. Provide pedestrian and maintenance access to Greenway land such that no more than 15 lots shall be contiguous to each other without a centrally located access point meeting the following standards:
 - a. The minimum width of the access strip shall ideally equal the minimum width of a lot, and in no case shall be less than 50 feet.
 - b. The minimum width of the access strip shall extend the full depth of the adjacent lots.
 - c. Access to Greenway land used for agriculture or horticulture may be restricted or prohibited for public safety and to prevent interference with agricultural operations.
9. Generally not include parcels smaller than 3 acres, have a length-to-width ratio of less than 4:1, or be less than 75 feet in width, except for such lands specifically designed as neighborhood greens, playing fields, trail links and boulevard or cul-de-sac islands.
10. Directly adjoin the largest practicable number of lots within the subdivision or development. At least 75 percent of the lots shall directly abut or face Greenway land across a street; in Option 5 this standard shall apply to 50 percent of the lots.

COMMENTARY: At a density no higher than 1 DU/80,000 SF, the goal of abutting 75 percent of the lots to the open space is achievable. At higher densities, the percentage must be reduced.

11. Minimize views of new dwellings from exterior roads and abutting properties by the use of changes in topography, existing vegetation, or additional landscaping which meets the landscaping requirements of the Subdivision and Land Development Ordinance.
12. Greenway land that is not wooded or farmed shall be landscaped in accordance with the landscaping requirements and Greenway land management plan standards of the Subdivision and Land Development Ordinance.
13. Be consistent with the policies of the municipality's Comprehensive Plan and Open Space Plan.
14. Greenway lands shall be delineated on the ground by any or all of the methods listed below. The Governing Body shall have the sole discretion of approving the location, design and materials used for the delineation of Greenway lands.
 - a. Markers.
 - b. Small signs, no larger than 1.5 square feet.
 - c. Individual sections of split rail or post & rail fencing, as long as the fencing is not continuous and does not restrict or prohibit public access.

- d. Vegetative plantings, landscaping.
 - e. Other similar and appropriate methods.
- C. Ownership and Maintenance. Applicants shall demonstrate compliance with the requirements of Section 110, Greenway Land: Ownership and Maintenance, in the Zoning Ordinance.

SECTION 604 - MANDATORY DEDICATION OF LAND FOR PARK AND RECREATION PURPOSES

COMMENTARY: In states where municipalities may require a mandatory park, recreation and open space set-aside (or fee in lieu thereof), the following language should be added to the standard regulations. In Pennsylvania, the municipality is required to have an adopted Park and Recreation Plan before requiring public land dedication.

The required Greenway land in conservation subdivisions may be used to satisfy the mandatory dedication of land for park and recreation purposes.

SECTION 605 - RESOURCE PROTECTION STANDARDS FOR SITE PREPARATION AND CLEANUP

COMMENTARY: This section may be located in the landscaping section of the ordinance.

- A. Protection of Vegetation:
- 1. Mechanical Injury. Where earthwork, grading, or construction activities will take place in or adjacent to woodlands, or other significant natural or cultural features, the limit of disturbance shall be delineated and vegetation protected through installation of temporary fencing or other approved measures. Such fencing shall be installed prior to commencing of, and shall be maintained throughout, the period of construction activity.
 - 2. In conservation subdivisions, the boundaries of Primary and Secondary Conservation Areas shall be fenced as above and shall not, under any circumstances, be used for storage of equipment or materials of any kind.
 - 3. Clean-Up. Fences and barriers shall be removed upon completion of construction.
 - 4. Grade Changes. Grade changes shall not result in an alteration to soil or drainage conditions which would adversely affect existing vegetation to be retained, unless adequate provisions are made to protect such vegetation and its root systems.
 - 5. Excavations
 - a. When digging trenches for utility lines or similar uses, disturbances to the root zones of all woody vegetation shall be minimized.

- b. If trenches must be excavated in the root zone, all disturbed roots shall be cut cleanly and the trench backfilled as quickly as possible, avoiding soil compaction.
- B. Protection of Topsoil. Any activity resulting in the disturbance of topsoil shall comply with the soil erosion and sedimentation control regulations of the County Conservation District and the Pennsylvania Department of Environment Protection, in addition to the following standards:
1. Prior to grading operations or excavation, topsoil in the disturbance area shall be stripped and stockpiled on site. Upon completion of other construction, the entire amount of stockpiled topsoil shall be replaced on the development site.
 2. No topsoil shall be removed from the site.
 3. Topsoil stripped shall be redistributed and stabilized as quickly as possible following the establishment of required grades for a project or project phase. All exposed earth surfaces shall be stabilized by hydroseeding on slopes less than 10 percent, and by sodding, hydroseeding, or rip-rap on slopes exceeding 10 percent.

SECTION 606 – INDIVIDUAL SEWAGE DISPOSAL SYSTEMS

To the standard provisions for individual sewage disposal facilities, add the following provision for conservation subdivisions:

- A. The individual sewage disposal system serving the dwelling units in a conservation subdivision permitted in Article _____ of the Zoning Ordinance, may, upon approval of the municipal engineer, be located in the Greenway land, provided:
1. The treatment tank shall be located on the residential lot.
 2. The absorption field may be located in the Greenway land to a maximum distance of 150 feet from the lot line.
 3. The distribution line leading from the tank to the absorption field may not cross any element of another sewage disposal system.
 4. The corners of the sewage system outside the lot shall be permanently marked on the ground by any means acceptable to the municipal engineer.
 5. The applicant shall be responsible for securing and recording all maintenance and access easements necessitated as a result of this design alternative.

ARTICLE VII

SUPPLEMENTAL DESIGN STANDARDS FOR OPTION 5: HAMLETS AND VILLAGES

<p>COMMENTARY: The standards and guidelines in this article are based largely on Randall Arendt's book, "Crossroads, Hamlet, Village, Town: Design Characteristics of Traditional Neighborhoods, Old and New" (American Planning Association, Planning Advisory</p>
--

Service Report Number 523/524, Revised Edition, 2004.) The book provides an historical overview of village design, illustrated design principles, and detailed model regulations for hamlets and villages in zoning and subdivision ordinances. The book's Appendix C provides architectural design guidelines upon which Section 704.b is based.

Contents:

Section 700 - General

Section 701 - Site Planning and Design

Section 702 - Streets, Sidewalks and Parking

Section 703 - Street Trees and Landscaping

Section 704 - Architectural Design Standards and Guidelines for Villages and Hamlets

Section 705 - Modifications

SECTION 700 – GENERAL

- A. This article provides standards for compact housing developments of a traditional character in the form of hamlets and villages.
- B. To ensure that new higher density development in the municipality will be compatible with historic village and hamlet building patterns of the County, and that they will reinforce the "sense of place" and neighborhood character experienced in traditional rural settlements, these standards control the location, scale and physical character of such new developments, and the manner in which they will fit into the existing pattern of developed and undeveloped areas.
- C. Applications for development under this article shall conform to the plan processing procedures of Sections 403-410, the plan content requirements of Sections 500-502, the park and recreation land dedication standards in Section 604, and the site preparation and clean-up standards in Section 605.

SECTION 701 - SITE PLANNING AND DESIGN

- A. The Four-Step Site Design Process for Option 5: Hamlets and Villages.

In hamlets and villages, where traditional streetscapes and terminal vistas are of greater importance, the design process for laying out hamlets and villages shall be a variation on the Four-Step Design Process set forth in Section 602.A of this Ordinance. After identifying and locating both Primary and Secondary Conservation Areas, the following steps shall be followed in order:

- 1. Step 1: Delineation of Greenway land and Areas for Stormwater and Wastewater Management. Applications shall conform to the requirements of Section 602.B.1.
- 2. Step 2: Aligning Streets and Squares.
 - a. Identify the tentative locations of the more formal Greenway elements such as greens, commons, squares and parks. These elements shall be positioned to terminate the view down proposed streets, as much as possible.

- b. Create a connected street network complying with the design standards in Section 702.A.
 - c. Create a sidewalk and trail plan complying with the design standards in Section 702.D.
 - d. Show schematic locations of water supply systems.
3. Step 3: Locations of Dwelling Units.
- a. All lots shall front on a street or common green.
 - b. Dwelling units shall be located along the street network, with at least 25 percent of the streets being “single-loaded,” meaning that dwellings shall occur on only one side along those segments.
 - c. Dwelling units shall be set back at least 100 feet from Primary Conservation Areas and 10 feet from Secondary Conservation Areas.

COMMENTARY: The setbacks from Primary Conservation Areas form a built-in riparian buffer, wetlands margin and steep slope protection, as well as providing attractive views and visual settings for the residences.

4. Step 4: Design of Lot Lines. Applications shall conform to the requirements of Section 602.B.4.
- B. Additional Design Standards. The configuration of Greenway land shall comply with the following standards:
1. Except for civic and recreational spaces, such as common greens, squares, parks, playing fields and trail corridors, Greenway land shall be free of all structures, excluding historic buildings, stone walls and structures related to Greenway land uses. The additional standards in Section 603.B.1 shall apply.
 2. The requirements of Sections 603.B.2-10 shall apply.
 3. The Plan shall be consistent with the policies of the municipality’s Comprehensive Plan and Open Space Plan.
- C. Ownership and Maintenance of Greenway land. Applications shall comply with the requirements of Section _____, Ownership and Maintenance of Greenway land and Common Facilities, in the Zoning Ordinance.

SECTION 702 – STREETS, SIDEWALKS AND PARKING

- A. Street Layout.
1. The street network shall implement the municipal Official Map, when applicable.
 2. The street network shall form a generally connected pattern, employing cul-de-sacs only where essential, and may be supplemented with back lanes or alleys. Where cul-de-sacs are unavoidable, continuous pedestrian circulation shall be

provided with sidewalk connections that link the end of the cul-de-sac with the next street or open space.

3. Rectangular grids shall be varied with boulevards, diagonal streets, curving crescents, eyebrows, ovals and courts providing visual interest.
4. Street patterns shall be designed to follow existing terrain as much as possible, to minimize earthmoving and disruption of the existing topography.
5. Streets shall be designed to:
 - a. Parallel and preserve existing tree lines, hedgerows, stone walls and watercourses.
 - b. Minimize alteration of natural, cultural, or historic features.
 - c. Minimize the acreage devoted to streets.
 - d. Calm traffic speeds.
 - e. Promote pedestrian movement.
 - f. Secure the view to prominent natural vistas.
 - g. Be aligned so that the terminal vista is of civic buildings or Greenway land, either man-made (such as common greens, squares and parks) or natural (such as meadows, large specimen trees and woodlands).
 - h. Minimize crossing of Primary Conservation Areas.
6. At least two streets shall provide connections to existing or proposed through-streets or collector streets outside the village, wherever practicable. All other streets, with the exception of loop lanes, shall terminate at other streets within the village.
7. Loop lanes, or “closes,” shall be designed with a central median running their entire length, bounded on each side by a one-way lane not less than 14 feet in width. The median shall be at least 30 feet wide, and shall be planted with street trees along both sides at intervals not less than 40 feet.

COMMENTARY: Loop lanes (or “closes” as they are referred to in TND Traditional Neighborhood Development) are illustrated in Appendix C. The lanes may be pitched toward the wide central median to serve as small bio-retention areas for stormwater, irrigating the street trees and reducing the need for large basins elsewhere on the site.

8. To the greatest extent practicable, streets shall have a maximum length of:
 - a. 800 feet between intersections. Blocks longer than 800 feet shall be provided with a cross-block connection at mid-block locations.
 - b. 1200 feet before terminating at a “T” intersection or angling off in a diagonal direction.

COMMENTARY: Short blocks help to reduce traffic speeds, making the development more pedestrian friendly.

9. Within villages that include commercial areas, streets shall be laid out to promote pedestrian access from all points in the residential areas to the Village Commercial Areas.
10. Collector streets shall connect existing municipal roads to central greens, wherever possible.

B. Street Width. Street widths shall follow the standards set forth in Table 702.B.

Table 702.B Street Width Standards

	Total Lanes	Parking Lanes	Pavement Width	Shoulders	R.O.W
Residential Collector					
Lots 80ft.+	2	0	20ft. (22ft. curbed)	4ft. grassed	50ft.
Lots 40ft. to 80ft.*	3	1	26ft. (28ft. curbed)*	4ft. grassed	50ft.
Lots < 40ft.	4	2	32ft. (34ft. curbed)*	none	60ft.
Local Access					
Lots 80ft.+	2	0	18ft. (20ft. curbed)	3ft. grassed	50ft.
Lots 40ft. to 80ft.+	3	1	24ft. (26ft. curbed)	4ft. grassed	50ft.
Lots < 40ft.	3	2	26ft. (28ft. curbed)*	4ft. grassed	50ft.
Lanes or Alleys	1	0	12ft.	2ft. grassed	20ft.
Access Drives	1	0	10ft.	3ft. grassed	N/A

* The paved width may be reduced by 6 feet when streets are "single-loaded" (lots on one side only), or when driveways are accessed only from rear service lanes or alleys.

COMMENTARY: The street width standards in Table 702.B take into account the need for on-street parking spaces, which increases as lot widths decrease. Similar standards can be found in Residential Streets, 3rd Edition, Washington, D.C., 2001, which is published by the Urban Land Institute, National Association of Home Builders, American Society of Civil Engineers, and the Institute of Transportation Engineers). The concept of access drives provides a useful alternative to streets and alleys, but if local public safety officials express strong reservations about such arrangements, they should not be used.

C. Street Lighting.

COMMENTARY: Communities should address how lighting affects the nighttime character of both commercial and residential areas of hamlets and villages. Many rural areas are concerned about the nighttime sky. Problems of glare, overlighting, light pollution, skyglow and energy waste are increasingly common in both urban neighborhoods and rural villages. More information and sample ordinances on providing good night lighting can be acquired by contacting the Dark Sky Society at www.darkskysociety.org.

D. Sidewalks and Paths. In hamlets and villages, public sidewalks (including informal walkways and footpaths) shall be constructed on at least one side of all streets on which on-street parking is permitted, and in front of dwellings, civic, institutional and community uses. The following standards shall apply:

1. Sidewalks along streets and within or bordering common greens, squares or parks shall be no less than four (4) feet wide in residential areas and no less than six (6) feet wide in commercial or mixed-use areas, and shall be constructed of brick, concrete, concrete pavers, or concrete with brick paver borders.
2. A linked network of walkways shall connect all uses with parks and other Greenway land areas.

COMMENTARY: Sidewalks should connect and not terminate abruptly. In residential areas, they should always be separated from streets by a row of shade trees. They are also useful for mid-block connections and internal pedestrian movement.

Sidewalks in front of dwellings in hamlets may not be needed and can be waived.

3. The ends of loop lanes and cul-de-sacs shall be linked with trails and/or Greenway land behind the lots served by the loop lanes or cul-de-sacs.
4. Sidewalks shall be separated from street curbs by a “tree lawn” not less than 5 feet wide, planted with street trees in accordance with Section 703.
5. Sidewalks shall be provided along the front lot lines of all village lots to ensure pedestrian access to each lot, whether or not they are connected to other sidewalk systems. Village lots fronting directly onto common greens or parks shall be provided with sidewalks along their front lot lines abutting the greens or parks.

COMMENTARY: This provision ensures that sidewalks will be installed in stand-alone developments that do not yet connect to other sidewalk systems.

6. Trails through woodlands or other natural or naturalized areas may be constructed of asphalt or shall comply with the construction standards in Section 601.H.

7. Sidewalks are not required in back lanes or alleys.

E. Parking.

1. Off-Street Parking.

a. Off-street parking for non-residential buildings, townhouses and multi-family dwellings shall generally be located at the rear of the lot, in garages or in parking spaces accessed only by rear access lanes. Parking in side yards shall be limited, as the purpose is to form a continuous row of shop fronts. Side yard parking shall be screened as required in Subsection c below.

b. No off-street parking shall be permitted in the front yards of commercial buildings. Off-street parking on corner lots shall be screened by being located behind buildings on those lots, or by a wall at least 36 inches and no more than 48 inches high, constructed with materials that are architecturally compatible to those used on the buildings.

COMMENTARY: For security reasons, screening walls should be no higher than required to screen the grills and hoods of cars.

c. Any off-street parking space or parking lot in commercial areas that abuts a street shall be screened from the street by a landscaped area no less than four feet wide in which is located a continuous row of shrubs no less than 40 inches high, or by a wall no less than 40 inches and no more than 48 inches high, in addition to the required shade trees.

d. If dwelling units are constructed above commercial uses, the additional parking required to accommodate such residential uses shall be based on formulas for shared parking arrangements, as permitted in Section _____ of the Zoning Ordinance.

COMMENTARY: Consult the Urban Land Institute's "Shared Parking" for additional standards.

e. Parking areas serving playing fields, playgrounds and courts shall be gravel-surfaced and properly drained, shall provide safe ingress and egress, and shall not be lighted.

2. On-Street Parking.

a. In village commercial areas and in neighborhoods where lot sizes are 15,000 sq. ft. or less, on-street parking shall be provided in parking lanes parallel to curbs. Such on-street parking shall be supplemented, when necessary, by off-street parking areas that are screened from the street as required in Subsection 1 above.

- b. On-street parking spaces along the front property line shall count toward the minimum number of parking spaces required for the use on that lot (except where there are driveway curb cuts).
- c. On-street parking spaces shall be designed as either parallel to the curb on one or both sides of the street, or diagonal to the street on the commercial side with landscaped breaks every 200 feet.
- d. On-street parking spaces shall measure 8 feet wide by 22 feet long.
- e. Parking lanes are encouraged to be surfaced with alternative materials, textures or colors, such as stone pavers or asphalt with red stone chips.

SECTION 703 – STREET TREES AND LANDSCAPING

A. Street Trees.

COMMENTARY: The coordinated planting of deciduous shade trees within the right-of-way of all streets is a central unifying feature of development in villages and hamlets. Aside from the design of the general layout, shade tree planting is arguably the single most important aspect of a traditional neighborhood. Over the course of time, they may even supersede the buildings as the most prominent physical features.

- 1. Street trees shall be planted along each side of all streets, public or private, existing or proposed, in planting strips (tree lawns) at least 5 feet wide, located between the pavement edge or curb and the sidewalk.
- 2. Street trees shall be a minimum of 2.5 inches in caliper, shall have a minimum height of 12 feet and a minimum spread of 8 feet.
- 3. At the discretion of the Township, existing shade trees may be utilized to meet the street tree planting requirement, when:
 - a. They are located within 5 feet of the proposed street right-of-way;
 - b. They are of a species suitable for use as a street tree;
 - c. They are a minimum of 6 inches dbh;
 - d. They are of suitable health and condition to be used as a street tree.
- 4. Street trees shall be spaced at intervals no greater than 40 feet, along both sides of each street, including arterials. Street trees shall not be required along rear access lanes and alleys.
- 5. In villages, at least 3 species of street tree shall be required. In villages with over 100 dwelling units, 4 or more species are encouraged. The same species of tree may be used for a series of 4 to 7 trees on one side of the street. The opposite side of the street shall use the same species, so that street trees are grouped together by species. In hamlets, this standard is optional.

6. Street trees shall be pruned appropriately in accordance with the following:
 - a. In village commercial areas, trees shall be pruned such that no branches extend from the trunk or hang below a height of 14 feet, in order to facilitate viewing of storefronts and signage.
 - b. In residential areas or areas where trees may overhang streets, trees shall be pruned such that no branches extend from the trunk or hang below a height of 14 feet. Where trees may overhang sidewalks, trails, driveways or parking areas, trees shall be pruned such that no branches extend from the trunk or hang below a height of 10 feet.
 - c. Pruning shall be undertaken by a certified arborist in accordance with the Pruning Standards set forth by the American National Standards Institute, and shall not adversely affect the natural form of the tree.
7. Street trees shall be of a species listed in Appendix _____.

B. Parking Area Landscaping

1. Parking lots larger than 20 spaces or 6,000 square feet in area (inclusive of all paved areas) shall be provided with landscaping in addition to required street trees.
2. Planting islands shall be provided between parking spaces at a rate of one per every 8 spaces. These islands shall be a minimum of 8 feet in width. They shall be depressed 4 to 6 inches below grade in order to accommodate parking area runoff. Where internal planting islands are provided, one shade tree shall be provided in each island, at a minimum of one tree per 200 square feet, or a fraction thereof.
3. Planting islands shall be protected by wheel stops in every parking space or by split curbs with openings provided every 6 to 10 feet.
4. A 4-foot wide planting area shall be provided between the sidewalk or right-of-way, whichever is proposed furthest from the cartway, and the outside edge of the parking area. This area shall be in addition to the required tree lawn and any other required planting areas.
5. Required parking area landscaping shall be provided within the 4-foot wide planting area, planting islands or other areas adjacent to the parking area.
6. A minimum of one shade tree shall be provided for every 8 parking spaces or a fraction thereof.
7. Where a parking area abuts a street, driveway, sidewalk, common green or other pedestrian area, a hedge shall be provided in accordance with the following requirements:

- a. Three shrubs shall be provided for every 10 linear feet of parking area edge abutting the aforementioned areas;
 - b. Shrubs shall be provided at a minimum planting height of 24 – 30 inches and shall have a spread of 18 – 24 inches;
 - c. Species that typically reach a minimum of 48 inches in height shall be utilized and shall be pruned to maintain an approximate height of 48 inches;
 - d. Shrubs shall be set back as far as possible from the edge of the parking area in order to provide areas for snow collection.
8. Parking islands and required planting areas shall be planted with an appropriate groundcover such as turf grass, perennials, naturalized seed mixes or mulch. Stone or other decorative materials shall not be used as a groundcover.
 9. Trees and shrubs shall be of a species listed in Appendix _____.

SECTION 704 – ARCHITECTURAL DESIGN STANDARDS AND GUIDELINES FOR VILLAGES AND HAMLETS

COMMENTARY: Although architectural design standards are usually not enforceable outside designated historic districts, in this case they are defensible because Hamlet/Village development 1) is purely optional and 2) offers density incentives. When applicants apply for the conditional use that permits this type of development, they are inherently agreeing to comply with these standards.

- A. The use of the words “should” and “may” is purposeful; when “shall” is not used, the standard is a voluntary guideline rather than a requirement.
- B. Building Design Standards for Commercial Areas in Villages.
 1. Massing. To harmonize with the traditional scale of commercial buildings in historic villages, the following standards shall apply to new commercial buildings:
 - a. They shall contain a maximum of 8,000 square feet above grade.
 - b. New commercial buildings with more than 4,000 sq. ft. of floor space above grade shall be of two-story construction.
 - c. The mass of commercial buildings between 6,000 and 8,000 square feet shall be softened in a variety of ways, including the use of projecting and recessed sections, to reduce their apparent overall bulk and volume. Façade breaks shall be at least 3 feet in depth and shall occur not more frequently than the width of two historic shop fronts (approximately 25 feet).

COMMENTARY: This maximum building size is intended to help produce traditional commercial streetscapes, rather than permitting strip malls or shopping centers with “village” residential areas attached to them. This maximum size may be increased in areas capable of supporting major retail uses, such as highway intersections, if they are planned for in the local Comprehensive Plan and the local demands of the market can support them.

- d. Storefront buildings fronting on the same street and located in the same block shall be attached, or located not more than fifteen (15) feet apart, except when separated by a “pocket park” or a common green or square.
 - e. Storefront buildings shall have at least 60 percent of their façade coincident with their street frontage; i.e. on the right-of-way line.
2. Height. Buildings shall not be less than one and one-half stories in height, and at least half the commercial, civic and institutional buildings in any single development shall be two stories in height.
 3. Architectural Style and Detail.
 - a. Buildings may be either traditional in their architectural character or a contemporary expression of historically traditional styles and forms.
 - b. Buildings shall articulate the line between the ground and upper levels with a cornice, canopy, balcony, arcade or other architectural feature.
 - c. The use of special architectural elements, such as but not limited to towers, turrets and corner cut-offs, is encouraged at major street corners to accent structures and provide visual interest. These elements shall be in scale with the overall structure.
 4. Roofs.
 - a. Roofs shall be pitched with overhanging eaves, or flat with articulated parapets and cornices. Desired roof materials include slate (either natural or manmade), shingle (either wood or asphalt composition), and metal formed to resemble "standing seams." Roof color shall be traditional, within the range of colors found on buildings shown in (*source document or reference for design guidelines*). Specifically excluded are white, tan, or blue shingles, and corrugated metal. The use of fascias, dormers, and gables is encouraged to provide visual interest. All gables shall be functional.
 - b. Gas station canopies shall have pitched roofs and the lighting shall be from luminaires recessed into the ceilings of said canopies, so that the lighting elements themselves are not visible from or beyond the lot lines. Gas station canopy ceilings shall be limited to a maximum height of 15 feet.
 - c. Rooftop mechanical equipment shall be screened by parapet walls extending no more than 10 inches above the equipment.

- d. The construction of open colonnades or other structures over a public sidewalk adjoining storefront buildings shall be permitted subject to an appropriate easement over the public right-of-way. Such easements shall assign legal liability to the owners of such structures and shall hold the [name of local government] harmless.

COMMENTARY: Easements granting permission to extend structures over public rights-of-way and containing language assigning legal liability to the owners of such structures are highly recommended any time the public right-of-way is encroached upon.

5. Building Materials.

- a. Exterior wall materials may include stucco, clapboard (including wood, vinyl or aluminum imitation clapboard siding), native stone, or brick of a shape, color, and texture very similar to that found in local historic villages and towns.
- b. Specifically prohibited shall be metal buildings, brick that is white, tan, spray-painted, or used, and "T-111" plywood siding. Except on side or rear walls, all forms of concrete block shall be prohibited, unless rendered with a smooth or stuccoed masonry coating. Split-face aggregate concrete block may be used on side or rear walls without such rendering.
- c. The number of different wall materials on one building shall be kept to a minimum, preferably no more than two.
- d. Varnished exterior finishes are prohibited. Minor paneled surfaces shall be of "MDO"(medium-density overlay) plywood.

COMMENTARY: Varnished wood is nontraditional on building exteriors and requires exceptionally high maintenance (typically annual sanding and recoating). Medium-density overlay (MDO) plywood boards are factory-finished with surfaces that are exceedingly smooth and durable, with excellent long-term resistance to cracking. For double-sided surfaces (such as hanging signs), double-sided MDO or HDO (high-density overlay) is strongly recommended.

- e. Wooden storefronts shall be elevated four (4) inches above the sidewalk on a masonry plinth (typically concrete or granite) to protect it from moisture and rot.

6. Shopfront design shall be based upon historic examples in the area, with large display windows having low sills and high lintels. Traditional canvas awnings without interior illumination shall be encouraged, and all signs shall be of wood or metal, preferably with dark background colors and light-colored lettering.

7. Main Entrances.

- a. As one of the most important parts of the facade, the main entrance shall be easily identifiable. Doors and entryways shall follow a traditional storefront design (usually recessed) and shall be compatible with the architectural style of the structure.

- b. Main entrances shall be from the front sidewalk, except in courtyard designs. Secondary entrances may open to a rear parking lot.
 - c. When a building is located on a corner, the entrance shall be located on the corner with an appropriate building articulation, such as a chamfered corner, turret, canopy or other similar building feature.
8. Rear Entrances and Facades. When rear parking is provided, secondary rear entrances shall be provided. The design of the rear entrances and facades should be appropriately detailed to provide an attractive appearance, but should not be overly embellished to compete with the main storefront.
- a. The following requirements shall be met:
 - 1) Adequate lighting shall be provided for security, pedestrian safety and decorative purposes.
 - 2) Trash and service areas, utility lines, mechanical equipment and meter boxes shall be screened from customer entrances.
 - b. The following guidelines should be followed:
 - 1) Planters, awnings and landscaping may be used to identify rear entrances as well as improve the appearance of the structure.
 - 2) Rear entrances should be marked by attractive signs. Signs should be modestly scaled to fit the character of the more utilitarian rear facade.
 - 3) Windows and/or display cases may be used to attract shoppers.
9. Windows.

COMMENTARY: Windows are of critical importance in storefront design. They create a visual rhythm of structural openings and provide views of the interior.

- a. The front elevation of commercial and office buildings shall provide a minimum of 60 percent and a maximum of 85 percent transparency (windows) at ground level. One side elevation shall provide at least 30 percent transparency. Transparency on other elevations is optional. Transparency is measured in lineal fashion; for example, a 100-foot long building shall have at least 60 feet in length of windows. Transparency shall be measured flush with the building wall.
- b. Buildings shall include large front windows on the ground level, with sills between 12 and 18 inches above sidewalk level and lintels 9 to 12 feet above sidewalk level.
- c. Clear glass (providing a minimum of 88 percent light transmission) shall be used on ground floor windows. Tinted glass providing a minimum of 50 percent light transmission shall be limited to windows above the ground floor. The use of bronze tinted or reflective glass is prohibited.
- d. The use of transom windows is strongly encouraged.

- e. If aluminum window frames are used they shall be either factory coated or anodized a dark color. Bare aluminium or gold color window frames are prohibited.
- f. If shutters are used, appropriate hardware (hinges, pulls, etc.) shall be used. Shutters shall be proportioned to cover one-half the width of the window.
- g. Display cases on the rear elevation of buildings may project 18 inches.
- h. Commercial grade windows and doors shall be used, with wood encouraged.

10. Awnings.

COMMENTARY: The color and pattern of awnings affect the entire building and therefore should be carefully chosen. A facade with minimal architectural detailing can be enhanced with bright colors and pattern, while a more decorated facade may be complemented with a plain, subtle shade. The shape of awnings should be designed to fit the building's architecture and relate to other awnings that exist along the street. The cumulative effect of all of the awnings along the street should be considered prior to adding a new one.

- a. Awnings may be constructed from heavy canvas, matte finish vinyl or fabric. Metal, plastic, shiny vinyl and Plexiglas awnings are prohibited.
- b. A minimum eight-foot vertical clearance between the sidewalk and the lowest part of the awning shall be maintained.
- c. Awnings shall break at the vertical divisions of the structure (i.e. the break between the display windows and the entrance).

COMMENTARY: The vertical break eliminates long expanses of awnings that can have a monotonous appearance.

- d. The highest point of a storefront awning shall not be higher than the midpoint between the second story windowsills and the top of the first floor storefront window or transom.

COMMENTARY: This height limit maintains the proper proportion of awning size to storefront area and leaves a comfortable space between the top of the awning and any windows above.

- e. Awnings shall not be internally illuminated.

11. Color.

COMMENTARY: Color need not be based on historical precedent, but should generally be coordinated with the overall character of the streetscape. If a bright accent color is desired, it should be added in the form of awnings, signage or by painting to accent architectural detail (i.e. cornices, windowsills, columns and similar features, rather than applied to walls or roofs.

C. Building Design Standards for Residential Areas in Hamlets and Villages.

1. Single-family dwellings, especially those on lots less than 8,000 square feet, shall be designed so that approximately two-thirds are oriented with their gable-ends facing the street.
2. At least 35 percent of the dwellings shall have a covered front entry porch.
3. All front entry porches shall be raised a minimum of 18 inches above ground level.
4. At least two-thirds of the dwellings shall have pitched gabled roofs with roof pitches between 8/12 and 12/12.
5. Dwellings may be located at or within five feet of one side lot line if that side either has no windows, or windowsills are at least 64 inches above the finished floor elevation. Such design is encouraged to create one side yard that is larger and therefore provides more usable out door space.
6. Stucco and painted wood clapboard siding shall be encouraged. Building materials shall comply with Sections 704.B.5.a-d.

SECTION 705 – MODIFICATIONS

- A. The Governing Body may, with a positive recommendation from the Planning Commission and after a public hearing, permit by Conditional Use approval the modification of the provisions of this Article, in order to encourage a well-planned traditional hamlet or village. Applicants must demonstrate that such modifications would not substantially diminish the traditional character of the proposed development, and that they would be within the spirit of this Article.
- B. Any conditional use to permit such a modification shall be subject to the following criteria:
 1. The modifications shall further the purposes and the land-use standards contained in this article;
 2. The modifications shall not produce lots or street systems that are impractical and shall not adversely affect emergency vehicle access or deprive adjoining noncommercial properties of adequate light and air.
 3. Increased residential density or intensification of nonresidential uses shall be offset by corresponding special improvements in the appearance of the development through enhanced architectural and landscaping efforts.
 4. The applicant shall demonstrate that the proposed modifications will produce equal or better results, as determined by the municipality, and represent the minimum modification necessary.

- C. If the Governing Body determines that the applicant has met his/her burden, it may grant a modification of the requirements of this article. In granting modifications, the Governing Body may impose such conditions as will, in its judgment, secure the objectives and purposes of this article.

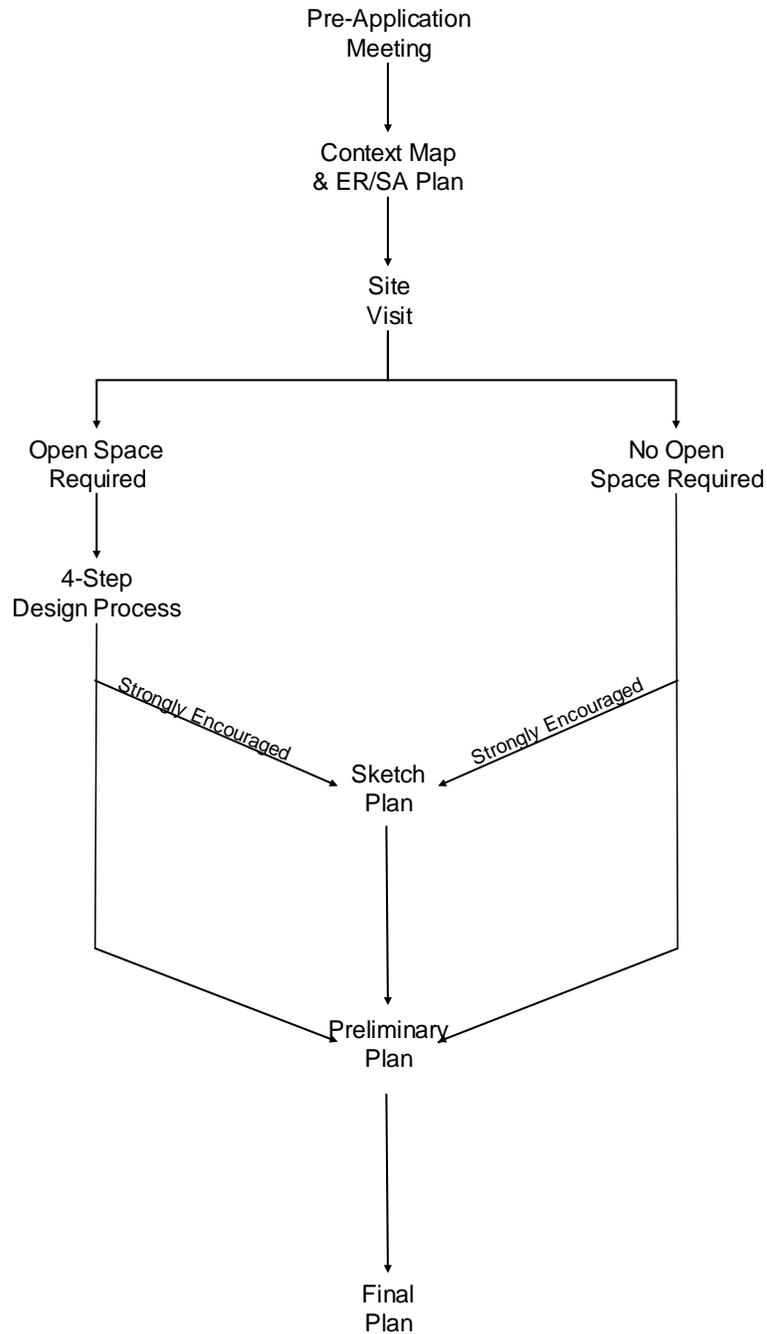
SECTION 706 - ILLUSTRATED DESIGN PRINCIPLES

The illustrated design principles in Appendix D provide guidance with respect to the intended appearance of hamlets and villages. The standards are guidelines, not regulations.

APPENDIX A

REVIEW PROCESS

COMMENTARY: This review process applies to all major subdivisions and land developments.



APPENDIX B

DEVELOPER'S SKETCH PLAN AGREEMENT

COMMENTARY: The following model sketch plan agreement is provided by the Home Builders Association of Bucks/Montgomery Counties, 721 Dresher Road, #1200, Horsham, PA, 19044. This model has been endorsed by the planning commissions (departments) of Bucks, Montgomery and Delaware Counties.

PRE-SUBMISSION SKETCH PLAN AGREEMENT

THIS AGREEMENT is made as of the _____ day of _____, 200_ by and between _____ (“Developer”) and _____, a political subdivision of the Commonwealth of Pennsylvania (“Municipality”).

STATEMENT OF PURPOSE

The purpose of this Agreement is to encourage beneficial, open-minded discussion and dialogue between the Developer and the Municipality prior to the formal submission of any development plans or zoning requests. More specifically, the intent is (1) to encourage the Developer to submit a pre-submission sketch plan to the municipality, so as to provide to opportunity to the municipality to provide planning and conceptual design input prior to Developer having expended the extensive time and effort, as well as the considerable expense, that goes into the development of preliminary plans, (2) to provide an opportunity for the Developer to consider such input at an early stage prior to positions being solidified, while eliminating the concern that the operative provisions of the subdivision and land development ordinance and zoning ordinance might change while such discussion is ongoing, and (3) to allow an opportunity for achievement of a more innovative project concept or design that may provide greater benefits to the municipality, the developer, residents and the surrounding community, and future residents or occupants of the proposed development than would otherwise be possible.

The Municipality, as an inducement to Developer to file a sketch plan, and participate in such discussions, has agreed that upon filing of a sketch plan accompanied by a copy of this Agreement executed by Developer, the Zoning Ordinance and Subdivision and Land Development Ordinance which will apply to Developer's proposed development of the Property will be the ordinances which are in effect as of the date of the filing of the sketch plan.

This Agreement is entered into to confirm the agreement of the parties.

TERMS OF AGREEMENT

1. Developer voluntarily agrees to participate in the Municipality's pre-submission sketch plan review process ("Sketch Plan Review Process") for a period of up to six (6) months ("Review Period") from the date _____, 200_, the date Developer offered to enter into this Agreement ("Commencement Date"). For purposes of this Agreement, the term "Sketch Plan Review Process" shall mean the process during which Developer will participate in meetings with personnel designated by the Municipality to meet with Developer for the purpose of critiquing sketch plans with the objective of developing a plan which will be satisfactory to both Developer and the Municipality. Developer and Municipality further agree to invite the County Planning Commission to participate in the Sketch Plan Review Process.

2. In consideration of Developer's agreement to participate in the Sketch Plan Review Process, the Municipality agrees during the Review Period and for a period of six (6) months following the expiration of the Review Period (the total time frame being hereinafter referred to as "Protection Period"), the Zoning Ordinance and Subdivision and Land Development Ordinance which will be applicable to any preliminary subdivision and/or land development plans for the Property filed by Developer within the Protection Period shall be those ordinances in effect as of the Commencement Date and Developer shall be afforded the protections provided under Section 508(4) of the Municipalities Planning Code as of the Commencement Date.

3. If, for any reason at any time during the Review Period, either party deems that such discussions are not being productive, and that continued discussion would not be worthwhile, either the Municipality or the Developer may terminate this agreement by sending written notice to cancel the agreement to the other party via certified mail, with such termination effective forty-five (45) days following the date of the notice. The Review Period shall end at the expiration of such forty-five (45) day period.

4. In the event Developer fails to file a preliminary subdivision and land development plan within the Protection Period, Developer acknowledges and agrees that the review of any later filed subdivision and/or land development plans will be subject to any amendments to the zoning ordinance and/or subdivision and land development ordinance enacted subsequent to the Commencement Date.

5. Developer acknowledges that Municipality is under no obligation to make any formal decision with respect to any pre-submission sketch plan submitted pursuant to this Agreement and, further, acknowledges and agrees that Developer shall not obtain any vested rights pursuant to Section 508 of the Municipalities Planning Code by failure of Municipality to render a decision with regard to a pre-submission sketch plan. It is specifically acknowledged by

both parties that any plan submitted pursuant to this agreement will not be considered to be a Preliminary Plan or Final Plan in accordance with municipal ordinances and the Municipalities Planning Code.

6. In order to provide a meaningful review, Developer and Municipality agree that a pre-submission sketch plan shall include the following information:

- A. The plan shall be drawn at a scale of 1" = 50' or 1" = 100';
- B. Tax map parcel number of property involved;
- C. Tract boundaries and total acreage;
- D. Location map;
- E. North point;
- F. Streets on and adjacent to the tract;
- G. Significant topographical, geological, and physical features including but not limited to flood plains, steep slopes, boulders, wetlands, etc., which may impact or limit the proposed use of the property;
- H. Existing road/utility and other easements and rights-of-way;
- I. General location, size and configuration of existing buildings
- J. Proposed general layout of streets, circulation drives and common parking areas; and
- K. Proposed general lot layout or location of buildings when individual lots are not proposed, including location of open space and other preservation areas.

7. Developer and Municipality each acknowledge and agree that the provisions of this Agreement are intended and shall be construed as superseding any inconsistent provisions of the Municipalities Planning Code, 53 P.S. §10101 et seq.

8. If the Municipality incurs any direct costs as a result of its review and discussions with Developer during the Review Period pursuant to this Agreement, such as costs to pay for its solicitor, engineer or planning consultant, Developer agrees to reimburse Municipality for such costs in accordance with the current schedule established by the Municipality for review fees in accordance with Section 503(1) of the Municipalities Planning Code.

IN WITNESS WHEREOF, Developer and Municipality have set their hands and seals to this Agreement as of the date set forth above, with intent to be legally bound.

DEVELOPER:

(Name of Legal Entity)

Attest:

By:

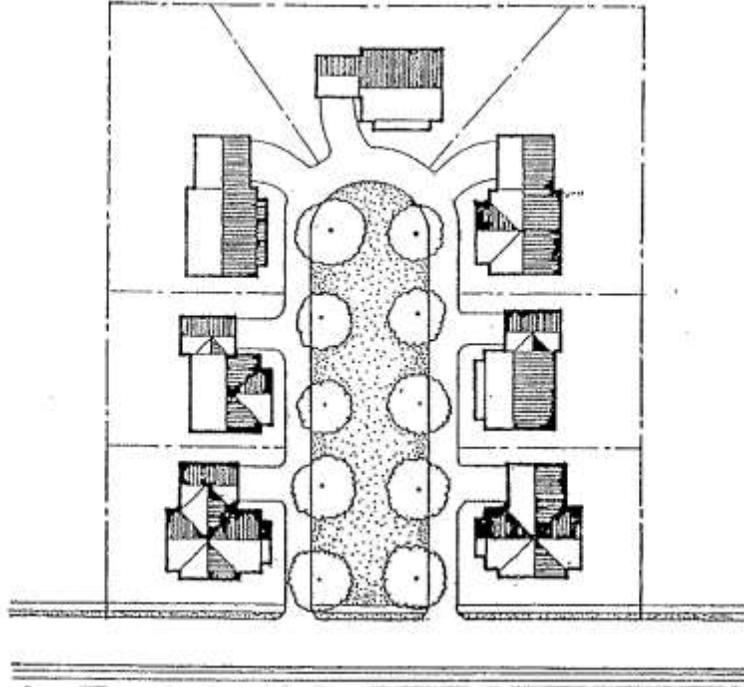
THE MUNICIPALITY:

Attest:

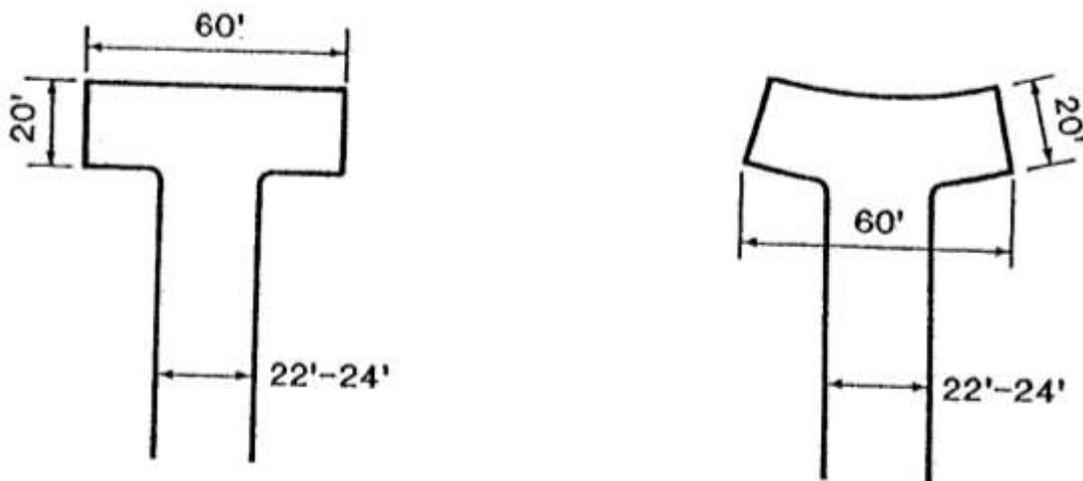
By:

APPENDIX C

ALTERNATIVES TO THE CUL-DE-SAC



Loop lanes offer a practical alternative to the cul-de-sac and provide neighborhood green space and an opportunity to install a “rain garden” to capture stormwater runoff close to its source. They work best for about five to seven units.



Other ideas for practical alternatives such as T- and Y-shaped turnarounds, are provided in Residential Streets, Third Edition, 2002, (Washington D.C.: The Urban Land Institute, 2001).

APPENDIX D

ILLUSTRATED DESIGN PRINCIPLES FOR VILLAGES

Illustrations of the intended ultimate appearance of hamlets and villages are available to applicants, designers, local officials, and interested residents in Randall Arendt's book, "Growing Greener: Putting Conservation into Local Plans and Ordinances" (1999, Island Press), pages 195-222.

Considerably more detail about these design principles is provided in "Crossroads, Hamlet, Village, Town: Design Characteristics of Traditional Neighborhoods, Old and New," by Randall Arendt, (American Planning Association, Planning Advisory Service Report Number 523-524, Revised Edition, 2004), and similar illustrations are provided on pages 43-94.

Some communities have adopted the Illustrated Design Principles as an appendix to their ordinance and point developers to them as an example of what they are looking for. The illustrations and their captions are not intended to be used as regulatory provisions, but rather as guidelines; if a conflict exists between the standards and the illustrations, the ordinance prevails.

The design principles are organized around the following topics and in the following order:

- Context and Edge
 - Understanding the Context: Respecting the Cultural Heritage
 - Maintaining a Crisp Edge
 - Dealing with Indistinct Edges
 - Deep Meadows as Foreground Open Space
 - Handling Roadside Commercial Pressures
 - Internal Design Issues (infilling and new sites)
 - Scale of Villages
 - Designing Around Existing Features
 - Building on the Traditional Street Pattern
 - Alternatives to the Cul-de-sac for Quieter Streets
 - Better Cul-de-sac Design
 - Block Length and Pedestrian Connections
 - Street Curvature Design Issues
 - Introducing Purposeful Irregularity
 - Multiple Greens and Commons
 - Housing Groups, Courts, Type Mix, and Lot Size Variety
 - Streetscape Issues
 - Pavement Width
 - Shade Trees
 - Sidewalks
 - Minimum Building Height
 - Maximum Front Setback and Garage Orientation
 - Creative Design Opportunities with Stormwater Management
- Village Center Issues
 - Mixture of Uses
 - Central Greens